



**CITY OF KIRKLAND**  
**Planning and Building Department**  
123 Fifth Avenue, Kirkland, WA 98033 425.587.3600  
[www.kirklandwa.gov](http://www.kirklandwa.gov)

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**MEMORANDUM**

**Date:** November 9, 2016

**To:** Kurt Triplett, City Manager

**From:** Dorian Collins, Senior Planner, AICP  
Deborah Powers, Urban Forester  
Stacey Rush, Senior Surface Water Engineer  
Jenny Gaus, Surface Water Engineering Supervisor  
Paul Stewart AICP, Deputy Director

**Subject:** Planning Commission Recommendation to Adopt Amendments to the Kirkland Zoning Code, Low Impact Development (LID) Principles and to Address NPDES Stormwater Permit Requirements, Chapters 95, 114 and 115, and Amendments to the Kirkland Municipal Code (File No. CAM16-02154)

**RECOMMENDATION**

1. Adopt enclosed Ordinance 4541, consistent with the recommendation of the Planning Commission for amendments to the Kirkland Zoning Code (KZC) incorporating low impact development principles.
2. Adopt enclosed Ordinance 4542, to provide consistency in referencing Public Works Pre-Approved Plans in the Kirkland Municipal Code (KMC).

**BACKGROUND DISCUSSION**

In addition to providing environmental benefits, Kirkland must facilitate the use of stormwater LID design principles and require LID facilities to comply with State and Federal requirements. To achieve compliance with the requirement for the National Pollutant Discharge Elimination System (NPDES) Permit, the City must "review, revise, and make effective local development-related codes, rules, standards, or other enforceable document . . ." no later than December 31, 2016.

The proposed amendments were the subject of discussion at a joint meeting of the Planning Commission (PC) and Houghton Community Council (HCC) on [September 29, 2016](#). A joint public hearing with both bodies was held on [October 24, 2016](#). Following the conclusion of the public hearing, the Houghton Community Council and Planning Commission discussed the proposed amendments. The recommendation of the Planning Commission for approval of the amendments is included in their transmittal memo (Exhibit A). The PC transmittal memo highlights the key provisions of the proposed amendments. At the Council's November 15, 2016, meeting, Chair Eric Laliberte will present an overview of the Planning Commission's recommendation on the code amendments.

In their recommendations, the PC and HCC agreed on all of the proposed amendments to the Zoning Code and Municipal Code, with the exception of the proposed changes to Zoning Code Section 115.90.3 (Attachment 1). That section allows for partial exemptions (50%, not to exceed an area equal to 10 percent of the total lot area) for surfaces from being included in the lot coverage calculation, in situations where the proposed material is considered to provide partial cleansing or percolation benefits. The exemptions were intended to encourage people to use pervious surfaces in development. Staff had proposed that this section be deleted, since the use of pervious surfaces will now be required, as much as is feasible, under the new surface water design manual.

The recommendation of the HCC (shown in Attachment 2) is to **retain** Section 115.90.3 in its entirety. The PC recommendation (shown in Attachment 3) includes the **removal** of all of the exemptions, with the exception of Subsection c, which allows for "open grid decking over pervious area". The PC recommendation is included in Attachment A to Ordinance 4541.

#### Staff Response – Implications of PC and HCC Recommendations for Section 115.90.3

Following the public hearing, in order to evaluate the impacts of retaining some (or all) of the exemptions provided in this code section, staff reviewed development permits that have been approved. The lot coverage exemptions result in different overall coverage of hard surfaces on lots. For example, on an **8,000** square foot single family lot:

- With the staff recommendation of no exemptions, the total lot coverage of hard surfaces is **4,000** square feet.
- The PC recommendation is to retain an exemption for open grid decking; therefore the total lot coverage of hard surfaces would be **4,100** square feet.
- The HCC recommendation to retain exemptions for pervious pavement and grassed modular grid pavement, would result in **4,500** square feet of hard surfaces.

Attachment 4 provides information on the calculations listed above. Ordinance O-4350 (passed in April, 2012) added the exemptions for pervious pavement as an exemption to lot coverage (Section 115.90.3). The greater coverage of hard surfaces per lot shown in Attachment 4 is consistent with the average increase in 9% of hard surfaces, (may include larger house footprints and/or other hard surfaces) found in actual development from 2013 and 2016.

The NPDES Permit does not regulate lot coverage, so Kirkland's regulations would remain in compliance regardless of which recommendation is adopted.

#### Regulation of Open Space and Impervious Surface

During the September 29<sup>th</sup> study session on this topic (see page 5 of [materials prepared for study session](#)), staff noted that the lot coverage standards in the Zoning Code affect both stormwater and the community's desire for open space. Under the current approach, impervious surfaces are regulated in both the surface water design manual and the Zoning Code, which can result in unintended consequences. In some instances, a developer may claim that LID is infeasible in terms of stormwater, but through the use of a pervious patio or driveway, receive a lot coverage

credit even though the surface is not designed to soak up water in the way that stormwater design would require.

At a Planning Commission meeting, staff noted that an alternative approach might be to determine the desired amount of open space to be retained on a property in the Zoning Code, and to leave the standards for the installation of impervious surfaces and the treatment of resulting stormwater to the surface water design manual. This approach might help to differentiate between the concerns about open space versus hardscape, rather than pervious versus impervious materials. At the public hearing, the PC noted that it would be interested in studying this issue further, and would like for the topic to be placed on the PC work program for 2017 as part of a package of miscellaneous code amendments.

#### Revisions to - Kirkland Municipal Code Section 19.12.130

At the City Council meeting on October 18, 2016, the Council approved an ordinance that revised the text in KMC 15.04.226 (pre-approved plans and policies). For consistency, additional revisions are needed to KMC 19.12.130 (Street and Curb Cutting Specifications) because it references the Pre-approved Plans. This revised text is included in Ordinance 4542.

#### Additional Changes to City Documents

The gap analysis for the LID code update identified the need for several changes to the standard details and policies within the Public Works Pre-approved Plans. The changes will be included in the next annual update, to be effective on January 1, 2017. These changes do not require City Council approval.

### **SEPA COMPLIANCE**

An addendum to the City of Kirkland 2015 Comprehensive Plan Update – Draft and Final Environmental Impact Statement was issued for the proposed amendments on October 20, 2016, and is included as Attachment 5 to this memorandum.

### **PUBLIC PROCESS**

In addition to the joint study session in September and the public hearing in October described above, a number of additional public outreach efforts for the LID code revision project also occurred. These included:

- Maintenance of an LID code revision project website
- Briefing of Public Works/Parks/Human Services Council Committee for review and comment on draft amendments (10/5/16) and (11/2/16)
- Briefing of Planning and Economic Development Council Committee for review and comment on draft amendments (10/10/16) and (11/14/16)
- Email notification of public hearing to Developer's forum, Cascade Water Alliance and the Chamber of Commerce
- Email notification of public hearing to all Neighborhood Associations and Kirkland Alliance of Neighborhoods

- Publication of public hearing notice in official City newspaper, posting on official notice boards, and posting on City websites for the PC and HCC
- Open House for the community prior to the public hearing (10/24/16)

Attachments

1. Zoning Code Section 115.90.3
2. HCC Recommendation – Section 115.90.3
3. PC Recommendation – Section 115.90.3
4. Evaluation of Alternative Recommendations for Section 115.90.3
5. SEPA Addendum – LID Proposed Amendments

Exhibit:

- A. Planning Commission recommendation, dated October 24, 2016

cc: CAM16-02154  
Planning Commission  
Houghton Community Council

## Existing Zoning Code Section 115.90.3

### 115.90 Calculating Lot Coverage

[SHARE](#)

1. General – The area of all structures and pavement and any other impervious surface on the subject property will be calculated as a percentage of total lot area. If the subject property contains more than one (1) use, the maximum lot coverage requirements for the predominant use will apply to the entire development. Lot area not calculated under lot coverage must be devoted to open space as defined in KZC 5.10.610.
  2. Exceptions
    - a. An access easement or tract that is not included in the calculation of lot size will not be used in calculating lot coverage for any lot it serves or crosses.
    - b. Pervious areas below eaves, balconies, and other cantilevered portions of buildings.
    - c. Landscaped areas at least two (2) feet wide and 40 square feet in area located over subterranean structures if the Planning Official determines, based on site-specific information submitted by the proponent and prepared by a qualified expert, soil and depth conditions in the landscaped area will provide cleansing and percolation similar to that provided by existing site conditions.
  3. Exemptions – The following exemptions will be calculated at a ratio of 50 percent of the total area covered. Exempted area shall not exceed an area equal to 10 percent of the total lot area. Installation of exempted surfaces shall be done in accordance with the current adopted stormwater design manual.
    - a. Permeable pavement (non-grassed).
    - b. Grassed modular grid pavement.
    - c. Open grid decking over pervious area.
    - d. Pervious surfaces in compliance with the stormwater design manual adopted in KMC [15.52.060](#).
- 

## Houghton Community Council Recommendation for Section 115.90

### 115.90 Calculating Lot Coverage

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1. General – The area of all structures and pavement and any other impervious surface on the subject property will be calculated as a percentage of total lot area. If the subject property contains more than one (1) use, the maximum lot coverage requirements for the predominant use will apply to the entire development. Lot area not calculated under lot coverage must be devoted to open space as defined in KZC [5.10.610](#).

#### 2. Exceptions

- a. An access easement or tract that is not included in the calculation of lot size will not be used in calculating lot coverage for any lot it serves or crosses.
- b. Pervious areas below eaves, balconies, and other cantilevered portions of buildings.
- c. Landscaped areas at least two (2) feet wide and 40 square feet in area located over subterranean structures if the Planning Official determines, based on site-specific information submitted by the proponent and prepared by a qualified expert, soil and depth conditions in the landscaped area will provide cleansing and percolation similar to that provided by existing site conditions.
- d. Rockeries and retaining walls, unless located adjacent to or within twelve (12) inches of another impervious surface such as a patio, building or parking area.
- e. Public sidewalk if located within a public easement on private property.

3. Exemptions – The following exemptions will be calculated at a ratio of 50 percent of the total area covered. Exempted area shall not exceed an area equal to 10 percent of the total lot area. Installation of exempted surfaces shall be done in accordance with the current adopted stormwater design manual.

- a. Permeable pavement (non-grassed).
- b. Grassed modular grid pavement.
- c. Open grid decking over pervious area.
- d. Pervious surfaces in compliance with the stormwater design manual adopted in KMC [15.52.060](#).

(Ord. 4350 § 1, 2012; Ord. 4252 § 1, 2010; Ord. 4121 § 1, 2008; Ord. 4097 § 1, 2007; Ord. 4072 § 1, 2007;  
Ord. 3814 § 1, 2001)

## Planning Commission Recommendation for Section 115.90

### 115.90 Calculating Lot Coverage

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1. General – The area of all structures and pavement and any other impervious surface on the subject property will be calculated as a percentage of total lot area. If the subject property contains more than one (1) use, the maximum lot coverage requirements for the predominant use will apply to the entire development. Lot area not calculated under lot coverage must be devoted to open space as defined in KZC [5.10.610](#).

#### 2. Exceptions

- a. An access easement or tract that is not included in the calculation of lot size will not be used in calculating lot coverage for any lot it serves or crosses.
- b. Pervious areas below eaves, balconies, and other cantilevered portions of buildings.
- c. Landscaped areas at least two (2) feet wide and 40 square feet in area located over subterranean structures if the Planning Official determines, based on site-specific information submitted by the proponent and prepared by a qualified expert, soil and depth conditions in the landscaped area will provide cleansing and percolation similar to that provided by existing site conditions.
- d. Rockeries and retaining walls, unless located adjacent to or within twelve (12) inches of another impervious surface such as a patio, building or parking area.
- e. Public sidewalk if located within a public easement on private property.

3. Exemptions – The following exemptions will be calculated at a ratio of 50 percent of the total area covered. Exempted area shall not exceed an area equal to 10 percent of the total lot area. Installation of exempted surfaces shall be done in accordance with the current adopted stormwater design manual.

- a. Permeable pavement (non-grassed).
- b. Grassed modular grid pavement.
- a. e. Open grid decking over pervious area.
- d. Pervious surfaces in compliance with the stormwater design manual adopted in KMC 15.52.060.

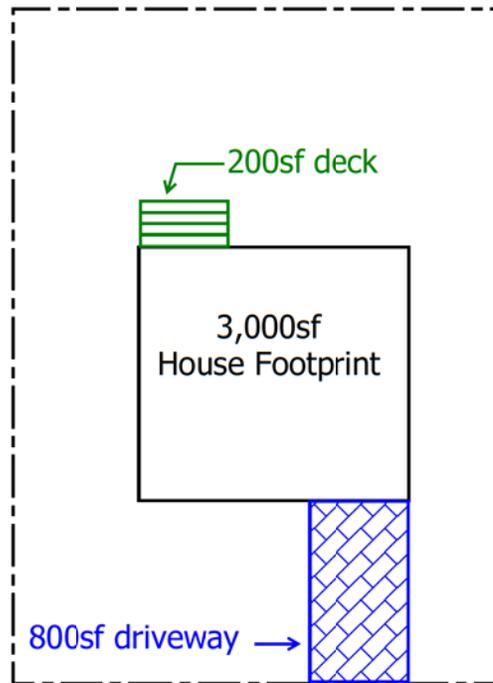
(Ord. 4350 § 1, 2012; Ord. 4252 § 1, 2010; Ord. 4121 § 1, 2008; Ord. 4097 § 1, 2007; Ord. 4072 § 1, 2007;  
Ord. 3814 § 1, 2001)

## Evaluation of Alternative Recommendations - Section 115.90.3

Assumptions: 8,000sf lot, 50% maximum allowable lot coverage (4,000sf).  
 Single Family Residence with open grid deck and pervious pavement driveway.

Note: "Open Grid Decking" is a steel, plastic, or wood deck with regularly spaced openings suspended over a pervious surface (King County Surface Water Design Manual).

