



CITY OF SEATAC

PLANNING COMMISSION MEETING

Riverton Room, SeaTac City Hall, 4800 S. 188th Street
May 15, 2018, 5:30 p.m.

MEETING AGENDA

- 1) Call to Order/Roll Call
- 2) Public Comment: Public comment will be accepted on items *not* scheduled for public hearing
- 3) Approval of the minutes of May 1, 2018 regular meeting (EXHIBIT A)
- 4) Worksession: Multifamily Housing Design Standards (EXHIBITS B, B-1, & B-2)
- 5) Worksession: Miscellaneous Code Amendments (EXHIBITS C & C-1)
- 6) CED Director's Report
- 7) Planning Commission Comments (including suggestions for next meeting agenda)
- 8) Adjournment

A quorum of the City Council may be present

The Planning Commission consists of seven members appointed by the Mayor and confirmed by the City Council. The Commission primarily considers plans and regulations relating to the physical development of the city, plus other matters as assigned. The Commission is an advisory body to the City Council.

All Commission meetings are open to the public and comments are welcome. Please be sure to be recognized by the Chair prior to speaking.

CITY OF SEATAC
PLANNING COMMISSION
Minutes of May 1, 2018
Regular Meeting

Members present: Tej Basra, Roxie Chapin, Tom Danztler, Brandon Pinto, Pam Pollock, Jim Todd and Stanley Tombs

Members absent: None

Staff present: Steve Pilcher, Planning Manager; Kate Kaehny, Senior Planner

1. Call to Order

Chair Todd called the meeting to order at 5:30 p.m.

2. Public Comment

Earl Gipson, SeaTac resident, expressed his opposition to provide property tax relief as a method to encourage multifamily housing development.

3. Approval of Minutes

Moved and seconded to approve the minutes of the April 3, 2018 meeting. **Passed 7-0.**

4. Election of Officers

Moved and seconded to elect Tej Basra as Chair and Stanley Tombs. **Passed 7-0.**

5. Worksession: Multifamily Housing Design Standards

Senior Planner Kate Kaehny stated that the purpose of the discussion was to review various incentives that exist to encourage multifamily development. She noted this was not previously discussed by the Commission during its initial overview. She noted that tax incentives are currently available only within the S. 154th St. Station Area.

The Commission discussed the benefits of expanding the tax incentives to apply throughout the city.

Ms. Kaehny reviewed other incentives: financial/economic; regulatory; and reductions in standards. Concerning regulatory incentives, she noted that the UH-UCR and CB zones do not have density or height limitations, which limits the utility of possible incentives.

The Commission expressed concern with the code provision for allowing parking reductions in the vicinity of high capacity transit, feeling that private automobile use is still necessary for living in SeaTac.

Ms. Kaehny indicated staff will do so more work and then return with a final draft of the chapter for review prior to scheduling a public hearing.

6. Worksession: Upcoming Code amendments

Planning Manager Steve Pilcher introduced four code amendments that staff intends to bring forward in the next few months: 1) providing better regulations of light and glare to enhance code enforcement; 2) defining the term “frontage road” to address a landscape standard issue; 3) providing an option for wetland mitigation to allow developers to use King County’s fee-in-lieu program; and 4) amendment to the wireless communications regulations to address “micro cells.” Draft amendment language will be created for the Commission’s review.

7. Director’s Report

Planning Manager Steve Pilcher noted that CED Director Jeff Robinson was on vacation and unable to attend the meeting.

He announced that Alaska Airlines would be hosting a groundbreaking ceremony for their Copper River Project on Thursday, May 3rd. Trammel Crowe will also be having a groundbreaking ceremony in the future for their project on 24th Ave. S. He also noted that the City has begun recruitment for a new City Manager, a process which will likely take about 6 months to complete.

8. Adjournment

Moved and seconded to adjourn. Motion passed 7-0. The meeting adjourned at 6:54 p.m.



Community & Economic
Development Department
4800 South 188th Street
SeaTac, WA 98188-8605
Phone: 206.973.4750
Fax: 206.973.4809

MEMORANDUM

Date: May 11, 2018
To: Planning Commission
From: Kate Kaehny, Senior Planner
Re: Materials for Multi-Family Code Update Work Session

The purpose of this memo is to provide you with materials for the continued work session on the Multi-Family Code Update project scheduled for this Tuesday, May 15, 2018. The main purpose of this work session is to begin the final review process of proposed changes to the Multi-Family code starting with the following sections:

- 15.510.005 Purpose
- 15.510.010 Authority and Application
- 15.510.050 Density Calculation
- 15.510.100 Site Design and Building Orientation
- 15.510.110 Building Orientation with Respect to Streetscape
- 15.510.120 Site Layout

Included in this exhibit are the following documents:

- **Exhibit B-1:** “Clean” version of proposed code changes for the code sections noted above.
- **Exhibit B-2:** Edited version of proposed code changes with all changes shown as underlined text or cross-outs.

Additional materials may be provided at Tuesday’s meeting.

Chapter 15.510

MULTI-FAMILY HOUSING DESIGN STANDARDS

Sections:

- 15.510.005 Purpose**
- 15.510.010 Authority and Application**
- 15.510.100 Site Design and Building Orientation**
 - 15.510.110 Building Orientation**
 - 15.510.120 Neighborhood Compatibility/Relation to Adjacent Development**
 - 15.510.xxx Service Element Location and Design**
 - 15.510.160 Exterior Lighting**

Note: Sections below this box will be reviewed at future work sessions.

- 15.510.200 Pedestrian Access and Circulation**
- 15.510.300 Parking and Vehicular Access and Circulation**
- 15.510.500 Recreation Space**
- 15.510.600 Landscaping**
- 15.510.200 Building Design**
- 15.510.800 Multi-Family Properties in the City Center, Angle Lake Station Area, and South 154th Street Station Area Overlay Districts**
- 15.510.700 Incentives**

(Note: Revisions to this section have been updated, so it needs to be reviewed again by Planning Commission.)

15.510.005 Purpose

The following design standards are intended to implement the City’s vision for high quality multi-family development as set forth in the City of SeaTac Comprehensive Plan. The standards serve three (3) main purposes: to promote quality building and site design, to enhance the streetscape and to ensure compatibility with neighboring communities.

- A. **Quality Building and Site Design.** A quality development is functional, safe and pleasant for its residents as well as the public. Well-designed environments will orient outward to the community, provide high quality architecture and create comfortable and attractive places for residents to meet, visit and live.
- B. **Enhanced Streetscape.** A high quality development contributes to an attractive streetscape by connecting to the community and providing buildings with architectural detailing, welcoming and easily identifiable entries, and landscaping that adds color, texture and comfort to a neighborhood.
- C. **Neighborhood Compatibility.** Good design ensures neighborhood compatibility by appropriate scale and massing adjacent to existing housing. Landscaping and the careful placement of windows and balconies for privacy help to create a pleasant environment.

15.510.010 Authority and Application

- A. The provisions of this chapter shall apply to all multi-family development of three (3) units or more throughout the City. These standards shall supersede existing regulations elsewhere in SMC Title 15 when in conflict with this chapter.
- B. The provisions of this chapter shall apply to all development meeting one (1) or more of the following thresholds:
1. All new construction requiring building permits; and/or
 2. **Major Redevelopment.**
 - a. Additions or alterations to a building, excluding interior-only improvements, which total fifty percent (50%) or more of the gross square footage (GSF) of the existing building(s), except for the South 154th Street Station Area.
 - b. **Major Redevelopment in the South 154th Street Station Area.** Additions or alterations to a building, excluding interior-only improvements, which total twenty-five percent (25%) or more of the gross square footage (GSF) of the existing building(s).
 - c. Only the portions of the building being altered or added to shall be required to integrate multi-family design standards into the design of the alteration or addition.
- C. **Departures.** Departures from these standards may be allowed, to promote well designed developments which may not strictly comply with the established standards. Proposed departures from these special standards are subject to the approval of the Director.
1. **Not Applicable.** A departure shall not be granted for height, setbacks, building lot coverage, maximum and minimum parking requirements, minimum lot area, density, lot width or land uses.
 2. **Departure Criteria.** The applicant must show that the proposed development requesting a departure(s) meets all of the following criteria:
 - a. How the requested departure meets the intent of the applicable design standard.
 - b. How the requested departure will not have a detrimental effect on adjacent and nearby properties.
 - c. How the requested departure offers a significant improvement over what otherwise could have been built under the minimum design standards.
 - d. How the proposed departure is part of an overall, thoughtful and comprehensive approach to the design of the project as whole.

15.510.050 Residential Density Calculation

Intent: Ensure appropriate densities on properties with environmentally critical areas.

Note: This section will be relocated to Chapter 15.110 Calculations, Measurements and Lot Designations. This issue was previously discussed by Planning Commission.

A. The maximum allowable density for a property shall be calculated as follows:

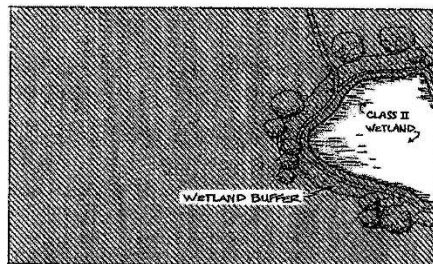
$$\text{Net Site Area} / \text{Minimum Lot Size} = \text{Maximum \# of Allowed Units}$$

B. For the purposes of this section, the net site area is the total site area minus any areas that are classified as one (1) of the following critical areas:

1. Class I, II or III wetlands;
2. Class I, II or III streams;
3. Slopes greater than forty percent (40%).

C. **Buffers Included in Net Site Area.** Buffers for the above critical areas shall be considered part of the net site area but may only be altered per SMC 15.700 Critical Areas. Development on a site with wetlands, streams, or steep slopes shall meet all Federal, State and local laws and regulations. Units shall be clustered on the developable portion of the site.

Example: Net Site Area. The net site area (crosshatched in this illustration) excludes sensitive areas, such as wetlands, but includes critical area buffers.



D. **Example.** The following example illustrates the calculation of maximum density for a sample property in the UH-900 (urban high residential) zone. The sample property is ten (10) acres in size and contains two (2) acres of wetlands and one (1) acre of wetland buffer:

$$\text{Net Site Area} = \text{Total Site Area} - \text{Sensitive Areas}$$

$$\text{Net Site Area} = 10 \text{ Acres} - 2 \text{ Acres} = 8 \text{ Acres}$$

$$\text{Net Site Area} / \text{Minimum Lot Size} = \text{Maximum \# of Allowed Units}$$

$$8 \text{ Acres (348,480 Square Feet)} / 900 \text{ sf} = 387 \text{ Units}$$

This calculation is the maximum number of allowable units for the site. The actual number of units shall be determined by site design and must meet all required development standards of the zoning and building codes.

(Note: Revisions to this section have been updated, so it needs to be reviewed again)

15.510.100 Site Design and Building Orientation

Purpose: Design multi-family sites to have both an external orientation to the streetscape, and an internal orientation to the residential environment with unifying pedestrian pathways and recreation and open space. Arrange sites to enhance the mutual relationship of buildings with each other, as well as with other site amenities, especially in multiple building complexes. Design emphasis shall be given to the pedestrian, rather than the auto environment through placement of parking in a less prominent locations. The privacy and security of residents must be appropriately addressed and site design shall also promote compatibility with adjacent land uses.

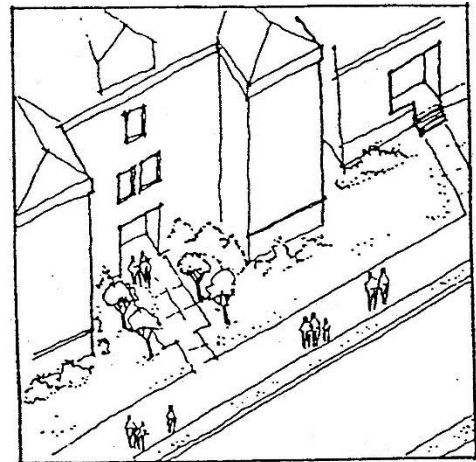
15.510.110 Building Orientation

Intent: Provide a building presence on the street for convenient pedestrian access, to provide “eyes on the street” and to contribute to the streetscape with visually interesting buildings.

A. Building Orientation. The front facade of building(s) shall be oriented to the street adjacent to the front property line, with a prominent entrance located on the front façade and clear connections to the sidewalk.