### Staff Recommendation: Removal of all Exemptions

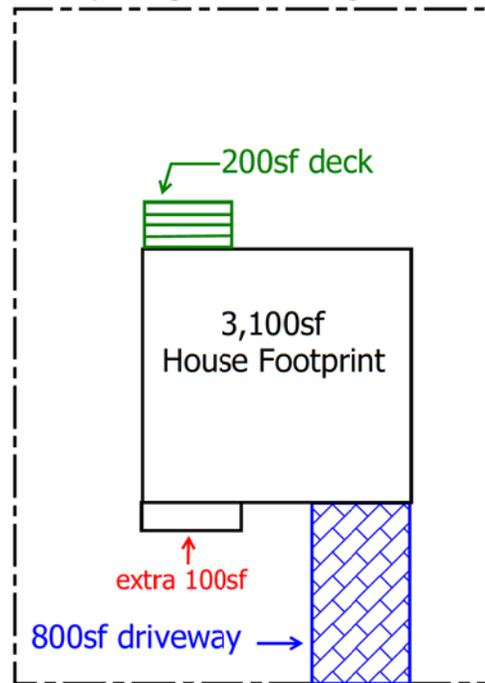


3,000sf house  
 200sf deck  
 800sf driveway

Lot Coverage  $3,000 + 200 + 800 = 4,000\text{sf}$

Hard Surface Area Coverage  $3,000 + 200 + 800 = 4,000\text{sf}$

### PC Recommendation: Keep only exemption for open-grid decking

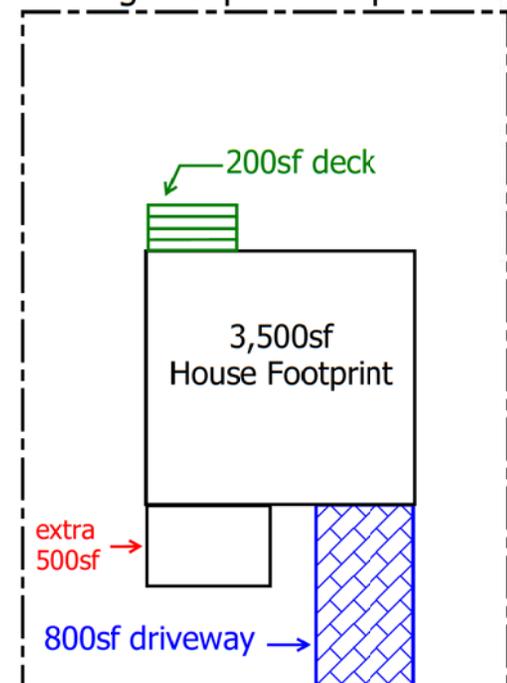


3,100sf house  
 200sf deck (50%=100sf)  
 800sf driveway

$3,100 + 100 + 800 = 4,000\text{sf}$

$3,100 + 200 + 800 = 4,100\text{sf}$

### HCC Recommendation: Keep all exemptions, including decking and pervious pavement



3,500sf house  
 200sf deck (50%=100sf)  
 800sf driveway (50%=400sf)

$3,500 + 100 + 400 = 4,000\text{sf}$

$3,500 + 200 + 800 = 4,500\text{sf}$

## Fact Sheet

<b>Action Sponsor and Lead Agency</b>	City of Kirkland Planning and Building Department
<b>Proposed Action</b>	Zoning Code and Municipal Code amendments to incorporate stormwater low impact development (LID) principles and to address NPDES stormwater permit requirements.
<b>Responsible Official</b>	 <hr/> <b>Eric R. Shields, AICP</b> <b>Planning Director</b>
<b>Contact Person</b>	Dorian Collins, Senior Planner, City of Kirkland (425) 587-3249.
<b>Required Approvals</b>	Adoption by Kirkland City Council.
<b>Location of Background Data</b>	File CAM16-02154/SEP16-02155 City of Kirkland Planning and Building Department 123 Fifth Avenue Kirkland, WA 98033
<b>Date of Issuance:</b>	October 20, 2016

**City of Kirkland****Zoning Code Amendments  
Low Impact Development (LID)****EIS Addendum dated October 20, 2016****File No. CAM16-02154/SEP16-02155****I. Background**

The City of Kirkland proposes to adopt amendments to Chapters 95, 114, and 115 of the Kirkland Zoning Code, and Section 19.12.130 of the Kirkland Municipal Code. The amendments would facilitate the use of stormwater Low Impact Development (LID) design principles, aimed at improving the quality of stormwater entering Kirkland's lakes and streams. Kirkland must require LID facilities, in order to comply with State and Federal requirements. Kirkland is covered by the Western Washington Phase II Municipal Stormwater Permit (NPDES Permit) administered by the Department of Ecology.

The proposed LID code changes will support an associated City project, the implementation of updated surface water design regulations that require LID facilities.

The amendments will be reviewed using Chapter 160 KZC, Process IV, with adoption and final approval by the City Council.

This Environmental Impact Statement (EIS) Addendum is intended to fulfill the environmental requirements pursuant to the State Environmental Policy Act (SEPA) for the proposed code amendments.

**II. EIS Addendum**

According to the SEPA Rules, an EIS addendum provides additional analysis and/or information about a proposal or alternatives where their significant environmental impacts have been disclosed and identified in a previous environmental document (WAC 197-11-600(2)). An addendum is appropriate when the impacts of the new proposal are the same general types as those identified in the prior document, and when the new analysis does not substantially change the analysis of significant impacts and alternatives in the prior environmental document (WAC 197-11-600(4)(c), -625 and -706).

The City published the *City of Kirkland 2015 Comprehensive Plan Update – Draft and Final Environmental Impact Statement*. This EIS addressed the 2015

Comprehensive Plan, Zoning Code and Zoning Map updates required by the Washington State Growth Management Act (GMA). Elements of the environment addressed in this EIS include population and employment growth, earth resources, air quality, water resources, plants and animals, energy, environmental health (noise, hazardous materials), land use, socioeconomics, aesthetics, parks/recreation, transportation, and public services/utilities.

This addendum to the *City of Kirkland 2015 Comprehensive Plan Update – Draft and Final Environmental Impact Statement* is being issued pursuant to WAC 197-11-625 to meet the City’s SEPA responsibilities. The EIS evaluated plan alternatives and impacts that encompass the same general regulatory approach used in the proposed amendments for LID stormwater principles and approaches discussed herein. No new significant impacts have been identified.

### **III. Non-Project Action**

Decisions on the adoption or amendment of zoning ordinances are referred to in the SEPA rules as “non-project actions” (WAC 197-11-704(2)(b)). The purpose of an EIS in analyzing a non-project action is to help the public and decision-makers identify and evaluate the environmental effects of alternative policies, implementation approaches, and similar choices related to future growth. While plans and regulations do not directly result in alteration of the physical environment, they do provide a framework within which future growth and development – and resulting environmental impacts – will occur. Both the adoption of the Comprehensive Plan evaluated in the *City of Kirkland 2015 Comprehensive Plan Update – Draft and Final Environmental Impact Statement* and eventual action on the amendments to Chapters 95, 114 and 115 of the Zoning Code and Section 19.12.130 of the Municipal Code are “non-project actions”.

### **IV. Environmental Analysis**

The *City of Kirkland 2015 Comprehensive Plan Update – Draft and Final Environmental Impact Statement* evaluated the environmental impacts associated with adoption of proposed policies and land use designations. The plan’s policies are intended to accomplish responsibilities mandated by the Washington State Growth Management Act (GMA), and to mitigate the impacts of future growth. In general, environmental impacts associated with the proposed code amendments are similar in magnitude to the potential impacts disclosed in the *City of Kirkland 2015 Comprehensive Plan Update – Draft and Final Environmental Impact Statement*. As this proposal is consistent with the policies and designations of the Comprehensive Plan and the environmental impacts disclosed in the *City of Kirkland 2015 Comprehensive Plan Update – Draft and Final Environmental Impact Statement*, no additional or new significant impacts beyond those identified in the EIS for the Comprehensive Plan are likely.

## **VI. Description of the Proposed Amendments to the Kirkland Zoning Code and Kirkland Municipal Code**

The amendments included in the proposal are summarized below:

### **1. Kirkland Zoning Code (KZC):**

#### **a. Chapter 95 (Tree Management and Required Landscaping)**

Amendments would emphasize the preservation of conifers due to a greater ability of conifers to intercept rainfall during the winter months in Western Washington. The revisions would also result in greater consistency between City codes and policies. Additional changes would add a preference for native species, and specify that LID facilities count toward landscape requirements.

#### **b. Chapter 114 (Low Impact Development)**

Amendments would remove incentives for the use of LID principles and facilities, since these approaches are now required under the updated surface water design regulations. The revisions would also include a simplified review process for 2/3 unit homes.

#### **c. Section 115.90 (Calculating Lot Coverage)**

Amendments would allow two new exceptions to features included in the calculation of lot coverage (rockeries and retaining walls that meet certain criteria, and public sidewalks on private property that are placed in public easements). Revisions would also eliminate LID incentives from exemptions to lot coverage calculation, since these features would be required under the updated surface water design regulations.

### **2. Kirkland Municipal Code (KMC):**

#### **a. Section 19.12.130 (Specifications)**

Amendments include a minor housekeeping change to provide consistency in referencing the Pre-Approved Plans in both the KMC and KZC.

## **VII. Public Involvement**

The Planning Commission and Houghton Community Council will hold a joint public hearing on the proposed amendments on October 24, 2016. Public notice of the amendments and the public hearing has been provided in accordance with State law. In addition, notice of the public hearing was provided to the Kirkland Alliance of Neighborhoods, all of the Neighborhood Associations, Cascade Water Alliance,

the Chamber of Commerce and the Developers Forum. The notice included public notice of the Open House for the community, scheduled to occur prior to the public hearing. The City Council will take final action on the proposal on November 15, 2016.

### **VIII. Conclusion**

This EIS Addendum fulfills the environmental review requirements for proposed amendments to the Zoning Code to incorporate stormwater low impact development (LID) principles and to address NPDES stormwater permit requirements. Any impacts of the proposal are within the range of impacts disclosed and evaluated in the *City of Kirkland 2015 Comprehensive Plan Update – Draft and Final Environmental Impact Statement*; no new significant impacts have been identified. Therefore, issuance of this EIS Addendum is the appropriate course of action.

*Attachment: Draft amendments to Chapters 95, 114 and 115 of the Kirkland Zoning Code, and Section 19.12.130 of the Kirkland Municipal Code.*



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## **MEMORANDUM**

**Date:** October 24, 2016

**To:** Kirkland City Council

**From:** Eric Laliberte, Chair, Kirkland Planning Commission

**Subject:** Planning Commission Recommendation to Adopt Amendments to the Zoning Code and Municipal Code – Low Impact Development, File CAM16-02154

## **INTRODUCTION**

We are pleased to recommend approval of amendments to the Kirkland Zoning Code and Kirkland Municipal Code for consideration by the City Council.

The proposed amendments are discussed below.

## **BACKGROUND**

The Planning Commission (PC) and Houghton Community Council (HCC) held a joint study session on September 29, 2016 to provide direction to staff on draft amendments that incorporate low impact development (LID) principles and support updated surface water regulations that require LID facilities pursuant to the Phase II Municipal Stormwater permit requirements. The meeting packet for the study session can be viewed [here](#). City staff had put together an extensive amount of background material that can be viewed in the study session materials including a detailed gap analysis. The PC and HCC considered all these materials in making our recommendation. We also recognized that over the years, Kirkland has supported a variety of innovative approaches and code revisions to incorporate LID standards and programs into development projects and capital improvement projects. As a result, the City is ahead of most jurisdictions and already comply with many of the requirements of the Municipal Stormwater permit.

The PC and HCC also held a joint public hearing on October 24, 2016. Both bodies voted to recommend approval of the proposed amendments, with one variation between the recommendations. The materials prepared for the public hearing can be viewed [here](#).

We received two written comments (Attachment 1). Both letters address the proposed elimination of exemptions from lot coverage for certain materials. This issue was also the point of departure between the Planning Commission and the Houghton Community Council recommendations, as discussed below. We also received oral testimony from one person, who expressed concerns regarding the possibility of increased development costs due to the new requirements for LID facilities.

### Recommended Amendments

In **Chapter 95** (Tree Management and Required Landscaping), our recommended amendments would emphasize the connection between LID and trees, vegetation and soil, along with offering guidance in soil/vegetation preservation and restoration.

In **Chapter 114** (Low Impact Development), our recommended amendments to this alternative type of site development include removal of the stormwater incentives, since the LID principles and facilities are now required under the new surface water design manual. The amendments also include a change to the requirements for 2/3 unit homes to simplify the review process for these proposals.

In **Section 115.90.2** (Calculating Lot Coverage - Exceptions), our recommended amendments would add two new "exceptions" from materials to be included in the lot coverage calculation on property: rockeries/retaining walls when certain conditions are met, and public sidewalk easements on private property, in order to avoid burdening private property when sidewalks are designed to accommodate LID facilities in the right-of-way.

In **Section 115.90.3** (Calculating Lot Coverage – Exemptions), our recommended amendments differ from the staff recommendation which was to delete all of the exemptions. We concluded that "open grid decking over pervious area" should be retained as an exemption from lot coverage, as currently provided in the Zoning Code. While we agreed that the other exemptions are surfaces that may be required under the new surface water design manual, we believe open grid decking continues to provide additional benefits. We considered moving this exemption to the "exception" section in 115.90.2, but did not want to allow for unlimited decking to cover an entire property.

In our deliberation, we also discussed the concern that these exemptions may result in the development of larger houses. Since the surface area is not calculated at 100% of its area, the lot coverage of the house could be greater than it would otherwise be if the surface area of the pavement or other exempted surface were fully counted.

Our decision differed from that of the Houghton Community Council. The HCC recommended that all exemptions be retained. The HCC argued that the use of these surfaces should continue to be supported through incentives, and that the removal of the exemptions could limit the development potential of a property.

A summary of the proposed changes to each section is provided in the memo included in the [study session materials](#). Responses to questions raised at the study session and minor changes to the proposed amendments are provided in the [staff memo provided for the public hearing](#). The recommended amendments are shown in Attachment 2 to this memo.

### Decisional Criteria

The decisional criteria found in KZC Section 135.25 were considered when making this recommendation, and can be viewed by following this link to the October 24<sup>th</sup> public hearing [staff memorandum](#).

**Attachment**

1. Correspondence
2. PC Recommended Amendments to KZC and KMC

cc: CAM16-02154

**Dorian Collins**

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**Subject:** FW: written comment received about proposed LID code change

**Importance:** High

**From:** Duffy Ellis [mailto:[duffy@cesolutions.us](mailto:duffy@cesolutions.us)]

**Sent:** Thursday, October 20, 2016 4:55 PM

**To:** Stacey Rush <[SRush@kirklandwa.gov](mailto:SRush@kirklandwa.gov)>

**Subject:** stacey!

Are you guys really eliminating the lot coverage 50% permeable paving discount with new manual? The builders and architects won't love that. Effectively reduces house sizes.

I'll be there next Monday. I need stay abreast of changes. See you then.

2 feet of snow at WA Pass. Not bad for October.

Duffy Ellis, PE

**Civil Engineering Solutions**

2244 NW Market St, Suite B  
Seattle, WA 98107

206.930.0342

**Dorian Collins**

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**From:** Lyndsey Munkel <LMunkel@thebluelinegroup.com>  
**Sent:** Monday, October 24, 2016 7:34 PM  
**To:** Dorian Collins  
**Subject:** Proposed Changes to Codes and Standards - Chapter 115

Hi Dorian,

Thanks for answering some of our questions tonight!

It is proposed that LID incentives are to be eliminated from exemptions to the lot coverage calculation since LID features would be required under the updated surface water design manual.

Is this final? If LID facilities provided exceed those required by COK (i.e. if 10% of lot is required to be routed to LID facilities and we are sending 15% to LID BMPs) can the additional area treated (5% in this case) be exempt per the current standards? Or something similar?

We would prefer that lot coverage exemptions still be applied to sites that can provide LID facilities since there will still be sites where LID is infeasible.