- 1. Location of Primary Entrance.** The primary entrance of buildings shall be located on the front façade.

Example: This building is located facing the street with a prominent entrance and pedestrian path to the sidewalk.



2. **Multiple Building Complexes.** In complexes with several buildings, after the street frontage building orientation requirements of 15.510.110(A) have been met, any additional buildings shall be oriented in one (1) of the following manners:
 - a. **Orient to Courtyard/Recreation Space.** Buildings shall be oriented to a courtyard, plaza or recreation space and include prominent pedestrian entries and walkways connecting directly to the public sidewalk.
 - b. **Orient to Pedestrian System.** Buildings shall be oriented to a cohesive system of open space and pedestrian pathways with a prominent pedestrian entry to the site and walkway connecting directly to the public sidewalk.
 3. **Entries in Multiple Building Complexes.** In multiple building complexes, building entries shall be visible from the street, or if this is not possible, from other buildings and pedestrian walkways. *(Note: This is from City of Shoreline.)*
- B. Exceptions.** When physical site limitations such as topography; or other natural features prevent the main entrance from being located on the street-facing facade, the building may be oriented to a courtyard with a prominent pedestrian entrance and clear connection to the public sidewalk.

(Note: These standards were previously reviewed by Planning Commission. Staff is recommending locating the standards as a new chapter and making them applicable to all new multi-family and commercial uses in the city.)

15.xxx.xxx Service Element Location and Design

To reduce visual impact and provide screening of trash, service, loading and storage, multi-family projects shall provide a designated area for service elements. Such service elements shall meet the following requirements:

- A. Service elements shall be located to minimize the negative visual, noise, odor and physical impacts to the street environment, adjacent residents or other uses, and pedestrian areas.
- B. All service, loading, and trash collection areas shall be screened by masonry, wood, planting areas or a combination of the three. Full screening shall be six (6) feet high.
- C. Services areas shall be paved.
- D. Service elements shall be sited and designed to provide sufficient visibility to prevent hiding places for unwanted persons.
- E. The design of detached service enclosures shall be compatible with the design of the primary structure or structures on the site.
- F. Exterior mechanical devices shall be shielded to reduce visibility and noise impacts.
- G. Utility meters, electrical conduit, and other service utility apparatus shall be located and/or designed to minimize their visibility from the street. If such elements are mounted in a location visible from the street, pedestrian pathway, common open space, or shared auto courtyards, they shall be screened with vegetation or by architectural features.

(Note: These standards were previously reviewed by Planning Commission.)

15.510.160 Exterior Lighting

Intent: Lighting design should consider the appropriate placement and quantity of light to provide for security and aesthetic appreciation while avoiding glare and excessive brightness. Lighting contributes to a residential community by extending the hours of outdoor use. Lighting levels of adjacent uses should be considered to avoid competing light levels. Maximum light levels should be considered adjacent to single-family residential areas. Lighting directed to accent landscaping or architectural features is appropriate, especially at entries.

- A. **Lighting Height.** Lighting standards shall be no greater than sixteen (16) feet in height, and used to illuminate surfaces intended for pedestrians or vehicles, as well as building entries. Light fixtures illuminating surfaces intended for pedestrians shall include pedestrian-scale elements a maximum of twelve (12) feet in height.
- B. Exterior lighting shall be used to identify and distinguish the pedestrian walkway network from automobile circulation. Along pedestrian circulation corridors, lighting standards shall be placed between pedestrian ways and public and/or private streets, driveways or parking areas.
- C. Effective lighting for pedestrian areas and pathways shall be directed toward the ground.
- D. Light fixtures shall be sited and directed to minimize glare around residences.
- E. Lighting shall be sited to provide visibility in common areas and building entrances, including mail kiosks, stairwells, parking garages, laundry rooms, exercise rooms, and outdoor common areas of the site.

Chapter 15.510

MULTI-FAMILY HOUSING DESIGN STANDARDS

Sections:

15.510.005 Purpose

15.510.010 Authority and Application

~~15.510.050 Density Calculation~~ *(Note: Will be relocated to Ch. 15.110 Calculations & Measurements.)*

15.510.100 Site Design and Building Orientation

15.510.110 Building Orientation ~~with Respect to Streetscape~~

~~15.510.120 Site Layout~~

~~15.510.120 15.510.230~~ Neighborhood Compatibility/Relation to Adjacent Development *(Note: This section will be reviewed at future work session.)*

15.510.xxx Service Element Location and Design

15.510.160 Exterior Lighting

Note: Sections below this box will be reviewed at future work sessions.

15.510.200 Pedestrian Access and Circulation

15.510.300 Parking and Vehicular Access and Circulation

15.510.500 Recreation ~~and Open~~-Space

15.510.600 Landscaping

15.510.200 Building Design

15.510.800 Multi-Family Properties in the City Center, Angle Lake Station Area, and South 154th Street Station Area Overlay Districts 15.510.700 Incentives

~~15.510.900 Concept Illustrations~~

(Note: Revisions to this section have been updated, so it needs to be reviewed again by Planning Commission.)

15.510.005 Purpose

The following design standards are intended to implement the City's vision for high quality multi-family housing development as set forth in the City of SeaTac Comprehensive Plan. The standards serve three (3) basic-main purposes: to promote quality development building and site design, to increase neighborhood compatibility, and to enhance security, to enhance the streetscape and to ensure compatibility with neighboring communities.

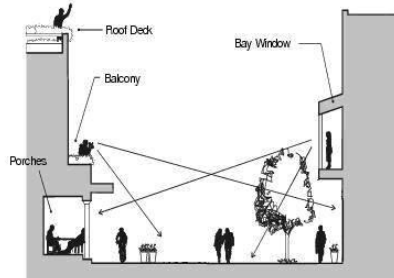
- A. **Quality Building and Site Design.** A quality development is ~~one that is~~ functional, safe and pleasant for its residents as well as the public. ~~Such a development starts with an investment in quality materials that will not rapidly decay, and design that ensures ample privacy as well as amenities for residents.~~ Well-designed environments will orient outward to the community, provide high quality architecture and create comfortable and attractive places for residents to meet, ~~and visit and live.~~, open spaces located to take advantage of sunny exposures, and safe places for children to play.
- B. **Enhanced Streetscape.** A high quality development ~~will also~~ contributes to an attractive streetscape by connecting to the community and providing buildings with architectural detailing, welcoming and easily identifiable entries ~~that present themselves with an air of pride~~, and landscaping that adds color, texture and comfort to a neighborhood.
- BC. **Neighborhood Compatibility.** Good design ~~also~~ ensures neighborhood compatibility by appropriate scale and massing adjacent to existing housing. Landscaping and the careful placement of windows and balconies for privacy help to create a pleasant environment.

(Note: This section is being deleted because much of it is redundant with the provisions of SMC Title 17 CPTED chapter. Staff will meet with the Police Department to consider whether to integrate any of this language into Title 17. This issue was previously discussed with Planning Commission.)

C. ~~**Enhanced Security.** Crime Prevention Through Environmental Design (CPTED) is a concept that employs site and building design as a crime prevention strategy intended to reduce the opportunity for criminal behavior, reduce the incidence and fear of crime, reduce calls for police service, and improve the quality of life. It includes four (4) principles:~~

~~1. **Natural Surveillance.** The arrangement of space and buildings that enables residents to observe their surroundings. Natural surveillance increases safety by allowing residents to see trespassers. Making a potential offender feel that they will be seen and reported discourages criminal behavior.~~

Example: Windows and balconies overlooking a street contribute to an active and safe streetscape.



~~2. **Natural Access Control.** The placement of walkways, building entrances, fences, landscaping, and lighting to discourage access to crime targets and create the perception of risk to offenders. Natural access control enhances safety through design, which reduces or supplements the use of more costly access control such as security guards and mechanical devices.~~

~~3. **Territorial Reinforcement.** Extending the sense of ownership from the private residence to the nearby areas outside the dwelling through physical improvements such as fencing, pavement, landscaping and lighting. Clearly defined territory deters entrance by those with criminal intent and makes their actions more visible and likely to be reported by those who recognize the territory as their own.~~

~~4. **Maintenance.** Ensuring that buildings and grounds are maintained for resident safety, neighborhood aesthetics, and to reflect building management. Maintenance serves as an expression of ownership and allows for continued use of the space for its intended purpose. Maintenance prevents a reduction of visibility from landscaping and obstructed or inoperative lighting. A clean and well-maintained site tells offenders that residents care about their surroundings and criminal behavior will not be tolerated.~~

Multi-family projects subject to the design standards in this chapter are envisioned to create developments that are good places to live. These developments will respond better to existing communities and contribute positively to the emergent urban center of the City of SeaTac.

15.510.010 Authority and Application

- A. The provisions of this chapter shall apply to all multi-family development of three (3) units or more throughout the City. These standards shall supersede existing regulations elsewhere in SMC Title 15 when in conflict with this chapter.

Note: The language highlighted in yellow will be addressed in future review sessions.

- B. The provisions of this chapter shall apply to all development meeting one (1) or more of the following thresholds:

1. All new construction requiring building permits; and/or
2. **Major Redevelopment.**
 - a. Additions or alterations to a building, excluding interior-only improvements, which total fifty percent (50%) or more of the gross square footage (GSF) of the existing building(s), except for the South 154th Street Station Area.
 - b. **Major Redevelopment in the South 154th Street Station Area.** Additions or alterations to a building, excluding interior-only improvements, which total twenty-five percent (25%) or more of the gross square footage (GSF) of the existing building(s).
 - c. Only the portions of the building being altered or added to shall be required to integrate multi-family design standards into the design of the alteration or addition.

Note: The following was deleted and replaced with departure language from the recently updated S 154th St Station Area Standards on the next page.

- ~~C. **Departures.** In order to provide flexibility and creativity of project designs, departures from these design standards may be permitted, subject to the approval of the Director, providing:~~
- ~~1. The strict interpretation or application of these Design Standards would be inconsistent with related provisions of the Zoning Code or would be contrary to the overall goals and objectives of the Comprehensive Plan; or~~
 - ~~2. The departure creates a project design that better meets the overall purpose and intent of the design standards.~~

Note: The following section is from the S 154th St Station Area Standards, and was previously reviewed by the Planning Commission.

- C. **Departures.** Departures from these standards may be allowed, to promote well designed developments which may not strictly comply with the established standards. Proposed departures from these special standards are subject to the approval of the Director.
1. **Not Applicable.** A departure shall not be granted for height, setbacks, building lot coverage, maximum and minimum parking requirements, minimum lot area, density, lot width or land uses.
 2. **Departure Criteria.** The applicant must show that the proposed development requesting a departure(s) meets all of the following criteria:
 - a. How the requested departure meets the intent of the applicable design standard.
 - b. How the requested departure will not have a detrimental effect on adjacent and nearby properties.
 - c. How the requested departure offers a significant improvement over what otherwise could have been built under the minimum design standards.
 - d. How the proposed departure is part of an overall, thoughtful and comprehensive approach to the design of the project as whole.

15.510.050 Residential Density Calculation

Intent: Ensure appropriate densities on properties with sensitive environmentally critical areas.

Note: This section will be relocated to Chapter 15.110 Calculations, Measurements and Lot Designations. This issue was previously discussed by Planning Commission.

A. The maximum allowable density for a property shall be calculated as follows:

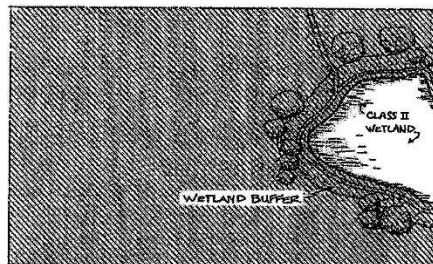
$$\text{Net Site Area} / \text{Minimum Lot Size} = \text{Maximum \# of Allowed Units}$$

B. For the purposes of this section, the net site area is the total site area minus any areas that are classified as one (1) of the following sensitive-critical areas:

1. Class I, II or III wetlands;
2. Class I, II or III streams;
3. Slopes greater than forty percent (40%).

C. Buffers Included in Net Site Area. Buffers for the above sensitive-critical areas shall be considered part of the net site area but may only be altered per SMC 15.700 Critical Areas shall not be built on. Development on a site with wetlands, streams, or steep slopes shall meet all Federal, State and local laws and regulations. Units shall be clustered on the developable portion of the site.

Example: Net Site Area. The net site area (crosshatched in this illustration) excludes sensitive areas, such as wetlands, but includes sensitive-critical area buffers.



D. **Example.** The following example illustrates the calculation of maximum density for a sample property in the UH-900 (urban high residential) zone. The sample property is ten (10) acres in size and contains two (2) acres of wetlands and one (1) acre of wetland buffer:

$$\text{Net Site Area} = \text{Total Site Area} - \text{Sensitive Areas}$$

$$\text{Net Site Area} = 10 \text{ Acres} - 2 \text{ Acres} = 8 \text{ Acres}$$

$$\text{Net Site Area} / \text{Minimum Lot Size} = \text{Maximum \# of Allowed Units}$$

$$8 \text{ Acres (348,480 Square Feet)} / 900 \text{ sf} = 387 \text{ Units}$$

This calculation is the maximum number of allowable units for the site. The actual number of units shall be determined by site design and must meet all required development standards of the zoning and building codes.

(Note: Revisions to this section have been updated, so it needs to be reviewed again by Planning Commission.)

15.510.100 Site Design and Building Orientation

Purpose: Design multi-family sites to have both an external orientation to the streetscape, and an internal orientation to the residential environment with unifying ~~open space and~~ pedestrian pathways and recreation and open space. Arrange sites to enhance the mutual relationship of buildings with each other, as well as with other site amenities, especially in multiple building complexes. Design emphasis ~~should~~ shall be given to the pedestrian, rather than the auto environment through placement of parking in a less prominent locations. The privacy and security of residents must be appropriately addressed and site design shall also promote compatibility with adjacent land uses.

15.510.110 Building Orientation ~~with Respect to Streetscape~~

Intent: Provide a building presence on the street for convenient pedestrian access, to provide “eyes on the street” and to contribute to the streetscape with visually interesting buildings.

~~A. Multi-family buildings shall be oriented in one (1) of the following manners:~~

~~1. In a complex with one (1) building:~~

~~a. The building shall be oriented to a street, with a prominent entrance and clear connection to the sidewalk. The primary entrance of the building shall be located on the facade facing the street with the highest roadway classification as delineated by the SeaTac Comprehensive Plan. In cases where the building is adjacent to private streets only, the location of the primary entrance shall be determined by the Director, taking into consideration pedestrian and vehicle connectivity and the surrounding pattern of development;~~

(Note: This subsection revised and relocated to new section A on following page.)

~~b. When physical site limitations such as topography, existing trees or other natural features prevent the main entrance from being located on the street-facing facade, the building may be oriented to a courtyard with a prominent pedestrian entrance and clear connection to the public sidewalk;~~

(Note: This subsection moved to the end of the revised section on the following page, as subsection B.)

~~2. In complexes with several buildings, those buildings shall be oriented in one (1) of the following manners:~~

~~a. Buildings shall be oriented to the streetscape with prominent entries and walkways connecting directly to the public sidewalk; or~~

~~b. Buildings shall be oriented to an interior courtyard, or to a cohesive system of open space and pedestrian pathways with a prominent pedestrian entry to the site and walkway connecting directly to the public sidewalk.~~

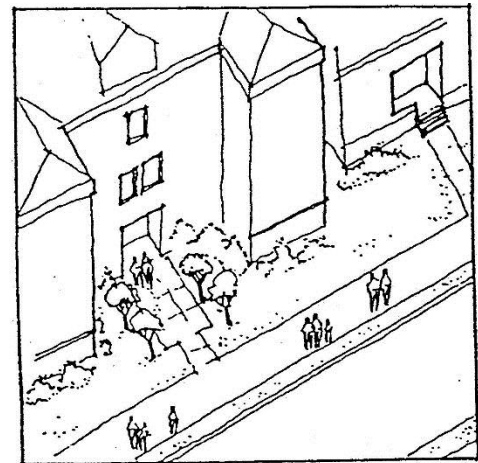
(Note: This subsection slightly revised and moved to the following page as the new A(2).)

(Note: The new sections A and B below are revised versions of the preceding section 15.510.110. Existing code language is in black regular text.)

A. Building Orientation. The front facade of building(s) shall be oriented to the street adjacent to the front property line, with a prominent entrance located on the front façade and clear connections to the sidewalk.

1. Location of Primary Entrance. The primary entrance of ~~the buildings~~ shall be located on the ~~front facade~~ façade, ~~facing the street with the highest roadway classification as delineated by the SeaTac Comprehensive Plan.~~

Example: This building is located facing the street with a prominent entrance and pedestrian path to the sidewalk.



2. Multiple Building Complexes. In complexes with several buildings, after the street frontage building orientation requirements of 15.510.110(A) have been met, any additional buildings shall be oriented in one (1) of the following manners:

- a. **Orient to Courtyard/Recreation Space.** Buildings shall be oriented to a courtyard, plaza or recreation space and include prominent pedestrian entries and walkways connecting directly to the public sidewalk.
- b. **Orient to Pedestrian System.** Buildings shall be oriented ~~to an interior courtyard,~~ ~~or~~ to a cohesive system of open space and pedestrian pathways with a prominent pedestrian entry to the site and walkway connecting directly to the public sidewalk.

3. Entries in Multiple Building Complexes. In multiple building complexes, building entries shall be visible from the street, or if this is not possible, from other buildings and pedestrian walkways. (Note: This is from City of Shoreline.)

B. Exceptions. When physical site limitations such as topography; ~~existing trees~~ or other natural features prevent the main entrance from being located on the street-facing facade, the building may be oriented to a courtyard with a prominent pedestrian entrance and clear connection to the public sidewalk.;

(Note: This section was deleted because it is redundant with other sections of the code. -This issue was previously discussed by Planning Commission.)

~~15.510.120 Site Layout~~

~~**Intent:** Arrange buildings and open space to define territorial areas and control access.~~

~~A. Arrange the site in a cohesive and planned manner through one (1) or more of the following methods:~~

- ~~1. Divide large multi-building developments into several smaller usable areas, each with individually designed open space, children's play areas, internal circulation, and parking;~~
- ~~2. Configure several buildings around a courtyard;~~
- ~~3. In a development with one (1) building, configure the building around a courtyard or create several smaller areas of open space each near a separate entry;~~
- ~~4. Provide a secured site with controlled auto and pedestrian access via gates with a security system.~~

~~B. Limit the number of persons accessing buildings by a common entryway.~~

- ~~1. The number of dwellings using a common, unsecured building entrance shall be limited to not more than four (4);~~
- ~~2. The number of units using the same access point shall be limited to not more than twelve (12) units in secured buildings, unless a prominent entryway and lobby are provided;~~
- ~~3. Provide a secured building with a prominent entryway and lobby in buildings of four (4) or more stories. A secured building is one where access is controlled by key or card key on all building entrances.~~

~~The above provisions shall be reviewed and approved by the Director as satisfying the requirement of the territorial reinforcement objective. More than one (1) of the above methods may be required if necessary to achieve the objective.~~

(Note: These standards were previously reviewed by Planning Commission. Staff is recommending locating the standards as a new chapter and making them applicable to all new multi-family and commercial uses in the city.)

15.xxx.xxx Service Element Location and Design

To reduce visual impact and provide screening of trash, service, loading and storage, multi-family projects shall provide a designated area for service elements. Such service elements shall meet the following requirements:

- A. Service elements shall be located to minimize the negative visual, noise, odor and physical impacts to the street environment, adjacent residents or other uses, and pedestrian areas.
- B. All service, loading, and trash collection areas shall be screened by masonry, wood, planting areas or a combination of the three. Full screening shall be six (6) feet high.
- C. Services areas shall be paved.
- D. Service elements shall be sited and designed to provide sufficient visibility to prevent hiding places for unwanted persons.
- E. The design of detached service enclosures shall be compatible with the design of the primary structure or structures on the site.
- F. Exterior mechanical devices shall be shielded to reduce visibility and noise impacts.
- G. Utility meters, electrical conduit, and other service utility apparatus shall be located and/or designed to minimize their visibility from the street. If such elements are mounted in a location visible from the street, pedestrian pathway, common open space, or shared auto courtyards, they shall be screened with vegetation or by architectural features.

(Note: These standards were previously reviewed by Planning Commission.)

15.510.160 Exterior Lighting

Intent: Lighting design should consider the appropriate placement and quantity of light to provide for security and aesthetic appreciation while avoiding glare and excessive brightness. Lighting contributes to a residential community by extending the hours of outdoor use. ~~Common industry standards for lighting design as outlined by the industry group IESNA (Illuminating Engineering Society of North America) shall provide guidance for appropriate lighting quantity and design. Additionally, lighting~~ Lighting levels of adjacent uses should be considered to avoid competing light levels. Maximum light levels should be considered adjacent to single-family residential areas. Lighting directed to accent landscaping or architectural features is appropriate, especially at entries.

- A. **Lighting Height.** Lighting standards shall be no greater than sixteen (16) feet in height, and used to illuminate surfaces intended for pedestrians or vehicles, as well as building entries. Light fixtures illuminating surfaces intended for pedestrians shall include pedestrian-scale elements a maximum of twelve (12) feet in height.
- B. Exterior lighting shall be used to identify and distinguish the pedestrian walkway network from automobile circulation. Along pedestrian circulation corridors, lighting standards shall be placed between pedestrian ways and public and/or private streets, driveways or parking areas.
- C. Effective lighting for pedestrian areas and pathways shall be directed toward the ground.
- D. Light fixtures shall be sited and directed to minimize glare around residences.
- E. Lighting shall be sited to provide visibility in common areas and building entrances, including mail kiosks, stairwells, parking garages, laundry rooms, exercise rooms, and outdoor common areas of the site.



MEMORANDUM

COMMUNITY & ECONOMIC DEVELOPMENT

Date: May 10, 2018
To: Planning Commission
From: Steve Pilcher, Planning Manager
Subject: Proposed Code Amendments

As mentioned at the last meeting, staff is developing a small group of code amendments to address some issues, both new and old. Due to being short staffed the past two weeks, we have not had time to draft proposed amendment language for your review. Instead, attached to this memo you will find materials that provide some examples of how these areas might be addressed. Staff is asking the Commission's direction on how to best address these issues.

1. Light & Glare

The City Council's Code Compliance Committee (now defunct) discussed the difficulty of effectively responding to citizen complaints regarding light and glare impacts, whether originating from commercial businesses or other residential properties. Code Compliance staff had noted that under the current code, we have limited tools. Although Title 17, Crime Prevention through Environmental Design (CPTED) addresses exterior lighting, those standards only apply to new development:

17.08.020 Application

B. New Construction. This title shall only apply to all new construction, including buildings and site improvements.

The language in the Zoning Code (SMC15.460.030, handed out at the last meeting), is very general/subjective and does not provide a firm basis for initiating a code enforcement action. Attached to this memorandum are some examples from other Washington cities. Some include a general performance standard, similar to SeaTac's, while the City of Lynwood has an entire chapter addressing outdoor lighting standards. Staff finds the City of Tumwater's code to be a good compromise between these two approaches and that even it could be reduced in scope.

2. Definition of "frontage road"

Another issue that has become known concerns a landscaping requirement for properties located adjacent to freeways and/or "frontage roads":

15.445.260 Landscaping Adjacent to Freeway Rights-of-Way

A. Residential Development.

1. Except as exempt under SMC [15.445.010\(B\)](#), a minimum of twenty-five (25) feet of Type I landscaping shall be provided within all multi-family residential developments and residential subdivisions adjacent to freeway rights-of-way or adjoining frontage roads.
2. This requirement may be reduced to ten (10) feet of Type I landscaping with construction of an approved sound wall comparable to the type installed by the Department of Transportation along freeway rights-of-way.

B. **Commercial Development.** A minimum of ten (10) feet of Type I landscaping shall be provided within all commercial development adjacent to freeway rights-of-way or adjoining frontage roads.

The problem with the above code requirement is that it does not define the term “frontage road.” Staff has yet to draft a proposed definition, but intends to model it upon how the WSDOT Design Manual references frontage roads in Section 1210.03(2), attached.