Thanks so much!  
Lyndsey

**Lyndsey Munkel** | Engineer  
**BLUELINE** | [www.thebluelinegroup.com](http://www.thebluelinegroup.com)  
d 425.250.7241 | o 425.216.4051 | f 425.216.4052  
LAND MATTERS :: Civil Engineering :: Land Use Planning

Kirkland Zoning Code  
Chapter 95 – TREE MANAGEMENT AND  
REQUIRED LANDSCAPING

1. Common Recreational Open Space. Reductions or variations of the area, width, or composition of required common recreational open space may be granted.
2. Parking Areas and Access. Variations in parking lot design and/or access driveway requirements may be granted when the Public Works and Planning Officials both determine the variations to be consistent with the intent of City policies and codes.
3. Required Yards. Initially, the applicant shall pursue options for placement of required yards as permitted by other sections of this code, such as selecting one (1) front required yard in the RSX zone and adjusting side yards in any zone to meet the 15-foot total as needed for each structure on the site. The Planning Official may also reduce the front, side or rear required yards; provided, that:
  - a. No required side yard shall be less than five (5) feet; and
  - b. The required front yard shall not be reduced by more than five (5) feet in residential zones. There shall not be an additional five (5) feet of reduction beyond the allowance provided for covered entry porches;
  - c. Rear yards that are not directly adjacent to another parcel's rear yard but that are adjacent to an access easement or tract may be reduced by five (5) feet;
  - d. No required yard shall be reduced by more than five (5) feet in residential zones.
4. Storm Water. Requirements pertaining to stormwater may be varied if approved by the Public Works Official under KMC 15.52.060.
5. Additional Variations. In addition to the variations described above, the Planning Official is authorized to require site plan alterations to retain trees with a high retention value. Such alterations include minor adjustments to the location of building footprints, adjustments to the location of driveways and access ways, or adjustment to the location of walkways, easements or utilities. The Planning Official and the applicant shall work in good faith to find reasonable solutions.

(Ord. 4350 § 1, 2012; Ord. 4238 § 2, 2010)

### **.33 Tree Density Requirement**

The required minimum tree density is 30 tree credits per acre for single-family homes, cottages, carriage units, two/three-unit homes, short plats, and/or subdivisions and associated demolition and land surface modification. For individual lots in a short subdivision or subdivision with an approved Tree Retention Plan, the tree density shall be calculated for each lot within the short plat or subdivision. The tree density may consist of existing trees pursuant to the tree's retention value, supplemental trees or a combination of existing and supplemental trees pursuant to subsection (2) of this section. Existing trees transplanted to an area on the same site shall not count toward the required density unless approved by the Urban Forester based on transplant specifications provided by a qualified professional that will ensure a good probability for survival.

1. Tree Density Calculation. In calculating tree density credits, tree credits may be rounded up to the next whole number from a .5 or greater value. For the purpose of calculating required minimum tree density, public right-of-way, areas to be dedicated as public right-of-way, and vehicular access easements not included as lot area with the approved short plat shall be excluded from the area used for calculation of tree density.

Tree density calculation for existing individual trees:

- a. Diameter breast height (DBH) of the tree shall be measured in inches.
- b. The tree credit value that corresponds with DBH shall be found in Table 95.33.1. Existing native conifers (or other conifer species as approved by the Urban Forester) shall count 1.5 times credits for retention.

Table 95.33.1

## Tree Density for Existing Significant Trees

(Credits per minimum diameter – DBH)

DBH	Tree Credits	DBH	Tree Credits	DBH	Tree Credits
3 – 5"	0.5				
6 – 10"	1	24"	8	38"	15
12"	2	26"	9	40"	16
14"	3	28"	10	42"	17
16"	4	30"	11	44"	18
18"	5	32"	12	46"	19
20"	6	34"	13	48"	20
22"	7	36"	14	50"	21

Example: a 7,200-square-foot lot would need five (5) tree credits ( $7,200/43,560 = 0.165 \times 30 = (4.9)$  or five (5)). The tree density for the lot could be met by retaining with one (1) existing 16-inch deciduous tree and one (1) existing 6-inch deciduous tree on site. The same 7,200 square-foot-lot would meet the required five (5) tree credits by retaining one (1) existing 14-inch conifer.

2. Supplemental Trees Planted to Meet Minimum Density Requirement. For sites and activities requiring a minimum tree density and where the existing trees to be retained do not meet the minimum tree density requirement, supplemental trees shall be planted to achieve the required minimum tree density.
3. Tree Location. In designing a development and in meeting the required minimum tree density, the trees shall be planted in the following order of priority:
  - a. On-Site. The preferred locations for new trees are:
    - 1) In preserved groves, critical areas or their buffers.
    - 2) Adjacent to storm water facilities as approved by Public Works under KMC 15.52.060.
    - 3) Entrance landscaping, traffic islands and other common areas in residential subdivisions.
    - 4) Site perimeter – The area of the subject property that is within 10 feet from the property line.
    - 5) On individual residential building lots.
  - b. Off-Site. When room is unavailable for planting the required trees on site, then they may be planted at another approved location in the City.
  - c. City Forestry Account. When the Planning Official determines on-site and off-site locations are unavailable, then the applicant shall pay an amount of money approximating the current market value of the supplemental trees into the City forestry account.

Kirkland Zoning Code  
Chapter 95 – TREE MANAGEMENT AND  
REQUIRED LANDSCAPING

4. Minimum Size and Tree Density Value for Supplemental Trees. The required minimum size of the supplemental tree worth one (1) tree credit shall be six (6) feet tall for Thuja/Arborvitae or four (4) feet tall for native or other a conifers and 2-inch caliper for deciduous or broad-leaf evergreen tree. Additional credits may be awarded for larger supplemental trees. The installation and maintenance shall be pursuant to KZC 95.50 and 95.51 respectively.

(Ord. 4238 § 2, 2010)

**.34 Tree & Soil Protection during Development Activity**

Prior to development activity or initiating tree removal on the site, vegetated areas, ~~and~~ individual trees, ~~and soil~~ to be preserved shall be protected from potentially damaging activities pursuant to the following standards:

1. Placing Materials near Trees. No person may conduct any activity within the protected area of any tree designated to remain, including, but not limited to, operating or parking equipment, placing solvents, storing building material or ~~stockpiling any materials~~~~soil deposits~~, or dumping concrete washout or other chemicals. During construction, no person shall attach any object to any tree designated for protection.
2. Protective Barrier. Before development, land clearing, filling or any land alteration, the applicant shall:
  - a. Erect and maintain readily visible temporary protective tree fencing along the limits of disturbance which completely surrounds the protected area of all retained trees, ~~or~~ groups of trees, ~~vegetation and native soil~~. Fences shall be constructed of chain link and be at least six (6) feet high, unless other type of fencing is authorized by the Planning Official.
  - b. Install highly visible signs spaced no further than 15 feet along the entirety of the protective tree fence. Said sign must be approved by the Planning Official and shall state at a minimum "Tree & Soil Protection Area, Entrance Prohibited" and provide the City phone number for code enforcement to report violations.
  - c. Prohibit excavation or compaction of ~~soil~~~~earth~~ or other potentially damaging activities within the barriers; provided, that the Planning Official may allow such activities approved by a qualified professional and under the supervision of a qualified professional retained and paid for by the applicant.
  - d. Maintain the protective barriers in place for the duration of the project until the Planning Official authorizes their removal.
  - e. Ensure that any approved landscaping done in the protected zone subsequent to the removal of the barriers shall be accomplished with ~~light~~ machinery from outside the protected zone or by hand labor.
  - f. In addition to the above, the Planning Official may require the following:
    - 1) If equipment is authorized to operate within the ~~protected~~~~critical-root~~ zone, ~~cover~~ the soil and areas adjoining the critical root zone of a tree must be covered with mulch to a depth of at least six (6) inches, or with plywood, steel plates or similar material in order to protect roots and soil from damage caused by heavy equipment.
    - 2) Minimize root damage by hand-excavating a 2-foot-deep trench, at edge of critical root zone, to cleanly sever the roots of trees to be retained. Never rip or shred roots with heavy equipment.
    - 3) Corrective pruning performed on protected trees in order to avoid damage from machinery or building activity.
    - 4) Maintenance of trees throughout construction period by watering and fertilizing.

Kirkland Zoning Code  
Chapter 95 – TREE MANAGEMENT AND  
REQUIRED LANDSCAPING

3. Grade.
  - a. The grade shall not be elevated or reduced within the critical root zone of trees to be preserved without the Planning Official's authorization based on recommendations from a qualified professional. The Planning Official may allow coverage of up to one-half (1/2) of the area of the tree's critical root zone with light soils (no clay) to the minimum depth necessary to carry out grading or landscaping plans, if it will not imperil the survival of the tree. Aeration devices may be required to ensure the tree's survival.
  - b. If the grade adjacent to a preserved tree is raised such that it could slough or erode into the tree's critical root zone, it shall be permanently stabilized to prevent soil erosion and suffocation of the roots.
  - c. The applicant shall not install an impervious surface within the critical root zone of any tree to be retained without the authorization of the Planning Official. The Planning Official may require specific construction methods and/or use of aeration devices to ensure the tree's survival and to minimize the potential for root-induced damage to the impervious surface.
  - d. To the greatest extent practical, utility trenches shall be located outside of the critical root zone of trees to be retained. The Planning Official may require that utilities be tunneled under the roots of trees to be retained if the Planning Official determines that trenching would significantly reduce the chances of the tree's survival.
  - e. Trees and other vegetation to be retained shall be protected from erosion and sedimentation. Clearing operations shall be conducted so as to expose the smallest practical area of soil to erosion for the least possible time. To control erosion, it is encouraged that shrubs, ground cover and stumps be maintained on the individual lots, where feasible.
4. Directional Felling. Directional felling of trees shall be used to avoid damage to trees designated for retention.
5. Additional Requirements. The Planning Official may require additional tree protection measures that are consistent with accepted urban forestry industry practices.

(Ord. 4238 § 2, 2010)

#### **.40 Required Landscaping**

1. User Guide. Chapters 15 through 56 KZC containing the use zone charts or development standards tables assign a landscaping category to each use in each zone. This category is either "A," "B," "C," "D," or "E." If you do not know which landscaping category applies to the subject property, you should consult the appropriate use zone chart or development standards table.

Requirements pertaining to each landscaping category are located throughout this chapter, except that Landscaping Category E is not subject to this section.

Landscape Categories A, B, C, D, and E may be subject to additional related requirements in the following other chapters:

- a. Various use zone charts or development standards tables, in Chapters 15 through 56 KZC, establish additional or special buffering requirements for some uses in some zones.
- b. Chapter 85 KZC, Geologically Hazardous Areas, addresses the retention of vegetation on steep slopes.
- c. Chapter 90 KZC, Drainage Basins, addresses vegetation within sensitive areas and sensitive area buffers.

Kirkland Zoning Code  
Chapter 95 – TREE MANAGEMENT AND  
REQUIRED LANDSCAPING

- d. Chapter 110 KZC and Chapter 19.36 KMC address vegetation within rights-of-way, except for the I-405 and SR-520 rights-of-way, and the Cross Kirkland Corridor railbanked rail corridor or the Eastside Rail Corridor.
  - e. KZC 115.135, Sight Distance at Intersections, which may limit the placement of landscaping in some areas.
  - f. Chapter 22 KMC addresses trees in subdivisions.
2. Use of Significant Existing Vegetation.
- a. General. The applicant shall apply subsection KZC 95.30(3), Tree Retention Plan Procedure, and KZC 95.32, Incentives and Variations to Development Standards, to retain existing native trees, and vegetation and soil in areas subject to the landscaping standards of this section. The Planning Official shall give substantial weight to the retained native trees and vegetation when determining the applicant's compliance with this section.
  - b. Supplement. The City may require the applicant to plant trees, shrubs, and groundcover according to the requirements of this section to supplement the existing vegetation in order to provide a buffer at least as effective as the required buffer.
  - c. Protection Techniques. The applicant shall use the protection techniques described in KZC 95.34 to ensure the protection of significant existing vegetation and soil.
3. Landscape Plan Required. In addition to the Tree Retention Plan required pursuant to KZC 95.30, application materials shall clearly depict the quantity, location, species, and size of plant materials proposed to comply with the requirements of this section, and shall address the plant installation and maintenance requirements set forth in KZC 95.50 and 95.51. Plant materials shall be identified with both their scientific and common names. Any required irrigation system must also be shown.

(Ord. 4476 § 3, 2015; Ord. 4408 § 1, 2013; Ord. 4238 § 2, 2010; Ord. 4121 § 1, 2008; Ord. 4097 § 1, 2007; Ord. 4037 § 1, 2006; Ord. 4030 § 1, 2006; Ord. 4010 § 2, 2005)

#### **.41 Supplemental Plantings**

- 1. General. The applicant shall provide the supplemental landscaping specified in subsection (2) of this section in any area of the subject property that:
  - a. Is not covered with a building, vehicle circulation area or other improvement; and
  - b. Is not a critical area, critical area buffer, or in an area to be planted with required landscaping; and
  - c. Is not committed to and being used for some specific purpose.
- 2. Standards. The applicant shall provide the following at a minimum:
  - a. Living plant material which will cover 80 percent of the area to be landscaped within two (2) years. If the material to be used does not spread over time, the applicant shall re-plant the entire area involved immediately. Any area that will not be covered with living plant material must be covered with nonliving groundcover. Preference is given to using native plant species. See Kirkland Native Tree/Plant Lists.
  - b. One (1) tree for each 1,000 square feet of area to be landscaped. At the time of planting, deciduous trees must be at least two (2) inches in caliper and coniferous trees must be at least five (5) feet in height.

Kirkland Zoning Code  
Chapter 95 – TREE MANAGEMENT AND  
REQUIRED LANDSCAPING

horizontal dimension of these areas shall not exceed 50 percent of the length of the facade of the structure or fence (see Plate 11).

4. Outdoor dining areas.

5. That portion of an outdoor display of vehicles for sale or lease which is adjacent to a public right-of-way that is improved for vehicular use; provided, that it meets the buffering standards for driving and parking areas in KZC 95.45(1); and provided further, that the exemptions of KZC 95.45(2) do not apply unless it is fully enclosed within or under a building, or is on top of a building and is at least one (1) story above finished grade.

6. Outdoor Christmas tree lots and fireworks stands if these uses will not exceed 30 days, and outdoor amusement rides, carnivals and circuses, and parking lot sales which are ancillary to the indoor sale of the same goods and services, if these uses will not exceed seven (7) days.

(Ord. 4238 § 2, 2010)

#### **.44 Internal Parking Lot Landscaping Requirements**

The following internal parking lot landscape standards apply to each parking lot or portion thereof containing more than eight (8) parking stalls.

1. The parking lot must contain 25 square feet of landscaped area per parking stall planted as follows:

a. The applicant shall arrange the required landscaping throughout the parking lot to provide landscape islands or peninsulas to separate groups of parking spaces (generally every eight (8) stalls) from one another and each row of spaces from any adjacent driveway that runs perpendicular to the row. This island or peninsula must be surrounded by a 6-inch-high vertical curb and be of similar dimensions as the adjacent parking stalls. Gaps in curbs are allowed for stormwater runoff to enter landscape island.

b. Landscaping shall be installed pursuant to the following standards:

1) At least one (1) deciduous tree, two (2) inches in caliper, or a coniferous tree five (5) feet in height.