3. Fee in-lieu wetland mitigation

Planning staff has been approached from both private developers and Sound Transit, asking that when impacts to wetlands occur as part of a development project, that they could be able to use the King County “in-lieu fee mitigation” program, rather than being required to mitigate on-site or within the same drainage basin. Attached to this memo is an overview of King County’s system. Basically, this system allows a developer to “pay it forward” by purchasing “credits” with King County. The county then uses these funds to implement mitigation at sites they have selected for these purposes.

Currently, the City’s regulations require mitigation actions to preferably occur either on-site or within the same drainage basin. Opting into the King County system would essentially allow mitigation to be “exported” outside the city limits to other sites. However, in order to use King County’s system, we need to amend our code to make this an option. Attached to this memo are examples from the Federal Way and City of Kirkland codes, both of which have the language included to allow this type of mitigation to occur. Staff’s suggestion would be to include similar language in SMC 15.700, Critical Areas.

4. Wireless Communications updates

This is the final area of code amendments that needs to move forward. Given its breadth, it may take longer to work through the issues. Staff will bring forward information regarding this at a later date.

CITY OF TUMWATER

Chapter 18.40

ENVIRONMENTAL PERFORMANCE STANDARDS

Sections:

- 18.40.010 Intent.
- 18.40.020 Environmental performance standards.
- 18.40.030 Noise.
- 18.40.035 Exterior illumination.
- 18.40.040 Emissions.
- 18.40.050 Ground and soil contamination.
- 18.40.060 Storage.
- 18.40.065 Inadvertent discovery of archaeological and cultural resources.
- 18.40.070 Applicability.

18.40.035 Exterior illumination.

These regulations apply to outdoor artificial light sources, including lights on the exterior of buildings or other structures, installed underneath canopies, pole-mounted, freestanding and ground lights, as well as nonresidential interior lights.

A. For the purposes of regulating lighting in this section and elsewhere in this title, the following terms shall be defined as stated:

1. "Business-zoned property" means any property zoned NC, CS, MU, GC, TC (TC mixed use, professional office and civic subdistricts), CD, BP, HC, GB, OS, LI, HI, CBC, BD, and ARI.
2. "Foot-candle" means a measure of illuminance (or light intensity) on a surface equal to one lumen per square foot.
3. "Fully shielded fixture" means exterior lighting that is shielded or constructed so that all light emitted is projected below a horizontal plane running through the lowest part of the fixture as determined by a photometric test or certified by the manufacturer.
4. "Glare" means an intensity of light that due to the brightness of the light source diminishes the observer's ability to see, and in extreme cases may cause visual discomfort or momentary blindness.

5. "Light trespass" means the light emanating from one property (measured at the property line) intruding onto an adjacent property or public right-of-way.
 6. "Lumen" means a unit of classification used to quantify the amount of light energy produced by a lamp. Lumen output of most lamps is listed on the packaging. For example, a sixty-watt incandescent lamp produces approximately eight hundred fifty lumens while a fifty-five-watt low-pressure sodium lamp produces approximately eight thousand lumens.
 7. "Opaque" means not allowing light to pass through; not transparent or translucent.
 8. "Partially shielded" means the luminaire incorporates a translucent barrier, the "partial shield" around the lamp that allows some light to pass through the barrier while concealing the lamp from the viewer.
 9. "Residential-zoned property" means any property zoned RSR, SFL, SFM, MFM, MFH and TC (TC residential subdistrict).
 10. "Translucent" means allowing light to pass, but diffusing it such that the light source cannot be distinguished.
- B. Exterior Lighting Standards. Exterior artificial light sources shall conform to the following requirements:
1. Light fixtures shall be used in a manner such that light is directed downward, and not outward or upward.
 2. Light fixtures shall be fully shielded.
 - a. Fixtures on business-zoned properties that are mounted to the underside of structures such as canopies, awnings, etc. (such as those found at gas stations, drive-through facilities, service stations, and parking structures) shall be flush mounted to the canopy so that the lens does not protrude below the surface to which it is mounted. In instances where the canopy is not thick enough to accommodate a flush-mount fixture, a fully shielded fixture may be utilized and mounted to the surface.
 3. Exterior lighting shall not blink, flash, fluctuate, be intermittent, or change color or intensity.
 4. Illuminated signs and advertising devices shall also comply with provisions of TMC 18.44.080 and 18.44.170. Where conflict occurs, the more stringent standards shall apply.

5. Parking lot lighting shall also comply with provisions in TMC 18.50.060. Where conflict occurs, the more stringent standards shall apply.
6. Exterior lighting on business-zoned properties shall be turned off at the close of business or 10:00 p.m., whichever is later. However, lighting which is necessary for after business hours work by employees and lighting that is necessary for security systems to function properly may be utilized at any time provided the lighting is the minimum necessary and is turned off when it is no longer needed or being used.
7. Light trespass shall comply with the provisions of subsection D of this section.
8. Illumination of government flags is allowed provided the light fixtures are equipped with shields and louvers to control the beam spread and to prevent light trespass and glare.
9. Low voltage landscape lighting (thirty volts or less) is allowed provided it is partially shielded (upward-oriented spot/flood lights are not allowed) and does not violate the light trespass standards of subsection D of this section. Rope-style lighting of any voltage is also allowed for residential properties provided it meets the light trespass standards of subsection D of this section.

C. Application Required.

1. A basic lighting plan shall be submitted to the community development department along with building permit applications that involve the installation or replacement of exterior lighting. The basic lighting plan shall include, but not be limited to, descriptions, illustrations, or photos of the types of lighting fixtures to be installed, a statement or description of how the fixtures comply with the regulations, and descriptions or depictions of the locations of the proposed lighting fixtures. The basic lighting plan shall also include statements that the applicant will design their project to comply with the exterior lighting regulations, and the applicant will make any changes necessary to come into compliance with the regulations before their occupancy permit is issued. The basic lighting plan must be signed by the applicant(s) or their authorized agent(s).
2. For nonresidential development proposals that are four thousand square feet or larger, the community development director (or his/her designee) may require a photometric lighting plan instead of the basic lighting plan. The photometric plan, application, and a fee as specified by the most current fee resolution adopted by the Tumwater city council shall be submitted along with a building permit application. The photometric lighting plan must specify how the project lighting, including both

freestanding and building-mounted lighting, complies with the applicable requirements of the Tumwater Municipal Code including this chapter. The photometric lighting plan shall also include the requirements listed for the basic lighting plan as shown in subsection (C)(1) of this section. Where requirements overlap or conflict, the more stringent shall apply.

- D. Light Trespass. All light fixtures used on a premises shall be installed and maintained to prevent light trespass, measured at the property line of the originating property (light source), that exceeds one-tenth foot-candle illuminating adjacent to residential-zoned property or one-half foot-candle illuminating adjacent to business-zoned property or public rights-of-way.
- E. Exceptions. The restrictions on exterior lighting in subsections B, C and D of this section shall not apply to:
1. Light fixtures on structures listed in the Tumwater, or Washington State, or National historic registers (as defined in TMC Chapter 2.62) that are important in defining the overall historic character of the structure or building.
 2. Projection equipment for outdoor movie theaters and outdoor movie events.
 3. Security floodlights with motion detectors and daytime cutoffs that comply with the light trespass standards of subsection D of this section; provided, that the duration of activation by the motion sensor does not exceed sixty seconds. Light trespass at the property line may be diminished to acceptable levels by using lower wattage bulbs, downward and inward orientation, opaque or translucent shielding, or combinations thereof.
 4. Seasonal decorations illuminated no longer than sixty days.
 5. Lights on moving vehicles.
 6. Sports field lighting.
 7. Navigation lights (such as airports, heliports, or tower lighting required by the Federal Aviation Administration).
 8. Temporary emergency lighting (such as fire, police, repair workers).
 9. Traffic control signals and devices.

10. Exterior lighting approved by the community development director for temporary or periodic events (e.g., special events, nighttime construction, etc.). Searchlights, lighting displays lasting longer than seven days in any calendar year, and any lighting displays that cause any direct glare into or upon any building other than the building to which the display may be related are all prohibited.
11. Light sources lawfully installed prior to the effective date of these regulations.
12. Public streetlights are exempt only from the light trespass standards of subsection D of this section.

CITY OF OAK HARBOR

Chapter 20.14 **SEPA ENVIRONMENTAL REVIEW PROCESS**

Sections:

- 20.14.010 Overview – Intent.
- 20.14.020 Cumulative effects.
- 20.14.030 Parking and traffic.
- 20.14.040 Landscaping.
- 20.14.050 Drainage.
- 20.14.060 Light and glare.

20.14.060 Light and glare.

(1) Policy Intent. Recognizing that development and redevelopment sometimes include lighting and/or reflective surface materials which can adversely affect the surrounding area, and that such adverse impacts may be mitigated by alternative lighting techniques and surface materials, it is the policy of the city to consider the adverse impacts and the effectiveness of mitigating measures, and to weigh the costs of conditioning or denying the proposal against the benefits to be gained.

(2) Policies.

- (a) If the responsible official or his designee finds a significant potential for adverse impacts due to light and glare, the responsible official or his designee shall assess the impacts and need for mitigation.

(b) The responsible official or his designee may mitigate adverse impacts of lighting and glare by measures including, but not limited to:

- (i) Limiting the reflective qualities of surface materials that can be used in the development;
- (ii) Limiting the area and intensity of illumination;
- (iii) Limiting the location or angle of illumination;
- (iv) Limiting the hours of illumination. (Ord. 575 § 6, 1980).

CITY OF LYNNWOOD

Chapter 17.05 GENERAL POLICY

Sections:

- 17.05.010 Adoption of state policy.**
- 17.05.020 Earth.**
- 17.05.030 Air.**
- 17.05.040 Water.**
- 17.05.050 Plants and animals.**
- 17.05.060 Energy and natural resources.**
- 17.05.070 Environmental health.**
- 17.05.080 Land and shoreline use.**
- 17.05.085 Shoreline Management Act Guidelines.**
- 17.05.090 Housing.**
- 17.05.100 Aesthetics.**
- 17.05.110 Light and glare.**
- 17.05.120 Recreation.**
- 17.05.140 Transportation.**
- 17.05.150 Public services.**
- 17.05.160 Utilities.**

17.05.110 Light and glare.

It is the policy of the city that any activity shall not produce light or glare so as to create a nuisance beyond the parcel within which the use is located. In particular:

A. Building materials with high light reflective qualities should not be used in construction of buildings where reflected sunlight or artificial light would throw intense glare on adjacent areas or streets.

B. Sources of artificial illumination, including signs, shall be hooded or shaded in those instances where direct light from high-intensity lamps would result in glare upon surrounding areas or cast excessive light upon any residential use or street. Where necessary, the height or location of light sources shall be modified in order to reduce the impact of light or glare, or to enhance the capability of shielding or screening light sources, and the intensity and/or orientation of light sources shall be modified where necessary to reduce light and glare to tolerable levels.

C. Landscaping shall be the preferred means of screening emission of light and glare to nearby properties, but should be supplemented where necessary by solid or other sight and glare barriers.

D. All new or modified outdoor lighting shall conform to Chapter 21.17 LMC, Outdoor Lighting Standards. (Ord. 3178 § 3, 2016; Ord. 1416 § 2, 1984)

CITY OF MOUNTLAKE TERRACE

Chapter 19.120 GENERAL PROVISIONS

Sections:

Article I. General Performance Standards

- 19.120.010 Purpose and intent.**
- 19.120.020 Air quality regulations.**
- 19.120.030 Artificial light and glare.**
- 19.120.040 Dust and smoke.**
- 19.120.050 Electromagnetic radiation.**
- 19.120.060 Fire and explosion hazards.**
- 19.120.070 Interference.**
- 19.120.080 Liquid and solid wastes.**

19.120.090 Odor.

19.120.100 Toxic chemicals.

19.120.110 Vibration.

19.120.030 Artificial light and glare.

Uses producing artificial light, utilizing light for night operation, or causing glare shall:

A. Not impair use of or safety of any road due to strong dazzling artificial light directed at oncoming motor vehicles, or strobe lights projecting off-site or toward streets, or lights imitating traffic signal lights.

B. Protect residential uses from artificial light during periods of darkness by shading the luminaire and/or screening abutting property lines.

C. Shield light generated by arc welding, acetylene torch cutting, or similar processes in a manner which prevents such light from being visible from any point beyond the outside of the property.

D. External lighting on residential property shall be directed and shielded appropriately to avoid creating a nuisance or hazard to passing traffic and neighboring properties. (Ord. 2074 § 9.1(C), 1995).

Chapter 21.17
OUTDOOR LIGHTING STANDARDS

Sections:

- 21.17.010 Purpose.**
- 21.17.020 Definitions.**
- 21.17.030 Exemptions.**
- 21.17.040 Applicability.**
- 21.17.050 General requirements.**
- 21.17.060 Lighting standard requirements in or within 50 feet of residential zones.**
- 21.17.070 Lighting zones.**
- 21.17.080 Nonresidential lighting.**
- 21.17.090 Lighting by special permit only.**
- 21.17.100 Tables.**

21.17.010 Purpose.

A. This chapter is established for the following purposes:

1. To provide uniform outdoor lighting standards to assure public safety, utility and security of private and public property.
2. To reduce and minimize the impact of outdoor lighting on views of the night sky by minimizing glare, obtrusive light and artificial sky glow and limiting outdoor lighting that is misdirected, excessive or unnecessary.
3. To implement the energy conservation policies of the comprehensive plan.
4. To regulate the type of light fixtures, lamps and standards.
5. To protect low- and medium-density residential zones from the adverse impacts associated with nonresidential and multifamily outdoor lighting.
6. To ensure outdoor lighting is in compliance with the State of Washington Energy Code. (Ord. 3178 § 2, 2016)

21.17.020 Definitions.

A. The following definitions shall only apply to this chapter:

1. "Accent lighting" means any luminaire that emphasizes a particular object or draws attention to a particular area for aesthetic purposes.
2. "Ambient light" means general illumination of an area.
3. "Backlight" means, for an outdoor luminaire, lumens emitted in the quartisphere below horizontal and in the opposite direction of the intended orientation of the luminaire. For luminaires with symmetric distribution, backlight will be the same as the front light.

4. "BUG" means a luminaire classification system that classifies backlight (B), uplight (U) and glare (G).
5. "Canopy" means a covered, unconditioned structure with a least one side open for pedestrian and/or vehicular access. (An unconditioned structure is one that may be open to the elements and has no heat or air conditioning).
6. "Curfew" means a time defined by the city when outdoor lighting must be reduced or extinguished.
7. "Cut-off angle" (of a luminaire) means the angle, measured from the lowest point between a vertical line from the center of the lamp extended to the ground and the first line of sight at which the bare source is not visible.
8. "Footcandle (FC)" means a measure of illuminance or a measure of how bright a light appears to the human eye. One footcandle is equal to one lumen/square foot. As an example, a typical 60-watt incandescent lamp (840 lumens) produces an illuminance of 0.1 footcandles at a distance of about 25 feet.
9. "Glare" means lighting entering the eye directly from luminaires or indirectly from reflective surfaces that causes visual discomfort or reduced visibility.
10. "Hardscape" means permanent improvements to the site including parking lots, drives, entrances, curbs, ramps, stairs, steps, medians, walkways and nonvegetated landscaping that is 10 feet or less in width. Materials may include concrete, asphalt, stone, gravel, or similar substances.
11. "Hardscape area" means the area measured in square feet of all hardscape. It is used to calculate the total site lumen limit in both the prescriptive method and performance methods.
12. "Hardscape perimeter" means the perimeter measure in linear feet of the hardscape. It is used to calculate the total site lumen limit in the performance method. Refer to "hardscape" definition.
13. "IESNA" means Illuminating Engineering Society of North America.
14. "Lamp" means the light-producing mechanism of a luminaire.
15. "Light pollution" means any adverse effect of artificial light.
16. "Light trespass" means light falling where it is not wanted or needed (also referred to as spill light or obtrusive light).
17. "Lighting zone" means an overlay zoning system establishing legal limits or regulations for lighting for particular parcels, areas or districts in a community.
18. "Lumen" means a unit of measure used to quantify the amount of light produced by a lamp or emitted from a luminaire (as distinct from "watt," a measure of power consumption).
19. "Luminaire" means the complete lighting unit, consisting of a lamp, or lamps and ballast(s) (when applicable), together with the parts designed to distribute the light (reflector, lens, diffuser), to position and protect the lamps, and to connect the lamps to the power supply (also referred to as fixture).
20. "Lux" means the International Systems of Units (SI) unit of illuminance. One lux is one lumen per square meter. A lux is a unit of incident illuminance approximately equal to one-tenth footcandle.
21. "Mounting height" means the height of the photometric center of a luminaire above grade level.
22. "Outdoor lighting fixture" means a luminaire outside of an enclosed building or structure or any luminaire directed such that it primarily illuminates outdoor areas.
23. "Shielding" means an opaque or solid material that blocks the transmission of light

24. "Sky glow" means the brightening of the nighttime sky that results from scattering and reflection of artificial light by moisture and dust particles in the atmosphere. Sky glow is caused by light directed or reflected upwards or sideways and reduces one's ability to view the night sky.
25. "Spotlight" means a fixture designed to light only a small, well-defined area.
26. "Time switch" means an automatic lighting control device that controls lights according to time of day.
27. "Uplight" means, for an outdoor luminaire, lux radiated in the hemisphere at or above the horizontal plane.
28. "Vertical illuminance" means illuminance measured or calculated in a plane perpendicular to the site boundary or property line. (Ord. 3178 § 2, 2016)

21.17.030 Exemptions.

A. The following are exempt from the provisions of this chapter:

1. Outdoor lighting for single-family residences;
2. Traffic control signals and devices;
3. Street lights on public streets which are in conflict with other design standards adopted by the city. Where a conflict arises, final determination shall be made by the director;
4. Temporary emergency lighting (i.e., fire, police, repair workers) or warning lights;
5. Moving vehicle lights;
6. Navigation lights (i.e., radio/television towers, docks, piers, buoys) or any other lights where state or federal statute requires lighting that cannot comply with this chapter;
7. Seasonal decorations;
8. Outdoor lighting approved by the director for temporary or periodic events (e.g., fairs, nighttime construction);
9. Internally and externally illuminated signs regulated by Chapter 21.16 LMC; and
10. Outdoor egress lighting as required by National Fire Protection Association (NFPA). (Ord. 3178 § 2, 2016)

21.17.040 Applicability.

A. The provisions of this chapter shall apply to:

1. Outdoor lighting undertaken in conjunction with development requiring project design review (PDR); and
2. Redevelopment or expansion when the redevelopment increases the gross floor area or valuation by the criteria established in LMC 21.12.400(C).
3. Minor Modifications, Additions, or New Lighting Fixtures for Nonresidential and Multifamily Dwellings. For nonresidential and multifamily dwellings, all additions, modifications, or replacement of more than 50 percent of outdoor lighting fixtures existing as of the effective date of this chapter shall require the submission of a complete inventory and site plan detailing all existing and any proposed new outdoor lighting. Any new lighting shall meet the requirements of this chapter.
4. Resumption of Use after Abandonment. If a property with nonconforming lighting is abandoned for a period of six months or more, then all outdoor lighting shall be brought into compliance with this chapter before any further use of the property occurs. (Ord. 3178 § 2, 2016)

21.17.050 General requirements.

A. The following general requirements shall apply to all proposed outdoor lighting:

1. Site lighting trespass onto adjacent residential properties shall be minimized;
2. Site lighting shall minimize light spillage into the night sky;
3. Outdoor lighting shall be controlled by either a combination of a photo sensor and a time switch or an astronomical time switch. All time switches shall be capable of retaining programming and the time setting during loss of power for a period of at least 10 hours;
4. Fixtures and lighting systems used for safety and security shall be maintained in good working order and in a manner that serves the original design intent of the system; and
5. The applicant shall submit to the city a site lighting plan to enable a determination that the applicable provisions of this chapter will be satisfied.

a. The outdoor lighting plan shall include the following:

- i. Manufacturer specification sheets, cut-sheets or other manufacturer provided information for all proposed lighting fixtures;
- ii. The proposed location, mounting height, and aiming point of all outdoor lighting fixtures; and
- iii. If building elevations are proposed for illumination, drawings shall be provided for all building elevations showing fixtures, portions of the elevations to be illuminated, illumination levels of the elevations, and the aiming point for any remote light fixture.

b. If needed to review proposed outdoor lighting installations, the city may require additional information following the initial lighting plan submittal, including but not limited to:

- i. A brief written narrative, with accompanying plan or sketch, which demonstrates the objectives of the lighting;
- ii. Photometric data, BUG ratings as defined by the Illuminating Engineering Society of North America (IESNA), Color Rendering Index (CRI) of all lamps, or LEDs, and other descriptive information on the fixtures, or designation as IESNA "cutoff fixtures";
- iii. A computer generated photometric grid showing footcandle readings every 10 feet within the property or site, and 10 feet beyond the property lines; iso-footcandle contour line style plans are also acceptable; and
- iv. Landscaping information that indicates mature vegetation in order to evaluate the long-term and seasonal effectiveness of lighting or screening of lighting. (Ord. 3178 § 2, 2016)

21.17.060 Lighting standard requirements in or within 50 feet of residential zones.

A. Outdoor lighting installations and fixtures located in or within 50 feet of a residential zone shall comply with the following requirements:

1. Lighting fixtures shall be no higher than 15 feet above grade;
2. Lighting fixtures shall be designed and shielded in a manner so that the fixture does not directly illuminate on adjacent residentially zoned property. Fixtures should be of a type or adequately shielded so as to prevent glare from normal viewing angles; and
3. Where feasible, additional landscaping may be required by the city to provide light screening between commercial zones and residential zones to help prevent light trespass onto the residentially zoned

properties. Where landscaping is used for light screening, the city shall take into consideration the applicable landscaping standards and citywide design guidelines.

B. The height restrictions of this section shall not apply to lighting used to illuminate outdoor performance areas, sport and recreation facilities, and playfields, except where such lighting fixtures are located within 50 feet of the property line of a residentially zoned property. Lighting of outdoor performance areas, sport and recreation facilities, and playfields shall also meet the standards in LMC 21.17.090. (Ord. 3178 § 2, 2016)

21.17.070 Lighting zones.

A. The lighting zone shall determine the limitations for lighting as specified in this chapter. The lighting zones shall be as follows:

Table 21.17.01

LIGHTING ZONE	Recommended Uses or Areas	Zoning Considerations
LZ-1	Lighting Zone 1 pertains to areas where low ambient lighting levels are desirable. These typically include single- and two-family residential communities, and other areas with limited nighttime activity. May also include the developed areas in parks and other natural settings.	Recommended default zone for low density residential areas. Includes single- or two-family residential districts, and open space including preserves in developed areas.
LZ-2	Lighting Zone 2 pertains to areas with moderate ambient lighting levels. These typically include multifamily residential uses, institutional residential uses, schools, churches, hospitals, hotels/motels, commercial and/or business areas with evening activities embedded in predominately residential areas, recreational and playing fields serving neighborhoods, and/or mixed use development with a predominance of residential uses. Can be used to accommodate a district of outdoor sales or industry in an area otherwise zoned LZ-1.	Recommended default zone for light commercial business districts, business parks and high density or mixed use residential districts. Includes neighborhood business districts, churches, schools and neighborhood recreation facilities, and light industrial zoning with modest nighttime uses or lighting requirements.
LZ-3	Lighting Zone 3 pertains to areas with moderately high lighting levels. These typically include commercial corridors, high intensity suburban commercial areas, town centers, mixed use areas, industrial uses and shipping and rail yards with high nighttime activity, high use recreation and playing fields, regional shopping malls, car dealerships, gas stations, and other retail areas with outdoor nighttime activity.	Recommended default zone for general business districts. Includes business zone districts and industrial and/or manufacturing zone districts.

B. Lighting Zones Defined.

1. LZ-1: Low ambient lighting: Areas where the natural environment will be seriously and adversely affected by lighting. Impacts include disturbing the biological cycles of flora and fauna and/or detracting from human enjoyment and appreciation of the natural environment. Human activity is subordinate in importance to nature. The vision of human residents and users is adapted to the darkness, and they expect to see little or no lighting. When not needed, lighting should be extinguished.

2. LZ-2: Moderate ambient lighting: Areas of human activity where the vision of human residents and users is adapted to moderate light levels. Lighting may typically be used for safety and convenience but it is not necessarily uniform or continuous. After curfew, lighting may be extinguished or reduced as activity levels decline.