2) Groundcover shall be selected and planted to achieve 60 percent coverage within two (2) years.

3) Natural drainage landscapes (such as rain gardens, bio-infiltration swales and bioretention planters) are allowed when designed in compliance with the stormwater design manual adopted in KMC 15.52.060. Internal parking lot landscaping requirements for trees still apply. Refer to Public Works Pre-Approved Plans

c. Exception. The requirements of this subsection do not apply to any area that is fully enclosed within or under a building.

2. Rooftop Parking Landscaping. For a driving or parking area on the top level of a structure that is not within the CBD zone or within any zone that requires design regulation compliance, one

(1) planter that is 30 inches deep and five (5) feet square must be provided for every eight (8) stalls on the top level of the structure. Each planter must contain a small tree or large shrub suited to the size of the container and the specific site conditions, including desiccating winds, and is clustered with other planters near driving ramps or stairways to maximize visual effect.

3. If development is subject to Design Review as described in Chapter 142 KZC, the City will review the parking area design, plant choice and specific plant location as part of the Design Review approval.

Kirkland Zoning Code  
Chapter 95 – TREE MANAGEMENT AND  
REQUIRED LANDSCAPING

The City may also require or permit modification to the required landscaping and design of the parking area as part of Design Review approval.

(Ord. 4350 § 1, 2012; Ord. 4238 § 2, 2010)

**.45 Perimeter Landscape Buffering for Driving and Parking Areas**

1. Perimeter Buffering – General. Except as specified in subsection (2) of this section, the applicant shall buffer all parking areas and driveways from abutting rights-of-way and from adjacent property with a 5-foot-wide strip along the perimeter of the parking areas and driveways planted as follows (see Figure 95.45.A):

- a. One (1) row of trees, two (2) inches in caliper and planted 30 feet on center along the entire length of the strip.
- b. Living groundcover planted to attain coverage of at least 60 percent of the strip area within two (2) years.

c. Natural drainage landscapes (such as rain gardens, bio-infiltration swales and bioretention planters) are allowed when designed in compliance with the stormwater design manual adopted in KMC 15.52.060. Perimeter landscape buffering requirements for trees in driving and parking areas still apply. Refer to Public Works Pre-Approved Plans

2. Exception. The requirements of this section do not apply to any parking area that:

- a. Is fully enclosed within or under a building; or
- b. Is on top of a building and is at least one (1) story above finished grade; or
- c. Serves detached dwelling units exclusively; or
- d. Is within any zone that requires design regulation compliance. See below for Design District requirements.

3. Design Districts. If subject to Design Review, each side of a parking lot that abuts a street, through-block pathway or public park must be screened from that street, through-block pathway or public park by using one (1) or a combination of the following methods (see Figures 95.45.A, B, and C):

- a. By providing a landscape strip at least five (5) feet wide planted consistent with subsection (1) of this section, or in combination with the following. In the RHBD Regional Center (see KZC Figure 92.05.A) a 10-foot perimeter landscape strip along NE 85th Street is required planted consistent with subsection (1) of this section.
- b. The hedge or wall must extend at least two (2) feet, six (6) inches, and not more than three (3) feet above the ground directly below it.
- c. The wall may be constructed of masonry or concrete, if consistent with the provisions of KZC 92.35(1)(g), in building material, color and detail, or of wood if the design and materials match the building on the subject property.
- d. In JBD zones:
  - 1) If the street is a pedestrian-oriented street, the wall may also include a continuous trellis or grillwork, at least five (5) feet in height above the ground, placed on top of or in front of the wall and planted with climbing vines. The trellis or grillwork may be constructed of masonry, steel, cast iron and/or wood.

Kirkland Zoning Code  
Chapter 95 – TREE MANAGEMENT AND  
REQUIRED LANDSCAPING

- 3) The modification will provide a visual screen that is comparable or superior to the buffer required by KZC 95.45; or
- 4) The modification eliminates the portion of the buffer that would divide a shared parking area serving two (2) or more adjacent uses, but provides the buffer around the perimeter of the shared parking area.

(Ord. 4238 § 2, 2010)

#### **.47 Nonconforming Landscaping and Buffers**

1. The landscaping requirements of KZC 95.41, Supplemental Plantings, KZC 95.43 Outdoor Use and Storage, KZC 95.44, Internal Parking Lot Landscaping, and KZC 95.45, Perimeter Landscape Buffering for Driving and Parking Areas, must be brought into conformance as much as is feasible, based on available land area, in either of the following situations:

- a. An increase of at least 10 percent in gross floor area of any structure; or
- b. An alteration to any structure, the cost of which exceeds 50 percent of the replacement cost of the structure.

2. Land use buffers must be brought into conformance with KZC 95.42 in either of the following situations:

- a. An increase in gross floor area of any structure (the requirement to provide conforming buffers applies only where new gross floor area impacts adjoining property); or
- b. A change in use on the subject property and the new use requires larger buffers than the former use.

(Ord. 4238 § 2, 2010)

#### **.50 Installation Standards for Required Plantings**

All required trees, ~~and~~ landscaping and soil shall be installed according to sound horticultural practices in a manner designed to encourage quick establishment and healthy plant growth. All required landscaping shall be installed in the ground and not in above-ground containers, except for landscaping required on the top floor of a structure.

When an applicant proposes to locate a subterranean structure under required landscaping that appears to be at grade, the applicant will: (1) provide site-specific documentation prepared by a qualified expert to establish that the design will adequately support the long-term viability of the required landscaping; and (2) enter into an agreement with the City, in a form acceptable to the City Attorney, indemnifying the City from any damage resulting from development activity on the subject property which is related to the physical condition of the property. The applicant shall record this agreement with the King County Recorder's Office.

1. Compliance. It is the applicant's responsibility to show that the proposed landscaping complies with the regulations of this chapter.
2. Timing. All landscaping shall be installed prior to the issuance of a certificate of occupancy, except that the installation of any required tree or landscaping may be deferred during the summer months to the next planting season, but never for more than six (6) months. Deferred installation shall be secured with a performance bond pursuant to Chapter 175 KZC prior to the issuance of a certificate of occupancy.
3. Grading. Berms shall not exceed a slope of two (2) horizontal feet to one (1) vertical foot (2:1).
4. Soil Specifications. Soils in planting areas shall have soil quality equivalent to WA State Dept. of Ecology BMP T5.13-adequate porosity to allow root growth. ~~Soils which have been compacted to a density greater than one and three-tenths (1.3) grams per cubic centimeters shall be loosened to increase~~

Kirkland Zoning Code  
Chapter 95 – TREE MANAGEMENT AND  
REQUIRED LANDSCAPING

~~eration to a minimum depth of 24 inches or to the depth of the largest plant root ball, whichever is greater. Imported topsoils shall be tilled into existing soils to prevent a distinct soil interface from forming. After soil preparation is completed, motorized vehicles shall be kept off to prevent excessive compaction and underground pipe damage.~~ The soil quality in any landscape area shall comply with the soil quality requirements of the Public Works Pre-Approved Plans. See subsection (9) of this section for mulch requirements.

5. Plant Selection.

- a. Plant selection shall be consistent with the Kirkland Plant List, which is produced by the City's Natural Resource Management Team and available in the Planning and Building Department.
- b. Plants shall be selected and sited to produce a hardy and drought-resistant landscape area. Selection shall consider soil type and depth, the amount of maintenance required, spacing, exposure to sun and wind, the slope and contours of the site, and compatibility with existing native vegetation preserved on the site. Preservation of existing vegetation is strongly encouraged.
- c. Prohibited Materials. Plants listed as prohibited in the Kirkland Plant List are prohibited in required landscape areas. Additionally, there are other plants that may not be used if identified in the Kirkland Plant List as potentially damaging to sidewalks, roads, underground utilities, drainage improvements, foundations, or when not provided with enough growing space.
- d. All plants shall conform to American Association of Nurserymen (AAN) grades and standards as published in the "American Standard for Nursery Stock" manual.
- e. Plants shall meet the minimum size standards established in other sections of the KZC.
- f. Multiple-stemmed trees may be permitted as an option to single-stemmed trees for required landscaping provided that such multiple-stemmed trees are at least 10 feet in height and that they are approved by the Planning Official prior to installation.

6. Fertilization. All fertilizer applications to turf or trees and shrubs shall follow Washington State University, National Arborist Association or other accepted agronomic or horticultural standards.

7. Irrigation. The intent of this standard is to ensure that plants will survive the critical establishment period when they are most vulnerable due to lack of watering. All required plantings must provide an irrigation system, using either Option 1, 2, or 3 or a combination of those options. For each option irrigation shall be designed to conserve water by using the best practical management techniques available. These techniques may include, but not be limited to: drip irrigation to minimize evaporation loss, moisture sensors to prevent irrigation during rainy periods, automatic controllers to insure proper duration of watering, sprinkler head selection and spacing designed to minimize overspray, and separate zones for turf and shrubs and for full sun exposure and shady areas to meet watering needs of different sections of the landscape.

Exceptions, as approved by the Planning Official, to the irrigation requirement may be approved xeriscape (i.e., low water usage plantings), plantings approved for low impact development techniques, established indigenous plant material, or landscapes where natural appearance is acceptable or desirable to the City. However, those exceptions will require temporary irrigation (Option 2 and/or 3) until established.

- a. Option 1. A permanent built-in irrigation system with an automatic controller designed and certified by a licensed landscape architect as part of the landscape plan.
- b. Option 2. An irrigation system designed and certified by a licensed landscape architect as part of the landscape plan, which provides sufficient water to ensure that the plants will become established. The system does not have to be permanent if the plants chosen can survive adequately on their own, once established.

## **KZC 114 Low Impact Development with Proposed 2016 Edits**

### **Chapter 114 – LOW IMPACT DEVELOPMENT**

#### **Sections:**

- [114.05](#) User Guide
- [114.10](#) Voluntary Provisions and Intent
- [114.15](#) Parameters for Low Impact Development
- [114.20](#) Design Standards and Guidelines
- [114.25](#) Review Process
- [114.30](#) Additional Standards
- [114.35](#) Required Application Documentation

#### **114.05 User Guide**

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This chapter provides standards for an alternative type of site development that ensures low impact development (LID) ~~principles~~~~facilities~~ are utilized to ~~reduce environmental impacts~~~~manage stormwater~~ on project sites in specified low density zones. If you are interested in proposing detached dwelling units or two (2) unit homes that reduce environmental impacts or you wish to participate in the City's decision on a project including this type of site development, you should read this chapter.

(Ord. 4350 § 1, 2012)

#### **114.10 Voluntary Provisions and Intent**

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The provisions of this chapter are available as alternatives to the development of typical lots in low density zones. In the event of a conflict between the standards in this chapter and the standards in Chapters [15](#), 17 or 18 KZC, the standards in this chapter shall control except for the standards in Chapters [83](#) and [141](#) KZC.

The goal of LID is to conserve and use existing natural site features, to integrate small-scale stormwater controls, and to prevent measurable harm to streams, lakes, wetlands, and other natural aquatic systems from development sites by maintaining a more hydrologically functional landscape. LID may not be applicable to every project due to topography, high groundwater, or other site specific conditions.

The LID requirements in this code do not exempt an applicant from stormwater flow control and water quality treatment development requirements. LID facilities ~~are part of~~~~can be counted toward~~ those requirements, and

in some cases may ~~be all that is required. meet the requirements without traditional stormwater facilities (pipes and vaults).~~

The purpose of this chapter is to allow flexibility, establish the development guidelines, requirements and standards for LID low impact development projects. Because all projects are required to use ~~some form of LID principle techniques~~ and facilities/best management practices (BMPs) as feasible, the use of LID techniques does not necessarily fulfill all the requirements for a LID project. This chapter is intended to fulfill the following purposes:

- ~~3~~4. Manage stormwater through a land development strategy that emphasizes conservation and use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely mimic predevelopment hydrologic conditions.
- ~~1~~2. Encourage creative and coordinated site planning, the conservation of natural conditions and features, the use of appropriate new technologies and techniques, and the efficient layout of streets, utility networks and other public improvements.
- ~~4~~3. Minimize impervious surfaces.
- ~~2~~4. Encourage the creation or preservation of permanent forested open space.
5. Encourage development of residential environments that are harmonious with on-site and off-site natural and built environments.
6. Further the goals and the implementation of the policies of the Comprehensive Plan.

(Ord. 4350 § 1, 2012)

### 114.15 Parameters for Low Impact Development

These standards and incentives address the portion of the project site utilizing the LID principles stormwater techniques and facilities to meet applicable stormwater requirements. The remainder of the project site must comply with underlying zoning and ~~conventional~~ stormwater development regulations requirements. Please refer to KZC [114.30](#) and [114.35](#) for additional requirements related to these standards.