3. LZ-3: Moderately high ambient lighting: Areas of human activity where the vision of human residents and users is adapted to moderately high light levels. Lighting is generally desired for safety, security and/or convenience and it is often uniform and/or continuous. After curfew, lighting may be extinguished or reduced in most areas as activity levels decline.

C. The following chart determines which lighting zone generally applies to each zoning district on the city's official zoning map. However, the specific use of a property, as described in Table 21.17.02, shall supersede the property's zoning district when determining which lighting zone applies to the specific property or development.

Table 21.17.02

LIGHTING ZONE	ZONING DISTRICT	USES
LZ-1	RS-8, RS-7, RS-4, RML, RMM, P1	Single-family, low/medium density multifamily, mobile home parks, city low-use neighborhood parks
LZ-2	RMH, MHP, B1, B2, B3, CDM, HMU, BTP, P1	High-density multifamily, mobile home parks, neighborhood-oriented business, business parks, churches, schools, larger city parks, office buildings
LZ-3	CG, PRC, PCD, CC-C, CC-W, CC-N, ACC, CR, LI, P1	High-intensity commercial areas along arterials, Alderwood Mall, Transition Area, EDCC, Meadowdale Playfields, medium-intensity light industrial, car dealerships, office buildings

(Ord. 3178 § 2, 2016)

21.17.080 Nonresidential lighting.

For all nonresidential properties, and for multifamily residential properties of 12 or more dwellings and having common outdoor areas, all outdoor lighting shall comply either with subsection (A) or (B) of this section.

A. Prescriptive Method. An outdoor lighting installation complies with this section if it meets the requirements of subsections (A)(1) and (2) of this section, except that parking lot lighting shall also meet the requirements of subsection (A)(3) of this section:

1. Total Site Lumen Limit. The total installed initial luminaire lumens of all outdoor lighting shall not exceed the total site lumen limit. The total site lumen limit shall be determined using either the parking space method (Table 21.17.03) or the hardscape area method (Table 21.17.04). Only one method shall be used per permit application. For sites with existing lighting, existing lighting shall be included in the calculation of total installed lumens.

2. Limits to Off-Site Impacts. All luminaires shall be rated and installed according to Tables 21.17.05 through 21.17.07.

3. Light Shielding for Parking Lot Illumination. All parking lot lighting shall have no light emitted above 90 degrees.

a. Exception. Ornamental parking lot lighting shall be permitted by special permit only pursuant to LMC 21.17.090(C), and shall meet the requirements of Table 21.17.05 for backlight, Table 21.17.06 for uplight, and Table 21.17.07 for glare, without the need for external field-added modifications.

B. Performance Method.

1. Total Site Lumen Limit. The total installed initial luminaire lumens of all lighting systems on the site shall not exceed the allowed total initial site lumens. The allowed total initial site lumens shall be determined

using Tables 21.17.08 and 21.17.09. For sites with existing lighting, existing lighting shall be included in the calculation of total installed lumens. The total installed initial luminaire lumens of all lighting systems on the site is calculated as the sum of the initial luminaire lumens for all luminaires.

2. Limits to Off-Site Impacts. All luminaires shall be rated and installed using either Option A or Option B below. Only one option may be used per permit application.

Option A: All luminaires shall be rated and installed according to Tables 21.17.05 through 21.17.07.

Option B: The entire outdoor lighting design shall be analyzed using industry standard lighting software including interreflections in the following manner:

a. Input data shall describe the lighting system including luminaire locations, mounting heights, aiming directions, and employing photometric data tested in accordance with IES guidelines. Buildings or other physical objects on the site within three object heights of the property line must be included in the calculations.

b. Analysis shall utilize an enclosure comprised of calculation planes with zero reflectance values around the perimeter of the site. The top of the enclosure shall be no less than 33 feet above the tallest luminaire. Calculations shall include total lumens upon the inside surfaces of the box top and vertical sides and maximum vertical illuminance (footcandles and/or lux) on the sides of the enclosure.

c. The design complies if:

i. The total lumens on the inside surfaces of the virtual enclosure are less than 15 percent of the total site lumen limit; and

ii. The maximum vertical illuminance on any vertical surface is less than the allowed maximum illuminance per Table 21.17.10. (Ord. 3178 § 2, 2016)

21.17.090 Lighting by special permit only.

A. High Intensity and Special Purpose Lighting. The following lighting systems are prohibited from being installed or used except by special permit:

1. Temporary lighting in which any single luminaire exceeds 20,000 initial luminaire lumens or the total lighting load exceeds 160,000 lumens.
2. Aerial lasers.
3. Searchlights (unless permitted by LMC 21.16.310(H)).
4. Other very intense lighting defined as having a light source exceeding 200,000 initial luminaire lumens or an intensity in any direction of more than 2,000,000 candelas.

B. Upon special permit issued by the city, lighting not complying with the technical requirements of this chapter but consistent with its intent may be installed for complex sites or uses or special uses including, but not limited to, the following applications:

1. Sports facilities, including but not limited to unconditioned sports facilities (fields, stadiums, courts, etc.)
2. Construction lighting.
3. Lighting for industrial sites having special requirements, such as petrochemical manufacturing or storage, shipping piers, etc.
4. Parking structures.
5. Urban parks.

- 6. Ornamental and architectural lighting of bridges, public monuments, statuary and public buildings.
- 7. Correctional facilities.

C. To obtain such a permit, applicants shall demonstrate that the proposed lighting installation:

- 1. Makes every reasonable effort to mitigate the effects of light on the environment and surrounding properties, supported by a signed statement describing the mitigation measures. Such statement shall be accompanied by the calculations required for the performance method under LMC 21.17.080(B).
- 2. Employs lighting controls to reduce lighting at a project specific curfew ("curfew") time to be established in the permit.
- 3. Complies with the performance method under LMC 21.17.080(B) after curfew. The city shall review each such application. A permit may be granted if, upon review, the city believes that the proposed lighting will not create unwarranted glare, sky glow, or light trespass. (Ord. 3178 § 2, 2016)

21.17.100 Tables.

Table 21.17.03 – Allowed Total Initial Luminaire Lumens per Site for Nonresidential Outdoor Lighting, Parking Space Method

May only be applied to developments with no more than 10 parking spaces (including handicapped accessible spaces.)		
LZ-1	LZ-2	LZ-3
490 lms/space	630 lms/space	840 lms/space

Table 21.17.04 – Allowed Total Initial Lumens per Site for Nonresidential Outdoor Lighting, Hardscape Area Method

May be used for any development. When lighting intersections of site drives and public streets or road, a total of 600 square feet for each intersection may be added to the actual site hardscape area to provide for intersection lighting.		
LZ-1	LZ-2	LZ-3
Base Allowance		
1.25 lumens per SF of hardscape	2.5 lumens per SF of hardscape	5.0 lumens per SF of hardscape

Lumen Allowances in Addition to Base Allowance	LZ-1	LZ-2	LZ-3
Additional allowances for sales and service facilities. No more than two additional allowances per site.			
Outdoor Sales Lots. This allowance is lumens per square foot of uncovered sales lots used exclusively for the display of vehicles or other merchandise for sale, and shall not include driveways, parking or other nonsales areas. To use this allowance, luminaires must be within 2 mounting heights of sales lot area.	4 lumens per square foot	8 lumens per square foot	12 lumens per square foot

Lumen Allowances in Addition to Base Allowance	LZ-1	LZ-2	LZ-3
Outdoor Sales Frontage. This allowance is for lineal feet of sales frontage immediately adjacent to the principal viewing location(s) and unobstructed for its viewing length. A corner sales lot may include two adjacent sides provided that a different principal viewing location exists for each side. In order to use this allowance, luminaires must be located between the principal viewing location and the frontage outdoor sales area.	0	1,000 per LF	1,500 per LF
Drive-Up Windows. In order to use this allowance, luminaires must be within 20 feet horizontal distance of the center of the window.	2,000 lumens per drive-up window	4,000 lumens per drive-up window	8,000 lumens per drive-up window
Vehicle Service Station. This allowance is lumens per installed fuel pump.	4,000 lumens per pump (based on 5 FC horizontal)	8,000 lumens per pump (based on 10 FC horizontal)	16,000 lumens per pump (based on 20 FC horizontal)

Table 21.17.05 – Maximum Allowable Backlight, Uplight and Glare (BUG) Ratings

May be used for any development. A luminaire may be used if it is rated for the lighting zone of the site or lower in number for all ratings B, U and G. Luminaires equipped with adjustable mounting devices permitting alteration of luminaire aiming in the field shall not be permitted.			
	LZ-1	LZ-2	LZ-3
Allowed Backlight Rating*			
Greater than 2 mounting heights from property line	B3	B4	B5
1 to less than 2 mounting heights from property line and ideally oriented**	B2	B3	B4
0.5 to 1 mounting heights from property line and ideally oriented**	B1	B2	B3
Less than 0.5 mounting heights to property line and property oriented**	B0	B0	B1
<p>* For property lines that abut public walkways, bikeways, bikeways, plazas, and parking lots, the property line may be considered to be five feet beyond the actual property line for purposes of determining compliance with this section. For property lines that abut public roadways and public transit corridors, the property line may be considered to be the centerline of the public roadway or public transit corridor for the purpose of determining compliance with this section. NOTE: This adjustment is relative to Table 21.17.05 and Table 21.17.07 only and shall not be used to increase the lighting area of the site.</p> <p>**To be considered "ideally oriented," the luminaire must be mounted with the backlight portion of the light output oriented perpendicular and toward the property line of concern.</p>			

Table 21.17.06 – Maximum Allowable Backlight (BUG) Ratings – Continued

	LZ-1	LZ-2	LZ-3
Allowed Uplight Rating	U1	U2	U3

	LZ-1	LZ-2	LZ-3
Allowed % light emission above 90 degrees for street or area lighting	0%	0%	0%

Table 21.17.07 – Maximum Allowable Glare (BUG) Ratings – Continued

	LZ-1	LZ-2	LZ-3
Allowed Glare Rating	G1	G2	G3
Any luminaire not ideally oriented*** with 1 to less than 2 mounting heights to any property line of concern	G0	G1	G1
Any luminaire not ideally oriented*** with 0.5 to 1 mounting heights to any property line of concern	G0	G0	G1
Any luminaire not ideally oriented*** with less than 0.5 mounting heights to any property line of concern	G0	G0	G0
*** Any luminaire that cannot be mounted with its backlight perpendicular to any property line within two times the mounting heights of the luminaire location shall meet the reduced Allowed Glare Rating in Table 21.17.07.			

Table 21.17.08 – Performance Method Allowed Initial Site Lumens

May be used on any project.			
Lighting Zone	LZ-1	LZ-2	LZ-3
Allowed Lumens per Square Foot	1.25	2.5	5.0
Allowed Base Lumens per Site	3,500	7,000	14,000

Table 21.17.09 – Performance Method Additional Initial Luminaire Lumen Allowances

All area and distance measurements shall be in plan view unless otherwise noted.			
Lighting Application	LZ-1	LZ-2	LZ-3
Additional Lumens Allowances for All Buildings Except Service Stations and Outdoor Sales Facilities. A maximum of three allowances are permitted			
Building Entrances or Exits. This allowance is per door. In order to use this allowance, luminaires must be within 20 feet of the door.	1,000	2,000	4,000
Building Facades. This allowance is lumens per unit area of building facade that are illuminated. To use this allowance, luminaires must be aimed at the facade and capable of illuminating it without obstruction.	0	8/SF	16/SF

All area and distance measurements shall be in plan view unless otherwise noted.			
Lighting Application	LZ-1	LZ-2	LZ-3
Sales or Non-Sales Canopies. This allowance is lumens per unit area for the total area within the drip line of the canopy. In order to qualify for this allowance, luminaires must be located under the canopy.	3/SF	6/SF	12/SF
Guard Stations. This allowance is lumens per unit area of guardhouse plus 2,000 sf per vehicle lane. In order to use this allowance, luminaires must be within 2 mounting heights of a vehicle lane or the guardhouse.	6/SF	12/SF	24/SF
Outdoor Dining. This allowance is lumens per unit area for the total illuminated hardscape of outdoor dining. In order to use this allowance, luminaires must be within 2 mounting heights of the hardscape area of outdoor dining.	1/SF	5/SF	10/SF
Drive-Up Windows. This allowance is lumens per window. In order to use this allowance, luminaires must be within 20 feet of the center of the window.	2,000 lumens per drive-up window	4,000 lumens per drive-up window	8,000 lumens per drive-up window

Additional Lumens Allowances for Service Stations Only. Service stations may not use any other additional allowances.			
Vehicle Service Station Hardscape. This allowance is lumens per unit area for the total illuminated hardscape area less area of buildings, area under canopies, or areas obstructed by signs or structures. In order to use this allowance, luminaires must be illuminating.	4/SF	8/SF	16/SF
Vehicle Service Station Canopies. This allowance is lumens per unit area for the total area within the drip line of the canopy. In order to use this allowance, luminaires must be located under the canopy.	8/SF	16/SF	32/SF

Additional Lumens Allowances for Outdoor Sales Facilities Only. Outdoor sales facilities may not use any other additional allowances. NOTICE: Lighting permitted by these allowances shall employ controls extinguishing this lighting after a curfew time to be determined by the city.

<p>Outdoor Sales Lots. This allowance is lumens per square foot of uncovered sales lots used exclusively for the display of vehicles or other merchandise for sale, and may not include driveways, parking or other non-sales areas and shall not exceed 25% of the total hardscape area. To use this allowance, luminaires must be within 2 mounting heights of the sales lot area.</p>	<p>4/SF</p>	<p>8/SF</p>	<p>12/SF</p>
<p>Outdoor Sales Frontage. This allowance is for lineal feet of sales frontage immediately adjacent to the principal viewing locations(s) and unobstructed for its viewing length. A corner sales lot may include two adjacent sides provided that a different principal viewing location exists for each side. In order to use this allowance, luminaires must be located between the principal viewing location and the frontage outdoor sales area.</p>	<p>0</p>	<p>1,000/LF</p>	<p>1,500/LF</p>

Table 21.17.10 – Maximum Vertical Illuminance at Any Point in the Plane of the Property Line

<p>LZ-1</p>	<p>LZ-2</p>	<p>LZ-3</p>
<p>0.1 FC or 1.0 LUX</p>	<p>0.3 FC or 3.0 LUX</p>	<p>0.8 FC or 8.0 LUX</p>

1210.03 Distribution Facilities

1210.03(1) General

In addition to the main highway under consideration, other facilities can be used to distribute traffic to and from the highway and to provide access. Highway flexibility can be augmented by:

- Frontage roads
- Collector-distributor roads
- On and off connections
- Parallel arterial routes with connections between them and the main highway
- Loop highways around large metropolitan areas

A city or county may be asked to accept a proposed distribution facility as a city street or county road. Plan and design these facilities according to the applicable design values as city streets or county roads (see Chapter [1230](#)).

1210.03(2) Frontage Roads

Frontage roads constructed as part of highway development may serve to:

- Reestablish continuity of an existing road severed by the highway.
- Provide service connections to adjacent property that would otherwise be isolated as a result of construction of the highway.
- Control access to the highway.
- Maintain circulation of traffic on each side of the highway.
- Segregate local traffic from the higher speed through traffic and intercept driveways of residences and commercial establishments along the highway.
- Relieve congestion on the arterial highway during periods of high use or in emergency situations.

Frontage roads are generally not permanent state facilities. They are usually turned back to the local jurisdiction. Plan and design frontage roads as city streets or county roads (see Chapter [1230](#)). Initiate coordination with the local agency that will be the recipient of the facility early in the planning process, and continue through design and construction. (See Chapter 530 for additional guidance on frontage roads and turnbacks.)

Outer separations function as buffers between the through traffic on the highway and the local traffic on the frontage road. The width is governed by requirements for grading, signing, barriers, aesthetics, headlight glare, and ramps. Where possible, make the separation wide enough to allow for development on both sides of the frontage road. Wider separations also move the intersection with the frontage road and a crossroad farther from the intersection with the through roadway, and they can reduce the amount of limited access control rights to be acquired (see Chapter 530).

Where two-way frontage roads are provided, make the outer separation wide enough to minimize the effects of approaching traffic on the right, particularly the headlight glare. (See Chapter 1600 for information on headlight glare considerations.) With one-way same-direction frontage roads, the outer separation need not be as wide as with two-way frontage roads.

Wide separations lend themselves to landscape treatment and can enhance the appearance of both the highway and the adjoining property.

A substantial width of outer separation is particularly advantageous at intersections with cross streets. The wider separation reduces conflicts with pedestrians and bicycles.

Where ramp connections are provided between the through roadway and the frontage road, the minimum outer separation width depends on design of the ramp termini.

1210.04 Number of Lanes and Arrangement

1210.04(1) General

The basic number of lanes is designated and maintained over a length of highway. The total number of lanes is the basic number of lanes plus any auxiliary lanes provided to meet:

- Level of service (volume-capacity)
- Lane balance
- Flexibility of operation

1210.04(2) Basic Number of Lanes

In certain situations, it is appropriate to keep the basic number of lanes constant over a highway route, or a significant portion thereof, regardless of changes in traffic volume. However, this can lead to unnecessary property or environmental impacts that need to be balanced throughout a design. Consider the impacts, human factors, and traffic analysis before making decisions regarding basic number of lane consistency throughout a highway route.

Change the basic number of lanes for general changes in traffic volume over a substantial length of the route. The desirable location for a reduction in the basic number of lanes is on a tangent section between interchanges or intersections. However, there can be advantages in using dedicated turn lanes at intersections as a means to reduce the number of lanes.

To accommodate high traffic volumes for short distances, such as between adjacent interchanges, use auxiliary lanes. When auxiliary lanes are provided on consecutive sections between interchanges, consider increasing the basic number of lanes through the entire length.

1210.04(3) Auxiliary Lanes

Auxiliary lanes are added to the basic number of lanes to allow additional traffic movements on short segments. These added lanes are based primarily on volume-to-capacity relationships (see Chapter 320). For efficient operation of auxiliary lanes, see the following:

Chapter	Subject
1270	Truck climbing and passing lanes
1310	Left- and right-turn lanes and storage for turning
1360	Weaving and auxiliary lanes associated with interchanges




How in-lieu fee mitigation works King County Mitigation Reserves Program

Overview of in-lieu fee mitigation

When permitted projects will create unavoidable impacts to the environment, project sponsors must offset, or "mitigate" the environmental impacts associated with the project. The mitigation process includes avoiding and minimizing impacts as much as possible, and then making up for any unavoidable impacts through implementation of a mitigation project. Mitigation projects can occur on-site (at or near the place where the impact project occurs) or off-site. King County Code prioritizes on-site mitigation when it is ecologically feasible and likely to succeed long-term. However, if mitigation on or adjacent to the development site is impractical or won't result in meaningful ecological benefit, off-site mitigation becomes an option under King County code and state and federal rules. Off-site mitigation options may include use of a mitigation bank, "permittee-responsible" mitigation, or in-lieu fee mitigation through the Mitigation Reserves Program.



King County Code prioritizes on-site mitigation when it is ecologically feasible and likely to succeed long-term. However, if mitigation on or adjacent to the development site is impractical or won't result in meaningful ecological benefit, off-site mitigation becomes an option under King County code and state and federal rules. Off-site mitigation options may include use of a mitigation bank, "permittee-responsible" mitigation, or in-lieu fee mitigation through the Mitigation Reserves Program.

In a [Federal Rule](#)  (567 KB) published in April 2008, The U.S. Army Corps of Engineers (the Corps) and the U.S. Environmental Protection Agency (EPA) define an in-lieu fee program as:

"A program involving the restoration, establishment, enhancement, and/or preservation of aquatic resources through funds paid to a governmental or non-profit natural resources management entity to satisfy compensatory mitigation requirements... Similar to a mitigation bank, an in-lieu fee program sells compensatory mitigation credits to permittees whose obligation to provide compensatory mitigation is then transferred to the in-lieu program sponsor."

Basics of mitigation reserves program

Here is a step-by-step example of the process for mitigating unavoidable permitted impacts to wetlands, rivers, streams, and buffers through the MRP*:

1. Applicants work with regulatory agencies and tribes to identify ways a proposed project can avoid and minimize environmental impacts.
2. Regulatory agencies determine preferred options for mitigating unavoidable impacts. The Federal Rule establishes a preference hierarchy for the different types of compensatory mitigation available to an applicant. The order of preference outlined in the Federal Rule is as follows:
 - Mitigation Banks
 - In-lieu fee (ILF) Programs
 - Permittee-responsible mitigation under a watershed approach
 - Permittee-responsible mitigation that is on-site and in-kind
 - Permittee-responsible mitigation that is off-site and/or out-of-kind.
3. If the applicant chooses to use the KC MRP (and the regulatory agencies approve), the ecological impacts translated into a number of debits associated with the impact.
4. The applicant buys *credits* from the KC MRP to offset the debits associated with the impact. **By purchasing credits, the applicant satisfies their compensatory mitigation requirements and has no further involvement in the mitigation implementation.**
5. The KC MRP chooses a mitigation site from a predefined Roster. Roster sites may be publicly or privately owned, and will be chosen using science-based watershed priorities.
6. The KC MRP plans, implements, monitors, and maintains projects at chosen sites that will achieve ecological "lift." On balance, completed projects should result in a number of credits equal to or greater than the number of debits associated with the original impacts (note: the applicant does not have any responsibility for the success of implemented mitigation projects).

*At multiple points in the process, an Interagency Review Team will review and approve project proposals. The IRT is co-chaired by the Corps and the Washington Department of Ecology (Ecology); other members will include representatives from state and federal regulatory agencies, tribes, and local governments.

For more information about King County's Mitigation Reserves Program, please contact Megan Webb, Program Manager (in the Water & Land Resources Division's Rural and Regional Services Section).

Last Updated December 18, 2017




Information for permittee / consultants


King County Mitigation Reserves Program

The King County Mitigation Reserves Program (MRP) can simplify and streamline permitting for projects that create unavoidable impacts to wetlands, rivers, streams, shorelines and buffers. By using the MRP to offset compensatory mitigation obligations, development project proponents can pay a onetime upfront fee to fully satisfy their mitigation obligations. Upon payment of the fee, the mitigation obligations transfer to King County (e.g., mitigation site selection, mitigation project design, negotiations with regulators, etc.). The MRP offers increased flexibility, certainty, and potential time and cost savings to developers with unavoidable impacts. Instead of creating and managing their own "permittee-responsible" off-site mitigation projects (which can be complex, have uncertain costs, and take years to complete) project proponents have no further obligation associated with the mitigation obligation once they have purchased in-lieu fee credits.

Using the program:

To use the program, the applicant (*i.e.*, permittee and/or hired consultants) should:

1. Initiate permitting process with applicable regulatory agencies.
2. Design the development project to avoid and minimize impacts.
3. Discuss mitigation needs with regulatory agencies.
4. If use of the MRP is determined to be an appropriate way to meet mitigation needs, applicant should **call MRP staff to discuss use of the program**.
5. Quantify proposed impacts (or the portion of proposed impacts to be mitigated using the MRP).
 - a. For wetlands, "debits" related to impact should be quantified using *Calculating Credits and Debits for Compensatory Mitigation in Wetlands of Western Washington*  (6.9 MB).
 - b. For river, stream, shoreline, and buffer impacts, these impacts should be quantified using an area-based method and ratios discussed with regulators (River, stream, shoreline, and buffer impacts can be accepted by the MRP on a case-by-case basis).
6. Fill out an In-Lieu Fee Mitigation Application to begin the contract process (see the Templates page to download). Please ensure that you have called MRP staff to discuss use of the program prior to filling out an application

7. Complete an *In-Lieu Fee Use Plan*  (278 MB) and obtain approval from **all** applicable regulatory agencies for use of the MRP (*i.e.*, all agencies issuing permits for the impact project).
8. Obtain approval from regulatory agencies on the quantification and description of impacts (*i.e.*, number of "debits", which equals "credits" required for purchase).
9. Obtain final permits for project. Permits will be issued under the condition that work on the project shall not begin until applicant has provided regulatory agencies with a Statement of Sale (*i.e.*, a receipt from King County for purchase of credits).
10. Purchase required number of credits. King County will provide a *Statement of Sale* to applicant and regulatory agencies.