- |  |   |
|--|---|
|  | <ul style="list-style-type: none"> <li>• <u>Detached dwelling units</u>.</li> </ul> |
|--|---|

Permitted Housing Types	<ul style="list-style-type: none"> <li>• <u>Accessory dwelling units.</u></li> <li>• 2/3 unit homes.</li> </ul>
Minimum <u>Lot Size</u>	<ul style="list-style-type: none"> <li>• Individual <u>lot sizes</u> must be at least 50% of the minimum <u>lot size</u> for the underlying zone.</li> </ul>
Minimum Number of Lots	<ul style="list-style-type: none"> <li>• 4 lots.</li> </ul>
Maximum Density	<ul style="list-style-type: none"> <li>• As defined in underlying zone's <u>Use Zone</u> Chart or Density/Dimensions Table.</li> <li>• Bonus density is calculated by multiplying number of lots or units by 0.10. If a fraction of 0.5 or higher is obtained then round to the next whole number.</li> </ul>
<u>Low Impact Development</u>	<ul style="list-style-type: none"> <li>• <u>LID principles and facilities/BMPstechniques</u> must be employed to control stormwater runoff generated from <u>50%-of</u> all hard surfaces <u>as feasible</u>. This includes all vehicular and pedestrian access. <u>LID facilities/BMPs</u> must be designed according to Public Works stormwater <u>development regulations</u> as stated in Chapter <u>15.52</u> KMC.</li> </ul>
Locations	<p>Allowed in low density <u>residential zones</u> with the exception of the following: PLA 16, PLA 3C, RSA 1, RSA 8, or the RS 35 and RSX 35 zones in the Bridle Trails neighborhood north and northeast of the Bridle Trails State Park, and the Holmes Point Overlay zone. Any property or portion of a property with shoreline jurisdiction must meet the regulations found in Chapter <u>83</u> KZC, including minimum <u>lot size</u> or units per acre and lot coverage.</p>
Review Process	<ul style="list-style-type: none"> <li>• Short plats shall be reviewed under KMC <u>22.20.015</u> and subdivisions shall be reviewed under KMC <u>22.12.015</u>.</li> <li>• Condominium projects shall be reviewed under KZC 145, Process I.</li> </ul>
Parking Requirements	<ul style="list-style-type: none"> <li>• 2 stalls per <u>detached dwelling unit</u>.</li> <li>• 1 stall per <u>accessory dwelling unit</u>.</li> <li>• 1.5 stalls per unit in multi-unit home, rounded to next whole number.</li> <li>• See KZC <u>105.20</u> for guest parking requirements.</li> <li>• Parking pad width required in KZC <u>105.47</u> may be reduced to 10 feet.</li> <li>• Parking pad may be counted in required parking.</li> <li>• Tandem parking is allowed where stalls are shared by the same <u>dwelling unit</u>.</li> <li>• Shared garages in separate tract are allowed.</li> </ul>

	<ul style="list-style-type: none"> <li>All required parking must be provided on the <u>LID</u> project site.</li> </ul>
Development Type	<ul style="list-style-type: none"> <li>Subdivision.</li> <li>Condominium.</li> </ul>
Minimum <u>Required Yards</u> (from exterior <u>property lines</u> )	<ul style="list-style-type: none"> <li>20 feet for all front yards.</li> <li>10 feet for all other <u>required yards</u>.</li> </ul>
Minimum <u>Required Yards</u> (from internal <u>property lines</u> )	<ul style="list-style-type: none"> <li>Front: 10 feet.</li> <li>Option: Required front yard can be reduced to 5 feet, if required rear yard is increased by same amount of front yard reduction.</li> <li>Side and rear: 5 feet.</li> <li>Zero lot line for 2/3 unit homes between internal units.</li> </ul>
Front Porches	<ul style="list-style-type: none"> <li>Must comply with KZC <a href="#">115.115(3)(n)</a>, except that front entry porches may extend to within 5 feet of the interior required front yard.</li> </ul>
Garage Setbacks	<ul style="list-style-type: none"> <li>Must comply with KZC <a href="#">115.43</a>, except that attached garages on <u>front facade of dwelling unit</u> facing internal front <u>property line</u> must be set back 18 feet from internal front <u>property line</u>.</li> </ul>
Lot Coverage (all impervious surfaces)	<ul style="list-style-type: none"> <li><u>Maximum lot coverage</u> is the <u>maximum lot coverage</u> percentage of the underlying zone and may be aggregated.</li> </ul>
Required Common <u>Open Space</u> (RCOS)	<ul style="list-style-type: none"> <li>Minimum of 40%.</li> <li><u>Must preserve Native</u> and undisturbed vegetation <del>is preferred</del>.</li> <li>Allowance of 1% of required common <u>open space</u> for shelters or other recreational structures.</li> <li>Paths connecting and within required common <u>open space</u> to development must be pervious.</li> <li>Landscape greenbelt <u>easement</u> is required to protect and keep required common <u>open space</u> undeveloped in perpetuity.</li> </ul>
Maximum Floor Area <sup>1,2</sup>	<ul style="list-style-type: none"> <li>Maximum floor area is 50% of the minimum <u>lot size</u> of the underlying zone.</li> </ul>

**Footnotes:**

1. The maximum floor area for LID projects does not apply within the disapproval jurisdiction of Houghton.
2. The maximum floor area for LID projects in RS 35 and RSX 35 zones is 20 percent of the minimum lot size of the underlying zone.

(Ord. 4476 § 3, 2015; Ord. 4437 § 1, 2014; Ord. 4350 § 1, 2012)

## 114.20 Design Standards and Guidelines

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1. Required Low Impact Development Stormwater Principles and Facilities/BMPs – Low impact development (LID) stormwater facilities shall be designed to control stormwater runoff from 50 percent of all hard surfaces created within the LID portion of the project site. This includes all vehicular and pedestrian access. LID facilities/BMPs shall be designed according to Public Works stormwater development regulations, as stated in KMC 15.52.060. The maintenance of LID facilities shall be maintained in accordance with requirements in KMC 15.52.120. The proposed site design shall incorporate the use of LID strategies to meet stormwater management standards. LID is a set of techniques that mimic natural watershed hydrology by slowing, evaporating/transpiring, and filtering water, which allows water to soak into the ground closer to its source. The design should seek to meet the following objectives:
  - a. Preservation of natural hydrology.
  - b. Reduced impervious surfaces.
  - c. Treatment of stormwater in numerous small, decentralized structures.
  - d. Use of natural topography for drainage ways and storage areas.
  - e. Preservation of portions of the site in undisturbed, natural conditions.
  - f. Restoration of disturbed sites.
  - g. Reduction of the use of piped systems. Whenever possible, site design shall use multifunctional open drainage systems such as rain gardens, vegetated swales or filter strips that also help to fulfill landscaping and open space requirements.

2. Required Common Open Space – Required common open space shall support and enhance the project's LID stormwater facilities/BMPs; secondarily to provide a sense of openness, visual relief, and community for low impact development projects.

a. The minimum percentage for required common open space is 40 percent and is calculated using the size of the LID portion of the project site. Wetland and streams shall not be included in the calculation. The required common open space must be located outside of wetlands and streams, and may be developed and maintained to provide for passive recreational activities for the residents of the development as allowed in Chapter 90 KZC.

b. Conventional surface-stormwater management facilities such as vaults and tanks shall not be located/limited within required common open space areas unless there is no other feasible alternative placement for stormwater facilities and shall be placed underground at a depth to sufficiently allow landscaping to be planted on top of them. Low impact development (LID) facilities/BMPs/features are permitted, provided they do not adversely impact access to or use of the required common open space for passive recreation. Neither conventional nor LID stormwater facilities can result in the removal of healthy native trees, unless a positive net benefit can be shown and there is no other alternative for the placement of stormwater facilities. The Public Works Director must approve locating conventional stormwater facilities within the required common open space.

c. Existing native vegetation, forest litter and understory shall be preserved to the extent possible in order to reduce flow velocities and encourage sheet flow on the site. Invasive species, such as Himalayan blackberry, must be removed and replaced with native conifers and plants (see Kirkland Native Tree and -Plant List). Undisturbed native vegetation and soil shall be protected from compaction during construction. A restoration plan that achieves 80% coverage within two (2) years must be included with the applicant's submittal.

d. If no existing native vegetation, then applicant may propose a restoration plan to achieve 80% coverage within two (2) years that shall include all native conifer and plant species (see Kirkland Native Tree and Plant List). No new lawn is permitted and all improvements installed must be of pervious materials.

- e. Vegetation installed in required common open space areas shall be designed to allow for access and use of the space by all residents, and to facilitate maintenance needs. However, existing mature trees should be retained.

(Ord. 4437 § 1, 2014; Ord. 4350 § 1, 2012)

## **114.25 Review Process**

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### 1. Approval Process – Low Impact Development Projects

a. The City will review and process an application for a LID project concurrent with and through the same process as the underlying subdivision proposal (Process I, Chapter 145 KZC for short plats; Process IIA, Chapter 150 KZC for subdivisions). However, public notice for LID projects shall be as set forth under the provisions of Chapter 150 KZC (Process IIA). A Process I and site plan review will be required for projects that use a condominium ownership structure and do not subdivide the property into individually platted lots.

b. Lapse of Approval – Unless otherwise specified in the decision granting Process I approval, the applicant must begin construction or submit to the City a complete building permit application for development of the subject property consistent with the Process I approval within four (4) years after the final decision granting the Process I approval or that decision becomes void. The applicant must substantially complete construction consistent with the Process I approval and complete all conditions listed in the Process I approval decision within six (6) years after the final decision on the Process I approval or the decision becomes void. “Final decision” means the final decision of the Planning Director.

2. Approval Process – 2/3 Unit Homes – The City will review and process a LID project application that includes a 2/3 unit home with an additional land use process as follows:

- a. One 2/3 unit home requires a Planning Official ~~Process I~~ review.
- b. More than one 2/3 unit home requires a Process ~~IIA~~ review.

### 3. Approval Process – Requests for Modifications to Standards

a. Minor Modifications – Applicants may request minor modifications to the general parameters and design standards set forth in this chapter. The Planning Director under a

Process I, Chapter [145](#) KZC or Hearing Examiner under Process IIA, Chapter [150](#) KZC may modify the requirements if all of the following criteria are met:

- 1) The site is constrained due to unusual shape, topography, easements or sensitive areas; and
- 2) The modification is consistent with the objectives of this chapter; and
- 3) The modification will not result in a development that is less compatible with neighboring land uses.

(Ord. 4350 § 1, 2012)

### **114.30 Additional Standards**

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1. The City's approval of a low impact development project does not constitute approval of a subdivision or short plat. An applicant wishing to subdivide in connection with a development under this chapter shall seek approval to do so concurrently with the approval process under this chapter.
2. To the extent there is a conflict between the standards set forth in this chapter and Title 22 of the Kirkland Municipal Code, the standards set forth in this chapter shall control.

(Ord. 4350 § 1, 2012)

### **114.35 Required Application Documentation**

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1. Site assessment documents to be submitted with application include:
  - a. Survey prepared by a registered land surveyor or civil engineer.
  - b. Location of all existing and proposed lot lines and easements.
  - c. Location of all sensitive areas, including lakes, streams, wetlands, flood hazard areas, and steep slope/erosion hazard areas.
  - d. Landscape plan showing existing and proposed trees and other vegetation. The plan must show that the Required Common Open Space to be restored or augmented will be planted with Native Conifers and native plants to achieve 80% coverage within two (2) years.
2. Soil report prepared by a licensed civil engineer, geotechnical engineer, or engineering geologist.

3. Stormwater drainage report/technical information report.

(Ord. 4350 § 1, 2012)

## 115.90 Calculating Lot Coverage

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1. General – The area of all structures and pavement and any other impervious surface on the subject property will be calculated as a percentage of total lot area. If the subject property contains more than one (1) use, the maximum lot coverage requirements for the predominant use will apply to the entire development. Lot area not calculated under lot coverage must be devoted to open space as defined in KZC [5.10.610](#).

### 2. Exceptions

- a. An access easement or tract that is not included in the calculation of lot size will not be used in calculating lot coverage for any lot it serves or crosses.
- b. Pervious areas below eaves, balconies, and other cantilevered portions of buildings.
- c. Landscaped areas at least two (2) feet wide and 40 square feet in area located over subterranean structures if the Planning Official determines, based on site-specific information submitted by the proponent and prepared by a qualified expert, soil and depth conditions in the landscaped area will provide cleansing and percolation similar to that provided by existing site conditions.
- ~~d. Rockeries and retaining walls, unless located adjacent to or within twelve (12) inches of another impervious surface such as a patio, building or parking area.~~
- ~~e. Public sidewalk if located within a public easement on private property.~~

3. Exemptions – The following exemptions will be calculated at a ratio of 50 percent of the total area covered. Exempted area shall not exceed an area equal to 10 percent of the total lot area. Installation of exempted surfaces shall be done in accordance with the current adopted stormwater design manual.

- ~~a. Permeable pavement (non-grassed).~~
- ~~b. Grassed modular grid pavement.~~
- ~~a. e. Open grid decking over pervious area.~~
- ~~d. Pervious surfaces in compliance with the stormwater design manual adopted in KMC 15.52.060.~~

(Ord. 4350 § 1, 2012; Ord. 4252 § 1, 2010; Ord. 4121 § 1, 2008; Ord. 4097 § 1, 2007; Ord. 4072 § 1, 2007;  
Ord. 3814 § 1, 2001)

ORDINANCE O-4541

AN ORDINANCE OF THE CITY OF KIRKLAND RELATING TO ZONING, PLANNING, AND LAND USE AND AMENDING CHAPTERS 95, 114 and 115 OF THE KIRKLAND ZONING CODE REGARDING STORMWATER LOW IMPACT DEVELOPMENT PRINCIPLES AND REQUIREMENTS AND APPROVING A SUMMARY ORDINANCE FOR PUBLICATION, FILE NO. CAM16-02154.

1           WHEREAS, the City Council has received a recommendation  
2 from the Kirkland Planning Commission to amend various sections of  
3 Chapters 95, 114 and 115 of the Kirkland Zoning Code, as set forth in  
4 the report and recommendation of the Planning Commission dated  
5 October 24, 2016 and bearing Kirkland Planning and Building  
6 Department File No. CAM16-02154; and  
7

8           WHEREAS, prior to making the recommendation, the Kirkland  
9 Planning Commission, following notice as required by RCW 36.70A.035,  
10 held a public hearing on the amendment proposals on October 24, 2016;  
11 and  
12

13           WHEREAS, pursuant to the State Environmental Policy Act  
14 (SEPA), Chapter 43.21C RCW, a SEPA Addendum to Existing  
15 Environmental Documents was issued by the responsible official  
16 pursuant to WAC 197-11-625 on October 20, 2016; and  
17

18           WHEREAS, in a regular public meeting on November 15, 2016,  
19 the City Council considered the environmental documents received from  
20 the responsible official, together with the report and recommendation  
21 of the Planning Commission and a report from staff.  
22

23           NOW, THEREFORE, the City Council of the City of Kirkland do  
24 ordain as follows:  
25

26           Section 1. Chapters 95, 114 and 115 of the Kirkland Zoning  
27 Code are amended as set forth in Attachment A attached to this  
28 ordinance and incorporated by reference.  
29

30           Section 2. If any section, subsection, sentence, clause, phrase,  
31 part or portion of this ordinance, including those parts adopted by  
32 reference, is for any reason held to be invalid or unconstitutional by any  
33 court of competent jurisdiction, such decision shall not affect the validity  
34 of the remaining portions of this ordinance.  
35

36           Section 3. To the extent the subject matter of this ordinance is  
37 subject to the disapproval jurisdiction of the Houghton Community  
38 Council, this ordinance shall become effective within the Houghton  
39 Community Municipal Corporation only upon approval of the Houghton  
40 Community Council or the failure of said Community Council to  
41 disapprove this ordinance within 60 days of the date of the passage of  
42 this ordinance.

43            Section 4. Except as provided in Section 3, this ordinance shall  
44 be in force and effect on January 1, 2017, after its passage by the  
45 Kirkland City Council and publication, pursuant to Section 1.08.017  
46 Kirkland Municipal Code, in the summary form attached to the original  
47 of this ordinance and by this reference approved by the City Council, as  
48 required by law.

49  
50            Section 5. A complete copy of this ordinance shall be certified  
51 by the City Clerk, who shall then forward the certified copy to the King  
52 County Department of Assessments.

53  
54            Passed by majority vote of the Kirkland City Council in open  
55 meeting this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

56  
57            Signed in authentication thereof this \_\_\_\_\_ day of  
58 \_\_\_\_\_, 2016.

\_\_\_\_\_  
MAYOR

Attest:

\_\_\_\_\_  
City Clerk

Approved as to Form:

\_\_\_\_\_  
City Attorney

Kirkland Zoning Code  
Chapter 95 – TREE MANAGEMENT AND  
REQUIRED LANDSCAPING

1. Common Recreational Open Space. Reductions or variations of the area, width, or composition of required common recreational open space may be granted.
2. Parking Areas and Access. Variations in parking lot design and/or access driveway requirements may be granted when the Public Works and Planning Officials both determine the variations to be consistent with the intent of City policies and codes.
3. Required Yards. Initially, the applicant shall pursue options for placement of required yards as permitted by other sections of this code, such as selecting one (1) front required yard in the RSX zone and adjusting side yards in any zone to meet the 15-foot total as needed for each structure on the site. The Planning Official may also reduce the front, side or rear required yards; provided, that:
  - a. No required side yard shall be less than five (5) feet; and
  - b. The required front yard shall not be reduced by more than five (5) feet in residential zones. There shall not be an additional five (5) feet of reduction beyond the allowance provided for covered entry porches;
  - c. Rear yards that are not directly adjacent to another parcel's rear yard but that are adjacent to an access easement or tract may be reduced by five (5) feet;
  - d. No required yard shall be reduced by more than five (5) feet in residential zones.
4. Storm Water. Requirements pertaining to stormwater may be varied if approved by the Public Works Official under KMC 15.52.060.
5. Additional Variations. In addition to the variations described above, the Planning Official is authorized to require site plan alterations to retain trees with a high retention value. Such alterations include minor adjustments to the location of building footprints, adjustments to the location of driveways and access ways, or adjustment to the location of walkways, easements or utilities. The Planning Official and the applicant shall work in good faith to find reasonable solutions.

(Ord. 4350 § 1, 2012; Ord. 4238 § 2, 2010)

### **.33 Tree Density Requirement**

The required minimum tree density is 30 tree credits per acre for single-family homes, cottages, carriage units, two/three-unit homes, short plats, and/or subdivisions and associated demolition and land surface modification. For individual lots in a short subdivision or subdivision with an approved Tree Retention Plan, the tree density shall be calculated for each lot within the short plat or subdivision. The tree density may consist of existing trees pursuant to the tree's retention value, supplemental trees or a combination of existing and supplemental trees pursuant to subsection (2) of this section. Existing trees transplanted to an area on the same site shall not count toward the required density unless approved by the Urban Forester based on transplant specifications provided by a qualified professional that will ensure a good probability for survival.

1. Tree Density Calculation. In calculating tree density credits, tree credits may be rounded up to the next whole number from a .5 or greater value. For the purpose of calculating required minimum tree density, public right-of-way, areas to be dedicated as public right-of-way, and vehicular access easements not included as lot area with the approved short plat shall be excluded from the area used for calculation of tree density.

Tree density calculation for existing individual trees:

- a. Diameter breast height (DBH) of the tree shall be measured in inches.
- b. The tree credit value that corresponds with DBH shall be found in Table 95.33.1. Existing native conifers (or other conifer species as approved by the Urban Forester) shall count 1.5 times credits for retention.

**Table 95.33.1**

**Tree Density for Existing Significant Trees**

**(Credits per minimum diameter – DBH)**

DBH	Tree Credits	DBH	Tree Credits	DBH	Tree Credits
3 – 5"	0.5				
6 – 10"	1	24"	8	38"	15
12"	2	26"	9	40"	16
14"	3	28"	10	42"	17
16"	4	30"	11	44"	18
18"	5	32"	12	46"	19
20"	6	34"	13	48"	20
22"	7	36"	14	50"	21

Example: a 7,200-square-foot lot would need five (5) tree credits ( $7,200/43,560 = 0.165 \times 30 = (4.9)$  or five (5)). The tree density for the lot could be met by retaining ~~with~~ one (1) existing 16-inch deciduous tree and one (1) existing 6-inch deciduous tree on site. The same 7,200 square-foot-lot would meet the required five (5) tree credits by retaining one (1) existing 14-inch conifer.

2. Supplemental Trees Planted to Meet Minimum Density Requirement. For sites and activities requiring a minimum tree density and where the existing trees to be retained do not meet the minimum tree density requirement, supplemental trees shall be planted to achieve the required minimum tree density.
3. Tree Location. In designing a development and in meeting the required minimum tree density, the trees shall be planted in the following order of priority:
  - a. On-Site. The preferred locations for new trees are:
    - 1) In preserved groves, critical areas or their buffers.
    - 2) Adjacent to storm water facilities as approved by Public Works under KMC 15.52.060.
    - 3) Entrance landscaping, traffic islands and other common areas in residential subdivisions.
    - 4) Site perimeter – The area of the subject property that is within 10 feet from the property line.
    - 5) On individual residential building lots.
  - b. Off-Site. When room is unavailable for planting the required trees on site, then they may be planted at another approved location in the City.
  - c. City Forestry Account. When the Planning Official determines on-site and off-site locations are unavailable, then the applicant shall pay an amount of money approximating the current market value of the supplemental trees into the City forestry account.

Kirkland Zoning Code  
Chapter 95 – TREE MANAGEMENT AND  
REQUIRED LANDSCAPING

4. Minimum Size and Tree Density Value for Supplemental Trees. The required minimum size of the supplemental tree worth one (1) tree credit shall be six (6) feet tall for Thuja/Arborvitae or four (4) feet tall for native or other a conifers and 2-inch caliper for deciduous or broad-leaf evergreen tree. Additional credits may be awarded for larger supplemental trees. The installation and maintenance shall be pursuant to KZC 95.50 and 95.51 respectively.

(Ord. 4238 § 2, 2010)

**.34 Tree & Soil Protection during Development Activity**

Prior to development activity or initiating tree removal on the site, vegetated areas, ~~and~~ individual trees, ~~and soil~~ to be preserved shall be protected from potentially damaging activities pursuant to the following standards:

1. Placing Materials near Trees. No person may conduct any activity within the protected area of any tree designated to remain, including, but not limited to, operating or parking equipment, placing solvents, storing building material or ~~stockpiling any materials~~~~soil deposits~~, or dumping concrete washout or other chemicals. During construction, no person shall attach any object to any tree designated for protection.

2. Protective Barrier. Before development, land clearing, filling or any land alteration, the applicant shall:

a. Erect and maintain readily visible temporary protective tree fencing along the limits of disturbance which completely surrounds the protected area of all retained trees, ~~or~~ groups of trees, ~~vegetation and native soil~~. Fences shall be constructed of chain link and be at least six (6) feet high, unless other type of fencing is authorized by the Planning Official.

b. Install highly visible signs spaced no further than 15 feet along the entirety of the protective tree fence. Said sign must be approved by the Planning Official and shall state at a minimum "Tree & Soil Protection Area, Entrance Prohibited" and provide the City phone number for code enforcement to report violations.

c. Prohibit excavation or compaction of ~~soil~~~~earth~~ or other potentially damaging activities within the barriers; provided, that the Planning Official may allow such activities approved by a qualified professional and under the supervision of a qualified professional retained and paid for by the applicant.

d. Maintain the protective barriers in place for the duration of the project until the Planning Official authorizes their removal.

e. Ensure that any approved landscaping done in the protected zone subsequent to the removal of the barriers shall be accomplished with ~~light~~ machinery from outside the protected zone or by hand labor.

f. In addition to the above, the Planning Official may require the following:

1) If equipment is authorized to operate within the ~~protected~~~~critical-root~~ zone, ~~cover~~ the soil and areas adjoining the critical root zone of a tree must be covered with mulch to a depth of at least six (6) inches, or with plywood, steel plates or similar material in order to protect roots and soil from damage caused by heavy equipment.

2) Minimize root damage by hand-excavating a 2-foot-deep trench, at edge of critical root zone, to cleanly sever the roots of trees to be retained. Never rip or shred roots with heavy equipment.

3) Corrective pruning performed on protected trees in order to avoid damage from machinery or building activity.

4) Maintenance of trees throughout construction period by watering and fertilizing.

Kirkland Zoning Code  
Chapter 95 – TREE MANAGEMENT AND  
REQUIRED LANDSCAPING

3. Grade.
  - a. The grade shall not be elevated or reduced within the critical root zone of trees to be preserved without the Planning Official's authorization based on recommendations from a qualified professional. The Planning Official may allow coverage of up to one-half (1/2) of the area of the tree's critical root zone with light soils (no clay) to the minimum depth necessary to carry out grading or landscaping plans, if it will not imperil the survival of the tree. Aeration devices may be required to ensure the tree's survival.
  - b. If the grade adjacent to a preserved tree is raised such that it could slough or erode into the tree's critical root zone, it shall be permanently stabilized to prevent soil erosion and suffocation of the roots.
  - c. The applicant shall not install an impervious surface within the critical root zone of any tree to be retained without the authorization of the Planning Official. The Planning Official may require specific construction methods and/or use of aeration devices to ensure the tree's survival and to minimize the potential for root-induced damage to the impervious surface.
  - d. To the greatest extent practical, utility trenches shall be located outside of the critical root zone of trees to be retained. The Planning Official may require that utilities be tunneled under the roots of trees to be retained if the Planning Official determines that trenching would significantly reduce the chances of the tree's survival.
  - e. Trees and other vegetation to be retained shall be protected from erosion and sedimentation. Clearing operations shall be conducted so as to expose the smallest practical area of soil to erosion for the least possible time. To control erosion, it is encouraged that shrubs, ground cover and stumps be maintained on the individual lots, where feasible.
4. Directional Felling. Directional felling of trees shall be used to avoid damage to trees designated for retention.
5. Additional Requirements. The Planning Official may require additional tree protection measures that are consistent with accepted urban forestry industry practices.

(Ord. 4238 § 2, 2010)

**.40 Required Landscaping**

1. User Guide. Chapters 15 through 56 KZC containing the use zone charts or development standards tables assign a landscaping category to each use in each zone. This category is either "A," "B," "C," "D," or "E." If you do not know which landscaping category applies to the subject property, you should consult the appropriate use zone chart or development standards table.

Requirements pertaining to each landscaping category are located throughout this chapter, except that Landscaping Category E is not subject to this section.

Landscape Categories A, B, C, D, and E may be subject to additional related requirements in the following other chapters:

- a. Various use zone charts or development standards tables, in Chapters 15 through 56 KZC, establish additional or special buffering requirements for some uses in some zones.
- b. Chapter 85 KZC, Geologically Hazardous Areas, addresses the retention of vegetation on steep slopes.
- c. Chapter 90 KZC, Drainage Basins, addresses vegetation within sensitive areas and sensitive area buffers.

Kirkland Zoning Code  
Chapter 95 – TREE MANAGEMENT AND  
REQUIRED LANDSCAPING

- d. Chapter 110 KZC and Chapter 19.36 KMC address vegetation within rights-of-way, except for the I-405 and SR-520 rights-of-way, and the Cross Kirkland Corridor railbanked rail corridor or the Eastside Rail Corridor.
  - e. KZC 115.135, Sight Distance at Intersections, which may limit the placement of landscaping in some areas.
  - f. Chapter 22 KMC addresses trees in subdivisions.
2. Use of Significant Existing Vegetation.
- a. General. The applicant shall apply subsection KZC 95.30(3), Tree Retention Plan Procedure, and KZC 95.32, Incentives and Variations to Development Standards, to retain existing native trees, and vegetation and soil in areas subject to the landscaping standards of this section. The Planning Official shall give substantial weight to the retained native trees and vegetation when determining the applicant's compliance with this section.
  - b. Supplement. The City may require the applicant to plant trees, shrubs, and groundcover according to the requirements of this section to supplement the existing vegetation in order to provide a buffer at least as effective as the required buffer.
  - c. Protection Techniques. The applicant shall use the protection techniques described in KZC 95.34 to ensure the protection of significant existing vegetation and soil.
3. Landscape Plan Required. In addition to the Tree Retention Plan required pursuant to KZC 95.30, application materials shall clearly depict the quantity, location, species, and size of plant materials proposed to comply with the requirements of this section, and shall address the plant installation and maintenance requirements set forth in KZC 95.50 and 95.51. Plant materials shall be identified with both their scientific and common names. Any required irrigation system must also be shown.

(Ord. 4476 § 3, 2015; Ord. 4408 § 1, 2013; Ord. 4238 § 2, 2010; Ord. 4121 § 1, 2008; Ord. 4097 § 1, 2007; Ord. 4037 § 1, 2006; Ord. 4030 § 1, 2006; Ord. 4010 § 2, 2005)

**.41 Supplemental Plantings**

1. General. The applicant shall provide the supplemental landscaping specified in subsection (2) of this section in any area of the subject property that:
  - a. Is not covered with a building, vehicle circulation area or other improvement; and
  - b. Is not a critical area, critical area buffer, or in an area to be planted with required landscaping; and
  - c. Is not committed to and being used for some specific purpose.
2. Standards. The applicant shall provide the following at a minimum:
  - a. Living plant material which will cover 80 percent of the area to be landscaped within two (2) years. If the material to be used does not spread over time, the applicant shall re-plant the entire area involved immediately. Any area that will not be covered with living plant material must be covered with nonliving groundcover. Preference is given to using native plant species. See Kirkland Native Tree/Plant Lists.
  - b. One (1) tree for each 1,000 square feet of area to be landscaped. At the time of planting, deciduous trees must be at least two (2) inches in caliper and coniferous trees must be at least five (5) feet in height.

Kirkland Zoning Code  
Chapter 95 – TREE MANAGEMENT AND  
REQUIRED LANDSCAPING

horizontal dimension of these areas shall not exceed 50 percent of the length of the facade of the structure or fence (see Plate 11).

4. Outdoor dining areas.

5. That portion of an outdoor display of vehicles for sale or lease which is adjacent to a public right-of-way that is improved for vehicular use; provided, that it meets the buffering standards for driving and parking areas in KZC 95.45(1); and provided further, that the exemptions of KZC 95.45(2) do not apply unless it is fully enclosed within or under a building, or is on top of a building and is at least one (1) story above finished grade.

6. Outdoor Christmas tree lots and fireworks stands if these uses will not exceed 30 days, and outdoor amusement rides, carnivals and circuses, and parking lot sales which are ancillary to the indoor sale of the same goods and services, if these uses will not exceed seven (7) days.

(Ord. 4238 § 2, 2010)

**.44 Internal Parking Lot Landscaping Requirements**

The following internal parking lot landscape standards apply to each parking lot or portion thereof containing more than eight (8) parking stalls.

1. The parking lot must contain 25 square feet of landscaped area per parking stall planted as follows:

a. The applicant shall arrange the required landscaping throughout the parking lot to provide landscape islands or peninsulas to separate groups of parking spaces (generally every eight (8) stalls) from one another and each row of spaces from any adjacent driveway that runs perpendicular to the row. This island or peninsula must be surrounded by a 6-inch-high vertical curb and be of similar dimensions as the adjacent parking stalls. Gaps in curbs are allowed for stormwater runoff to enter landscape island.

b. Landscaping shall be installed pursuant to the following standards:

1) At least one (1) deciduous tree, two (2) inches in caliper, or a coniferous tree five (5) feet in height.

2) Groundcover shall be selected and planted to achieve 60 percent coverage within two (2) years.

3) Natural drainage landscapes (such as rain gardens, bio-infiltration swales and bioretention planters) are allowed when designed in compliance with the stormwater design manual adopted in KMC 15.52.060. Internal parking lot landscaping requirements for trees still apply. Refer to Public Works Pre-Approved Plans

c. Exception. The requirements of this subsection do not apply to any area that is fully enclosed within or under a building.