Related information

- [How In-Lieu Fee Mitigation Works](#)
- [Service Areas](#)
- [Debits and Credits](#)
- [Templates](#)
- [FAQs and Definitions](#)
- [Contact Us](#)

For more information about King County's Mitigation Reserves Program, please contact Megan Webb, Program Manager (in the Water & Land Resources Division's Rural and Regional Services Section).

Last Updated December 18, 2017

CITY OF KIRKLAND

90.145 Mitigation – General

1. General – If a modification is proposed to a critical area or buffer, as part of the application the applicant must have the proposal evaluated using mitigation sequencing and then submit a mitigation plan that addresses the impacts to the critical area.

2. Mitigation Sequencing – The intent of mitigation sequencing is to evaluate and implement opportunities to avoid, minimize, eliminate or compensate for impacts to critical areas while still meeting the objectives of the project. When a modification to a critical area and buffer is proposed, the modification shall be avoided, minimized, or compensated for, as outlined by WAC 197-11-768, in the following order of preference:
 - a. Avoiding the impact altogether by not taking a certain action or parts of actions;
 - b. Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
 - c. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
 - d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;
 - e. Compensating for the impact by replacing or providing substitute resources or environments; and/or
 - f. Monitoring the impacts and compensation projects and taking appropriate corrective measures.

3. Location of Mitigation
 - a. Preference – Preference shall be given to the location of the mitigation in the following order unless it can be demonstrated that off-site in-kind mitigation is ecologically preferable:
 - 1) On-site in-kind;

- 2) Off-site in City in-kind;
- 3) Off-site in-kind within the Lake Washington/Cedar/Sammamish Watershed.

b. On-Site versus Off-Site Mitigation

1) Mitigation shall occur on-site except when the City determines that the following criteria have been met as part of a proposal under this chapter:

- a) There is no opportunity for on-site mitigation or on-site opportunities do not have a high likelihood of success due to the size of the property, site constraints, or size and quality of the wetland or location and quality of the stream;
- b) Off-site mitigation has a greater likelihood of providing equal or improved critical area functions than the impacted critical area;
- c) Off-site locations shall be in the same Water Resource Inventory Area (WRIA) 8 Lake Washington/Cedar/Sammamish Watershed as the impacted critical area; and
- d) The off-site critical area mitigation will best meet formally established watershed goals for water quality, flood or conveyance, habitat, or other wetland functions that have been established and strongly justify location of mitigation at another site.

2) When considering mitigation outside of the City, preference should be given to using mitigation banking or an in-lieu fee program pursuant to subsection (4) of this section.

4. Responsible Party for Mitigation Site – Mitigation for lost or diminished critical area functions and values for either wetlands or streams shall use the following options:

a. Applicant-Responsible Mitigation – The applicant is responsible for the implementation, monitoring and success of the mitigation pursuant to this chapter.

b. Non-Applicant Responsible Mitigation – Mitigation Bank and In-Lieu Fee Mitigation

1) Funds are collected from the applicant by the sponsoring agency, nonprofit, private party or jurisdiction. The sponsor is responsible from that point forward for the completion and success of the mitigation. The applicant's fee is based on the project impact and

includes all costs for the mitigation, including design, land acquisition, materials, construction, administration, monitoring, and stewardship.

2) Credits purchased by an applicant from a mitigation bank or in-lieu program that is certified under federal and state rules may be used as a method of mitigation if approved by the City to compensate for impacts when all of the following apply:

a) The City determines as part of the critical area approval that it would provide appropriate compensation for the proposed impacts;

b) Projects shall have debits associated with the proposed impacts calculated by the applicant's qualified critical area professional using the credit assessment method or appropriate method for the impact as specified in the approved instrument for the program. The assessment shall be reviewed and approved by the City;

c) The proposed use of credits is consistent with the terms and conditions of the certified mitigation bank or in-lieu fee program instrument; and

d) The record of payment for credits shall be provided to the City in advance of the authorized impacts but no later than issuance of the building or land surface modification permit.

c. City-Responsible Mitigation – Advance Mitigation – The City does mitigation on City-owned property as mitigation credit either for City critical area projects or at the discretion of the City for other public agencies with critical area projects. The mitigation program shall be implemented pursuant to federal and state rules, and state water quality regulations.

5. Timing of Mitigation

a. On-Site Mitigation

1) On-site mitigation shall be completed immediately before or following disturbance and prior to use or final inspection of the activity or development. Construction of mitigation projects shall be timed to reduce impacts to existing fisheries, wildlife and flora; and

2) The Planning Official may allow flexibility with respect to seasonal timing of excavation or planting for mitigation. If on-site mitigation must be completed after final

inspection of a building or land surface modification permit or commencement of an activity, a performance financial security shall be required pursuant to KZC 90.165 along with a timeline commitment for completion.

b. Off-Site Mitigation

1) For in-lieu fee, mitigation bank or advance mitigation programs:

a) Mitigation shall be completed based on the program's established timeline, except advance mitigation shall be completed prior to issuance of the development permit;

b) The applicant shall provide documentation of the proof of purchase of credits for in-lieu fee and mitigation banking in advance of the authorized impacts but no later than issuance of the building or land surface modification permit. However, if the program sponsor requires proof of development permit prior to credit purchase, the documentation may be provided to the City prior to final inspection; and

c) For advanced mitigation, the applicant shall submit documentation of completion of the advance mitigation prior to issuance of a land surface modification or building permit.

2) For all other off-site mitigation:

a) Mitigation shall be completed immediately before or following disturbance and prior to use or final inspection of the activity or development. Construction of mitigation projects shall be timed to reduce impacts to existing fisheries, wildlife and flora. The Planning Official may allow flexibility with respect to seasonal timing of excavation or planting for mitigation; and

b) Documentation of the proof of purchase of off-site property shall be provided in advance of the authorized impacts but no later than issuance of the building or land surface modification permit.

6. Mitigation Plan Standards – All critical area mitigation plans, except mitigation met through mitigation bank or an in-lieu fee program, shall meet the following standards. In addition, for wetlands the standards for wetland compensatory mitigation pursuant to KZC 90.150 shall be followed.

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19.145.430 Development within wetlands.

(1) *Generally.* No development or improvement may be located within a wetland except as provided in this section.

(2) *Development within wetlands.* The specific location and extent of development within a wetland must constitute the minimum necessary encroachment as determined through application of mitigation sequencing set forth in FWRC 19.145.130. The city will review and decide upon development within a wetland using process IV in Chapter 19.70 FWRC, based on the following criteria:

- (a) It will not adversely affect drainage or stormwater retention capabilities;
- (b) It will not lead to unstable earth conditions nor create erosion hazards;
- (c) It will not be materially detrimental to any other property in the area of the subject property nor to the city as a whole, including the loss of open space;
- (d) It will result in no net loss of wetland area, function or value upon completion of compensatory mitigation;
- (e) The project is in the best interest of the public health, safety or welfare;
- (f) The applicant has demonstrated sufficient scientific expertise and supervisory capability to carry out the project; and
- (g) The applicant is committed to monitoring the project and to making corrections if the project fails to meet projected goals.

(3) *Requirements for compensatory mitigation.* Compensatory mitigation shall be used only for impacts that cannot be avoided or minimized and shall achieve equivalent or greater biologic functions. Compensatory mitigation plans shall be consistent with Wetland Mitigation in Washington State – Part 2: Developing Mitigation Plans – Version 1 (Ecology Publication No. 06-06-011b or as revised), and Selecting Wetland Mitigation Sites Using a Watershed Approach (Western Washington) (Ecology Publication No. 09-06-32).

(4) *Mitigation.* Acceptable methods to mitigate wetland impacts include creation, re-establishment, rehabilitation, and enhancement of in-kind wetland types within the same drainage basin that results in no net loss of wetland area, function, or value. If approved by the city, the applicant may locate a portion or all of the compensatory mitigation using alternative mitigation including, but not limited to, an approved and certified in-lieu fee program or mitigation bank, and/or advanced mitigation if it is determined that off-site, out-of-basin, and/or out-of-kind mitigation would provide a greater overall benefit to the watershed and not result in adverse impacts to the city's stormwater management system and/or wildlife habitat. Alternative mitigation methods are discretionary and may become an option following an operating agreement between the city and mitigation receiving area.

(a) *In-lieu fee.* Credits from an in-lieu fee program approved under state and federal rules may be used at the discretion of the city and when all of the following are met:

(i) The city determines that it would provide environmentally appropriate compensation for the proposed impacts;

(ii) The proposed use of credits is consistent with the terms and conditions of the approved in-lieu fee program instrument; and

(iii) The compensatory mitigation agreement occurs in advance of the authorized impacts.

(b) *Mitigation bank.* Credits from a wetland mitigation bank that is certified under state rules may be used at the discretion of the city and when all of the following are met:

(i) The city determines that it would provide environmentally appropriate compensation for the proposed impacts;

(ii) The proposed use of credits and replacement ratios are consistent with the terms and conditions of the certified bank instrument; and

(iii) The compensatory mitigation agreement occurs in advance of the authorized impacts.

(c) *Advance mitigation.* Mitigation for projects with pre-identified impacts to wetlands may be constructed in advance of the impacts at the discretion of the city and if the mitigation is implemented according to federal rules, state policy on advance mitigation, and state water quality regulations.

(5) *Wetland mitigation ratios*. The following are ratios for providing creation, re-establishment, rehabilitation, or enhancement of impacted wetlands. Ratios for rehabilitation and enhancement may be reduced when combined with 1:1 replacement through creation or re-establishment pursuant to Table 1a, Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance –Version 1 (Ecology Publication No. 06-06-011a, or as revised). Creation, re-establishment, rehabilitation, and enhancement definitions and intent shall be pursuant to Ecology Publication No. 06-06-011a, or as revised.

Category and Type of Wetland	Creation or Re-establishment	Rehabilitation	Enhancement
Category I: High conservation value and bogs	Not considered possible	Case-by-case	Case-by-case
Category I: Mature and old growth forests greater than one acre	6:1	12:1	24:1
Category I: Based on functions	4:1	8:1	16:1
Category II	3:1	6:1	12:1
Category III	2:1	4:1	8:1
Category IV	1.5:1	3:1	6:1

Mitigation requirements may also be determined using the credit/debit tool described in Calculating Credits and Debits for Compensatory Mitigation in Wetlands of Western Washington: Final Report (Ecology Publication No. 10-06-011, or as revised) if approved by the director.

(6) *Compensatory mitigation plan*. As part of any request under this section, the applicant shall submit a mitigation plan prepared by a qualified professional that includes the following minimum standards:

- (a) Contents of wetland delineation report identified in FWRC 19.145.410(2),
- (b) Compensatory mitigation written report and plan sheets. Full guidance on the following report requirements can be found in Wetland Mitigation in Washington State – Part 2: Developing Mitigation Plans (Version 1) (Ecology Publication No. 06-06-011b, or as revised):
 - (i) Description of how the project design has been modified to avoid, minimize, or reduce adverse impacts to wetlands;

(ii) Description of the existing wetland and buffer areas proposed to be altered. Include acreage, water regime, vegetation, soils, landscape position, surrounding land uses, and functions. Describe impacts in terms of acreage by Cowardin classification, hydrogeomorphic classification, and wetland rating;

(iii) Description of the compensatory mitigation site, including location and rationale for selection. Include an assessment of existing condition: acreage of wetlands and uplands, water regime, sources of water, vegetation, soils, landscape position, surrounding land uses, and functions;

(iv) Description of the proposed actions for compensation of wetland and upland areas affected by the project. Include overall goals of the proposed mitigation, including a description of the targeted functions, hydrogeomorphic classification, and categories of wetlands;

(v) Description of the proposed mitigation construction activities and timing of activities;

(vi) Discussion of ongoing management practices that will protect wetlands after the subject property has been developed, including proposed monitoring and maintenance programs; and

(vii) Bond estimate for the entire compensatory mitigation project, including the following elements: site preparation, plant materials, construction materials, installation oversight, maintenance twice per year for up to five years, annual monitoring field work and reporting, and contingency action for a maximum of the total required number of years for monitoring.

(c) Scaled plan sheets for the compensatory mitigation that contains the following contents:

(i) Surveyed edges of the existing wetland and buffer, proposed areas of wetland impacts, location of proposed wetland compensation actions.

(ii) Existing and proposed topography measured at two-foot intervals in the proposed compensation area. Existing and proposed cross sections of the proposed compensation area and impact area measured in one-foot intervals.