2. Rooftop Parking Landscaping. For a driving or parking area on the top level of a structure that is not within the CBD zone or within any zone that requires design regulation compliance, one

(1) planter that is 30 inches deep and five (5) feet square must be provided for every eight (8) stalls on the top level of the structure. Each planter must contain a small tree or large shrub suited to the size of the container and the specific site conditions, including desiccating winds, and is clustered with other planters near driving ramps or stairways to maximize visual effect.

3. If development is subject to Design Review as described in Chapter 142 KZC, the City will review the parking area design, plant choice and specific plant location as part of the Design Review approval.

Kirkland Zoning Code  
Chapter 95 – TREE MANAGEMENT AND  
REQUIRED LANDSCAPING

The City may also require or permit modification to the required landscaping and design of the parking area as part of Design Review approval.

(Ord. 4350 § 1, 2012; Ord. 4238 § 2, 2010)

**.45 Perimeter Landscape Buffering for Driving and Parking Areas**

1. Perimeter Buffering – General. Except as specified in subsection (2) of this section, the applicant shall buffer all parking areas and driveways from abutting rights-of-way and from adjacent property with a 5-foot-wide strip along the perimeter of the parking areas and driveways planted as follows (see Figure 95.45.A):

- a. One (1) row of trees, two (2) inches in caliper and planted 30 feet on center along the entire length of the strip.
- b. Living groundcover planted to attain coverage of at least 60 percent of the strip area within two (2) years.

c. Natural drainage landscapes (such as rain gardens, bio-infiltration swales and bioretention planters) are allowed when designed in compliance with the stormwater design manual adopted in KMC 15.52.060. Perimeter landscape buffering requirements for trees in driving and parking areas still apply. Refer to Public Works Pre-Approved Plans

2. Exception. The requirements of this section do not apply to any parking area that:

- a. Is fully enclosed within or under a building; or
- b. Is on top of a building and is at least one (1) story above finished grade; or
- c. Serves detached dwelling units exclusively; or
- d. Is within any zone that requires design regulation compliance. See below for Design District requirements.

3. Design Districts. If subject to Design Review, each side of a parking lot that abuts a street, through-block pathway or public park must be screened from that street, through-block pathway or public park by using one (1) or a combination of the following methods (see Figures 95.45.A, B, and C):

- a. By providing a landscape strip at least five (5) feet wide planted consistent with subsection (1) of this section, or in combination with the following. In the RHBD Regional Center (see KZC Figure 92.05.A) a 10-foot perimeter landscape strip along NE 85th Street is required planted consistent with subsection (1) of this section.
- b. The hedge or wall must extend at least two (2) feet, six (6) inches, and not more than three (3) feet above the ground directly below it.
- c. The wall may be constructed of masonry or concrete, if consistent with the provisions of KZC 92.35(1)(g), in building material, color and detail, or of wood if the design and materials match the building on the subject property.
- d. In JBD zones:
  - 1) If the street is a pedestrian-oriented street, the wall may also include a continuous trellis or grillwork, at least five (5) feet in height above the ground, placed on top of or in front of the wall and planted with climbing vines. The trellis or grillwork may be constructed of masonry, steel, cast iron and/or wood.

Kirkland Zoning Code  
Chapter 95 – TREE MANAGEMENT AND  
REQUIRED LANDSCAPING

- 3) The modification will provide a visual screen that is comparable or superior to the buffer required by KZC 95.45; or
- 4) The modification eliminates the portion of the buffer that would divide a shared parking area serving two (2) or more adjacent uses, but provides the buffer around the perimeter of the shared parking area.

(Ord. 4238 § 2, 2010)

**.47 Nonconforming Landscaping and Buffers**

1. The landscaping requirements of KZC 95.41, Supplemental Plantings, KZC 95.43 Outdoor Use and Storage, KZC 95.44, Internal Parking Lot Landscaping, and KZC 95.45, Perimeter Landscape Buffering for Driving and Parking Areas, must be brought into conformance as much as is feasible, based on available land area, in either of the following situations:

- a. An increase of at least 10 percent in gross floor area of any structure; or
- b. An alteration to any structure, the cost of which exceeds 50 percent of the replacement cost of the structure.

2. Land use buffers must be brought into conformance with KZC 95.42 in either of the following situations:

- a. An increase in gross floor area of any structure (the requirement to provide conforming buffers applies only where new gross floor area impacts adjoining property); or
- b. A change in use on the subject property and the new use requires larger buffers than the former use.

(Ord. 4238 § 2, 2010)

**.50 Installation Standards for Required Plantings**

All required trees, ~~and~~ landscaping and soil shall be installed according to sound horticultural practices in a manner designed to encourage quick establishment and healthy plant growth. All required landscaping shall be installed in the ground and not in above-ground containers, except for landscaping required on the top floor of a structure.

When an applicant proposes to locate a subterranean structure under required landscaping that appears to be at grade, the applicant will: (1) provide site-specific documentation prepared by a qualified expert to establish that the design will adequately support the long-term viability of the required landscaping; and (2) enter into an agreement with the City, in a form acceptable to the City Attorney, indemnifying the City from any damage resulting from development activity on the subject property which is related to the physical condition of the property. The applicant shall record this agreement with the King County Recorder's Office.

1. Compliance. It is the applicant's responsibility to show that the proposed landscaping complies with the regulations of this chapter.
2. Timing. All landscaping shall be installed prior to the issuance of a certificate of occupancy, except that the installation of any required tree or landscaping may be deferred during the summer months to the next planting season, but never for more than six (6) months. Deferred installation shall be secured with a performance bond pursuant to Chapter 175 KZC prior to the issuance of a certificate of occupancy.
3. Grading. Berms shall not exceed a slope of two (2) horizontal feet to one (1) vertical foot (2:1).
4. Soil Specifications. Soils in planting areas shall have soil quality equivalent to WA State Dept. of Ecology BMP T5.13-adequate porosity to allow root growth. ~~Soils which have been compacted to a density greater than one and three-tenths (1.3) grams per cubic centimeters shall be loosened to increase~~

Kirkland Zoning Code  
Chapter 95 – TREE MANAGEMENT AND  
REQUIRED LANDSCAPING

~~eration to a minimum depth of 24 inches or to the depth of the largest plant root ball, whichever is greater. Imported topsoils shall be tilled into existing soils to prevent a distinct soil interface from forming. After soil preparation is completed, motorized vehicles shall be kept off to prevent excessive compaction and underground pipe damage.~~ The soil quality in any landscape area shall comply with the soil quality requirements of the Public Works Pre-Approved Plans. See subsection (9) of this section for mulch requirements.

5. Plant Selection.

- a. Plant selection shall be consistent with the Kirkland Plant List, which is produced by the City's Natural Resource Management Team and available in the Planning and Building Department.
- b. Plants shall be selected and sited to produce a hardy and drought-resistant landscape area. Selection shall consider soil type and depth, the amount of maintenance required, spacing, exposure to sun and wind, the slope and contours of the site, and compatibility with existing native vegetation preserved on the site. Preservation of existing vegetation is strongly encouraged.
- c. Prohibited Materials. Plants listed as prohibited in the Kirkland Plant List are prohibited in required landscape areas. Additionally, there are other plants that may not be used if identified in the Kirkland Plant List as potentially damaging to sidewalks, roads, underground utilities, drainage improvements, foundations, or when not provided with enough growing space.
- d. All plants shall conform to American Association of Nurserymen (AAN) grades and standards as published in the "American Standard for Nursery Stock" manual.
- e. Plants shall meet the minimum size standards established in other sections of the KZC.
- f. Multiple-stemmed trees may be permitted as an option to single-stemmed trees for required landscaping provided that such multiple-stemmed trees are at least 10 feet in height and that they are approved by the Planning Official prior to installation.

6. Fertilization. All fertilizer applications to turf or trees and shrubs shall follow Washington State University, National Arborist Association or other accepted agronomic or horticultural standards.

7. Irrigation. The intent of this standard is to ensure that plants will survive the critical establishment period when they are most vulnerable due to lack of watering. All required plantings must provide an irrigation system, using either Option 1, 2, or 3 or a combination of those options. For each option irrigation shall be designed to conserve water by using the best practical management techniques available. These techniques may include, but not be limited to: drip irrigation to minimize evaporation loss, moisture sensors to prevent irrigation during rainy periods, automatic controllers to insure proper duration of watering, sprinkler head selection and spacing designed to minimize overspray, and separate zones for turf and shrubs and for full sun exposure and shady areas to meet watering needs of different sections of the landscape.

Exceptions, as approved by the Planning Official, to the irrigation requirement may be approved xeriscape (i.e., low water usage plantings), plantings approved for low impact development techniques, established indigenous plant material, or landscapes where natural appearance is acceptable or desirable to the City. However, those exceptions will require temporary irrigation (Option 2 and/or 3) until established.

- a. Option 1. A permanent built-in irrigation system with an automatic controller designed and certified by a licensed landscape architect as part of the landscape plan.
- b. Option 2. An irrigation system designed and certified by a licensed landscape architect as part of the landscape plan, which provides sufficient water to ensure that the plants will become established. The system does not have to be permanent if the plants chosen can survive adequately on their own, once established.

## **KZC 114 Low Impact Development with Proposed 2016 Edits**

### **Chapter 114 – LOW IMPACT DEVELOPMENT**

#### **Sections:**

- [114.05](#) User Guide
- [114.10](#) Voluntary Provisions and Intent
- [114.15](#) Parameters for Low Impact Development
- [114.20](#) Design Standards and Guidelines
- [114.25](#) Review Process
- [114.30](#) Additional Standards
- [114.35](#) Required Application Documentation

#### **114.05 User Guide**

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This chapter provides standards for an alternative type of site development that ensures low impact development (LID) ~~principles~~~~facilities~~ are utilized to ~~reduce environmental impacts~~~~manage stormwater~~ on project sites in specified low density zones. If you are interested in proposing detached dwelling units or two (2) unit homes that reduce environmental impacts or you wish to participate in the City's decision on a project including this type of site development, you should read this chapter.

(Ord. 4350 § 1, 2012)

#### **114.10 Voluntary Provisions and Intent**

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The provisions of this chapter are available as alternatives to the development of typical lots in low density zones. In the event of a conflict between the standards in this chapter and the standards in Chapters [15](#), 17 or 18 KZC, the standards in this chapter shall control except for the standards in Chapters [83](#) and [141](#) KZC.

The goal of LID is to conserve and use existing natural site features, to integrate small-scale stormwater controls, and to prevent measurable harm to streams, lakes, wetlands, and other natural aquatic systems from development sites by maintaining a more hydrologically functional landscape. LID may not be applicable to every project due to topography, high groundwater, or other site specific conditions.

The LID requirements in this code do not exempt an applicant from stormwater flow control and water quality treatment development requirements. LID facilities ~~are part of~~~~can be counted toward~~ those requirements, and

in some cases may ~~be all that is required. meet the requirements without traditional stormwater facilities (pipes and vaults).~~

The purpose of this chapter is to allow flexibility, establish the development guidelines, requirements and standards for LID low impact development projects. Because all projects are required to use ~~some form of LID principle techniques~~ and facilities/best management practices (BMPs) as feasible, the use of LID techniques does not necessarily fulfill all the requirements for a LID project. This chapter is intended to fulfill the following purposes:

- ~~3~~4. Manage stormwater through a land development strategy that emphasizes conservation and use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely mimic predevelopment hydrologic conditions.
- ~~1~~2. Encourage creative and coordinated site planning, the conservation of natural conditions and features, the use of appropriate new technologies and techniques, and the efficient layout of streets, utility networks and other public improvements.
- ~~4~~3. Minimize impervious surfaces.
- ~~2~~4. Encourage the creation or preservation of permanent forested open space.
5. Encourage development of residential environments that are harmonious with on-site and off-site natural and built environments.
6. Further the goals and the implementation of the policies of the Comprehensive Plan.

(Ord. 4350 § 1, 2012)

### 114.15 Parameters for Low Impact Development

These standards and incentives address the portion of the project site utilizing the LID principles stormwater techniques and facilities to meet applicable stormwater requirements. The remainder of the project site must comply with underlying zoning and ~~conventional~~ stormwater development regulations requirements. Please refer to KZC [114.30](#) and [114.35](#) for additional requirements related to these standards.

- Detached dwelling units.

Permitted Housing Types	<ul style="list-style-type: none"> <li>• <u>Accessory dwelling units.</u></li> <li>• 2/3 unit homes.</li> </ul>
Minimum <u>Lot Size</u>	<ul style="list-style-type: none"> <li>• Individual <u>lot sizes</u> must be at least 50% of the minimum <u>lot size</u> for the underlying zone.</li> </ul>
Minimum Number of Lots	<ul style="list-style-type: none"> <li>• 4 lots.</li> </ul>
Maximum Density	<ul style="list-style-type: none"> <li>• As defined in underlying zone's <u>Use Zone</u> Chart or Density/Dimensions Table.</li> <li>• Bonus density is calculated by multiplying number of lots or units by 0.10. If a fraction of 0.5 or higher is obtained then round to the next whole number.</li> </ul>
<u>Low Impact Development</u>	<ul style="list-style-type: none"> <li>• <u>LID principles and facilities/BMPs techniques</u> must be employed to control stormwater runoff generated from <u>50% of</u> all hard surfaces <u>as feasible</u>. This includes all vehicular and pedestrian access. <u>LID facilities/BMPs</u> must be designed according to Public Works stormwater <u>development regulations</u> as stated in Chapter <u>15.52</u> KMC.</li> </ul>
Locations	<p>Allowed in low density <u>residential zones</u> with the exception of the following:            PLA 16, PLA 3C, RSA 1, RSA 8, or the RS 35 and RSX 35 zones in the Bridle Trails neighborhood north and northeast of the Bridle Trails State Park, and the Holmes Point Overlay zone. Any property or portion of a property with shoreline jurisdiction must meet the regulations found in Chapter <u>83</u> KZC, including minimum <u>lot size</u> or units per acre and lot coverage.</p>
Review Process	<ul style="list-style-type: none"> <li>• Short plats shall be reviewed under KMC <u>22.20.015</u> and subdivisions shall be reviewed under KMC <u>22.12.015</u>.</li> <li>• Condominium projects shall be reviewed under KZC 145, Process I.</li> </ul>
Parking Requirements	<ul style="list-style-type: none"> <li>• 2 stalls per <u>detached dwelling unit</u>.</li> <li>• 1 stall per <u>accessory dwelling unit</u>.</li> <li>• 1.5 stalls per unit in multi-unit home, rounded to next whole number.</li> <li>• See KZC <u>105.20</u> for guest parking requirements.</li> <li>• Parking pad width required in KZC <u>105.47</u> may be reduced to 10 feet.</li> <li>• Parking pad may be counted in required parking.</li> <li>• Tandem parking is allowed where stalls are shared by the same <u>dwelling unit</u>.</li> <li>• Shared garages in separate tract are allowed.</li> </ul>

	<ul style="list-style-type: none"> <li>All required parking must be provided on the <u>LID</u> project site.</li> </ul>
Development Type	<ul style="list-style-type: none"> <li>Subdivision.</li> <li>Condominium.</li> </ul>
Minimum <u>Required Yards</u> (from exterior <u>property lines</u> )	<ul style="list-style-type: none"> <li>20 feet for all front yards.</li> <li>10 feet for all other <u>required yards</u>.</li> </ul>
Minimum <u>Required Yards</u> (from internal <u>property lines</u> )	<ul style="list-style-type: none"> <li>Front: 10 feet.</li> <li>Option: Required front yard can be reduced to 5 feet, if required rear yard is increased by same amount of front yard reduction.</li> <li>Side and rear: 5 feet.</li> <li>Zero lot line for 2/3 unit homes between internal units.</li> </ul>
Front Porches	<ul style="list-style-type: none"> <li>Must comply with KZC <a href="#">115.115(3)(n)</a>, except that front entry porches may extend to within 5 feet of the interior required front yard.</li> </ul>
Garage Setbacks	<ul style="list-style-type: none"> <li>Must comply with KZC <a href="#">115.43</a>, except that attached garages on <u>front facade of dwelling unit</u> facing internal front <u>property line</u> must be set back 18 feet from internal front <u>property line</u>.</li> </ul>
Lot Coverage (all impervious surfaces)	<ul style="list-style-type: none"> <li><u>Maximum lot coverage</u> is the <u>maximum lot coverage</u> percentage of the underlying zone and may be aggregated.</li> </ul>
Required Common <u>Open Space</u> (RCOS)	<ul style="list-style-type: none"> <li>Minimum of 40%.</li> <li><u>Must preserve Native</u> and undisturbed vegetation <del>is preferred</del>.</li> <li>Allowance of 1% of required common <u>open space</u> for shelters or other recreational structures.</li> <li>Paths connecting and within required common <u>open space</u> to development must be pervious.</li> <li>Landscape greenbelt <u>easement</u> is required to protect and keep required common <u>open space</u> undeveloped in perpetuity.</li> </ul>
Maximum Floor Area <sup>1,2</sup>	<ul style="list-style-type: none"> <li>Maximum floor area is 50% of the minimum <u>lot size</u> of the underlying zone.</li> </ul>

**Footnotes:**

1. The maximum floor area for LID projects does not apply within the disapproval jurisdiction of Houghton.
2. The maximum floor area for LID projects in RS 35 and RSX 35 zones is 20 percent of the minimum lot size of the underlying zone.

(Ord. 4476 § 3, 2015; Ord. 4437 § 1, 2014; Ord. 4350 § 1, 2012)

## 114.20 Design Standards and Guidelines

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1. Required Low Impact Development Stormwater Principles and Facilities/BMPs – Low impact development (LID) stormwater facilities shall be designed to control stormwater runoff from 50 percent of all hard surfaces created within the LID portion of the project site. This includes all vehicular and pedestrian access. LID facilities/BMPs shall be designed according to Public Works stormwater development regulations, as stated in KMC 15.52.060. The maintenance of LID facilities shall be maintained in accordance with requirements in KMC 15.52.120. The proposed site design shall incorporate the use of LID strategies to meet stormwater management standards. LID is a set of techniques that mimic natural watershed hydrology by slowing, evaporating/transpiring, and filtering water, which allows water to soak into the ground closer to its source. The design should seek to meet the following objectives:
  - a. Preservation of natural hydrology.
  - b. Reduced impervious surfaces.
  - c. Treatment of stormwater in numerous small, decentralized structures.
  - d. Use of natural topography for drainage ways and storage areas.
  - e. Preservation of portions of the site in undisturbed, natural conditions.
  - f. Restoration of disturbed sites.
  - g. Reduction of the use of piped systems. Whenever possible, site design shall use multifunctional open drainage systems such as rain gardens, vegetated swales or filter strips that also help to fulfill landscaping and open space requirements.

2. Required Common Open Space – Required common open space shall support and enhance the project's LID stormwater facilities/BMPs; secondarily to provide a sense of openness, visual relief, and community for low impact development projects.

a. The minimum percentage for required common open space is 40 percent and is calculated using the size of the LID portion of the project site. Wetland and streams shall not be included in the calculation. The required common open space must be located outside of wetlands and streams, and may be developed and maintained to provide for passive recreational activities for the residents of the development as allowed in Chapter 90 KZC.

b. Conventional surface stormwater management facilities such as vaults and tanks shall not be located~~limited~~ within required common open space areas unless there is no other feasible alternative placement for stormwater facilities and shall be placed underground at a depth to sufficiently allow landscaping to be planted on top of them. Low impact development (LID) facilities/BMPs/features are permitted, provided they do not adversely impact access to or use of the required common open space for passive recreation. Neither conventional nor LID stormwater facilities can result in the removal of healthy native trees, unless a positive net benefit can be shown and there is no other alternative for the placement of stormwater facilities. The Public Works Director must approve locating conventional stormwater facilities within the required common open space.

c. Existing native vegetation, forest litter and understory shall be preserved to the extent possible in order to reduce flow velocities and encourage sheet flow on the site. Invasive species, such as Himalayan blackberry, must be removed and replaced with native conifers and plants (see Kirkland Native Tree and -Plant List). Undisturbed native vegetation and soil shall be protected from compaction during construction. A restoration plan that achieves 80% coverage within two (2) years must be included with the applicant's submittal.

d. If no existing native vegetation, then applicant may propose a restoration plan to achieve 80% coverage within two (2) years that shall include all native conifer and plant species (see Kirkland Native Tree and Plant List). No new lawn is permitted and all improvements installed must be of pervious materials.

- e. Vegetation installed in required common open space areas shall be designed to allow for access and use of the space by all residents, and to facilitate maintenance needs. However, existing mature trees should be retained.

(Ord. 4437 § 1, 2014; Ord. 4350 § 1, 2012)

## **114.25 Review Process**

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### 1. Approval Process – Low Impact Development Projects

- a. The City will review and process an application for a LID project concurrent with and through the same process as the underlying subdivision proposal (Process I, Chapter 145 KZC for short plats; Process IIA, Chapter 150 KZC for subdivisions). However, public notice for LID projects shall be as set forth under the provisions of Chapter 150 KZC (Process IIA). A Process I and site plan review will be required for projects that use a condominium ownership structure and do not subdivide the property into individually platted lots.

- b. Lapse of Approval – Unless otherwise specified in the decision granting Process I approval, the applicant must begin construction or submit to the City a complete building permit application for development of the subject property consistent with the Process I approval within four (4) years after the final decision granting the Process I approval or that decision becomes void. The applicant must substantially complete construction consistent with the Process I approval and complete all conditions listed in the Process I approval decision within six (6) years after the final decision on the Process I approval or the decision becomes void. “Final decision” means the final decision of the Planning Director.

2. Approval Process – 2/3 Unit Homes – The City will review and process a LID project application that includes a 2/3 unit home with an additional land use process as follows:

- a. One 2/3 unit home requires a Planning Official ~~Process I~~ review.
- b. More than one 2/3 unit home requires a Process ~~IIA~~ review.

### 3. Approval Process – Requests for Modifications to Standards

- a. Minor Modifications – Applicants may request minor modifications to the general parameters and design standards set forth in this chapter. The Planning Director under a

Process I, Chapter [145](#) KZC or Hearing Examiner under Process IIA, Chapter [150](#) KZC may modify the requirements if all of the following criteria are met:

- 1) The site is constrained due to unusual shape, topography, easements or sensitive areas; and
- 2) The modification is consistent with the objectives of this chapter; and
- 3) The modification will not result in a development that is less compatible with neighboring land uses.

(Ord. 4350 § 1, 2012)

### **114.30 Additional Standards**

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1. The City's approval of a low impact development project does not constitute approval of a subdivision or short plat. An applicant wishing to subdivide in connection with a development under this chapter shall seek approval to do so concurrently with the approval process under this chapter.
2. To the extent there is a conflict between the standards set forth in this chapter and Title 22 of the Kirkland Municipal Code, the standards set forth in this chapter shall control.

(Ord. 4350 § 1, 2012)

### **114.35 Required Application Documentation**

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1. Site assessment documents to be submitted with application include:
  - a. Survey prepared by a registered land surveyor or civil engineer.
  - b. Location of all existing and proposed lot lines and easements.
  - c. Location of all sensitive areas, including lakes, streams, wetlands, flood hazard areas, and steep slope/erosion hazard areas.
  - d. Landscape plan showing existing and proposed trees and other vegetation. The plan must show that the Required Common Open Space to be restored or augmented will be planted with Native Conifers and native plants to achieve 80% coverage within two (2) years.
2. Soil report prepared by a licensed civil engineer, geotechnical engineer, or engineering geologist.

3. Stormwater drainage report/technical information report.

(Ord. 4350 § 1, 2012)

## 115.90 Calculating Lot Coverage

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1. General – The area of all structures and pavement and any other impervious surface on the subject property will be calculated as a percentage of total lot area. If the subject property contains more than one (1) use, the maximum lot coverage requirements for the predominant use will apply to the entire development. Lot area not calculated under lot coverage must be devoted to open space as defined in KZC [5.10.610](#).

### 2. Exceptions

- a. An access easement or tract that is not included in the calculation of lot size will not be used in calculating lot coverage for any lot it serves or crosses.
- b. Pervious areas below eaves, balconies, and other cantilevered portions of buildings.
- c. Landscaped areas at least two (2) feet wide and 40 square feet in area located over subterranean structures if the Planning Official determines, based on site-specific information submitted by the proponent and prepared by a qualified expert, soil and depth conditions in the landscaped area will provide cleansing and percolation similar to that provided by existing site conditions.

d. Rockeries and retaining walls, unless located adjacent to or within twelve (12) inches of another impervious surface such as a patio, building or parking area.

d.e. Public sidewalk if located within a public easement on private property.

3. Exemptions – The following exemptions will be calculated at a ratio of 50 percent of the total area covered. Exempted area shall not exceed an area equal to 10 percent of the total lot area. Installation of exempted surfaces shall be done in accordance with the current adopted stormwater design manual.

a. Permeable pavement (non-grassed).

b. Grassed modular grid pavement.

a. e. Open grid decking over pervious area.

d. Pervious surfaces in compliance with the stormwater design manual adopted in KMC 15.52.060.

(Ord. 4350 § 1, 2012; Ord. 4252 § 1, 2010; Ord. 4121 § 1, 2008; Ord. 4097 § 1, 2007; Ord. 4072 § 1, 2007;  
Ord. 3814 § 1, 2001)

PUBLICATION SUMMARY  
OF ORDINANCE O-4541

AN ORDINANCE OF THE CITY OF KIRKLAND RELATING TO ZONING, PLANNING, AND LAND USE AND AMENDING CHAPTERS 95, 114 and 115 OF THE KIRKLAND ZONING CODE REGARDING STORMWATER LOW IMPACT DEVELOPMENT PRINCIPLES AND REQUIREMENTS AND APPROVING A SUMMARY ORDINANCE FOR PUBLICATION, FILE NO. CAM16-02154.

SECTION 1. Provides amendments related to tree management and required landscaping, low impact development and lot coverage calculation in Chapters 95, 114 and 115 of the Kirkland Zoning Code.

SECTION 2. Provides a severability clause for the ordinance.

SECTION 3. Provides that the effective date of the ordinance is affected by the disapproval jurisdiction of the Houghton Community Council.

SECTION 4. Authorizes publication of the ordinance by summary, which summary is approved by the City Council pursuant to Kirkland Municipal Code Section 1.08.017 and establishes the effective date as January 1, 2017.

SECTION 5. Establishes certification by City Clerk and notification of King County Department of Assessments.

The full text of this Ordinance will be mailed without charge to any person upon request made to the City Clerk for the City of Kirkland. The Ordinance was passed by the Kirkland City Council at its meeting on the \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

I certify that the foregoing is a summary of Ordinance 4541 approved by the Kirkland City Council for summary publication.

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City Clerk

ORDINANCE O-4542

AN ORDINANCE OF THE CITY OF KIRKLAND RELATING TO STREET AND CURB CUTTING SPECIFICATIONS AND AMENDING SECTION 19.12.130 OF THE KIRKLAND MUNICIPAL CODE, FILE NO. CAM16-02154.

1           WHEREAS, the City Council has received a recommendation from  
2 the Kirkland Planning Commission to amend Kirkland Municipal Code  
3 (KMC), Title 22, Subdivisions, as set forth in the report and  
4 recommendation of the Planning Commission dated October 24, 2016,  
5 and bearing Kirkland Planning and Building Department File No. CAM16-  
6 02154; and  
7

8           WHEREAS, prior to making the recommendation to amend Title  
9 22, Subdivisions, the Kirkland Planning Commission, following notice as  
10 required by KMC 22.04.050, held a public hearing on October 24, 2016  
11 on the amendment proposals and considered the comments received at  
12 the hearing; and  
13

14           WHEREAS, prior to making the recommendation to amend Title  
15 22, Subdivisions, the Houghton Community Council, following notice,  
16 held a courtesy hearing on October 24, 2016, on the amendment  
17 proposals and considered the comments received at the hearing; and  
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19           WHEREAS, pursuant to the State Environmental Policy Act  
20 (SEPA), there has accompanied the legislative proposal and  
21 recommendation through the entire consideration process, a SEPA  
22 Addendum to Existing Environmental Documents issued by the  
23 responsible official pursuant to WAC 197-11-625; and  
24

25           WHEREAS, in regular public meeting the City Council considered  
26 the environmental documents received from the responsible official.  
27

28           NOW, THEREFORE, the City Council of the City of Kirkland do  
29 ordain as follows:  
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31           Section 1. Section, 19.12.130 of the Kirkland Municipal Code is  
32 amended to read as follows:  
33

34           **19.12.130 Specifications.**

35           The public works director approves full engineering pre-approved plans  
36 and policies for all street and utility improvements constructed within  
37 the City of Kirkland. The applicant shall comply with these standards  
38 and specifications for all improvements in the right-of-way. These  
39 standards and specifications are available for public inspection in the  
40 Public Works Department during regular business hours or online at  
41 www.kirklandwa.gov.

42           ~~All work shall conform to the requirements of "Standard Specifications~~  
43 ~~for Municipal Public Works Construction," 1977 Edition, prepared by~~  
44 ~~Washington State Chapter, American Public Works Association, copies~~  
45 ~~of which are on file with the city and available to the general public.~~

46 ~~Exception: Only Standard Plan No. 10 concrete driveways type D,~~  
47 ~~alternate 1 or 2, on page VII 11 of the above standards are permitted~~  
48 ~~for driveways. A specific alternate may be required by the public service~~  
49 ~~department after the preconstruction inspection~~

50 Section 2. This ordinance shall be in force and effect on January  
51 1, 2017 after its passage by the Kirkland City Council and publication,  
52 as required by law.

53  
54 Passed by majority vote of the Kirkland City Council in open  
55 meeting this \_\_\_\_ day of \_\_\_\_\_, 2016.

56  
57 Signed in authentication thereof this \_\_\_\_ day of  
58 \_\_\_\_\_, 2016.

\_\_\_\_\_  
MAYOR

Attest:

\_\_\_\_\_  
City Clerk

Approved as to Form:

\_\_\_\_\_  
City Attorney