

## ORDINANCE NO. O2015-007

**AN ORDINANCE** of the City Council of the City of Tumwater, Washington, amending *Chapter 18.38 Floodplain Overlay* of the Tumwater Municipal Code to adopt the Model Ordinance for Floodplain Management under the National Flood Insurance Program and the Endangered Species Act, as more particularly described herein.

**WHEREAS**, the Legislature of the State of Washington has delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

**WHEREAS**, areas of the City of Tumwater are subject to periodic inundation and channel migration which results in loss of life and property, health, and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for protection and relief from flooding and channel migration, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare; and

**WHEREAS**, when floodplains and watersheds are developed without taking appropriate care and precautions, flood heights, frequencies, and velocities increase, causing a greater threat to humans, damage to property, destruction of natural floodplain functions, and adverse impacts to water quality and habitat; and

**WHEREAS**, rivers, streams, lakes, estuarine and marine areas and their floodplains are major elements of healthy aquatic and riparian habitats and conveyance of flood waters. If watersheds, rivers, streams, lakes, estuaries, floodplains and other systems are not viewed holistically as biological and geomorphologic units, it can lead to serious degradation of habitat and increased flood hazards to people and human development; and

**WHEREAS**, over the years, natural processes have evolved that manage flood waters and channel flows in the most effective and efficient manner. Disruption of these processes through alterations to land cover, stream channels, wetlands, and other water bodies leads to increased flood hazards, loss of life and property, threats to public health, and loss of habitat; and

**WHEREAS**, the Federal Emergency Management Agency has produced a new digital Flood Insurance Study and Flood Insurance Rate Map for the Deschutes River; and

**WHEREAS**, the City of Tumwater is required to adopt the new digital Flood Insurance Study and Flood Insurance Rate Map for the Deschutes River and to regulate development within flood prone areas; and

**WHEREAS**, it is timely to amend the City's existing floodplain regulations to be more consistent with the Model Ordinance for Floodplain Management under the National Flood Insurance Program and the Endangered Species Act; and

**WHEREAS**, the City of Tumwater is required to plan under Chapter 36.70A RCW, the Growth Management Act (GMA), which contains fourteen goals that are intended to guide the development and adoption of comprehensive plans, which relate to urban growth, rural development, reduced sprawl, transportation, housing, economic development, property rights, permits, natural resource industries, open space and recreation, environment, citizen participation and coordination, public facilities and services, historic preservation, and shoreline management; and

**WHEREAS**, the City of Tumwater has adopted a Comprehensive Plan, in accordance with the GMA; and

**WHEREAS**, the proposed amendments to the City's existing floodplain regulations are consistent with the City's Comprehensive Plan; and

**WHEREAS**, on October 29, 2015, the City of Tumwater forwarded the proposed amendments to the Washington State Department of Commerce for review, as required by RCW 36.70A.106; and

**WHEREAS**, on November 10, 2015, the Washington State Department of Commerce notified the City of Tumwater that the requirements for State Agency notification for the proposed amendments had been met, as required by RCW 36.70A.106; and

**WHEREAS**, the proposed amendments have been prepared in conformance with the City of Tumwater's Public Participation procedures; and

**WHEREAS**, the Attorney General Advisory Memorandum: Avoiding Unconstitutional Takings of Private Property (Dec. 2006) on takings was reviewed and utilized by the City in objectively evaluating the proposed changes; and

**WHEREAS**, the adoption of amendments to the Tumwater Comprehensive Plan and development regulations must be processed in compliance with the requirements of the State Environmental Policy Act (SEPA); and

**WHEREAS**, the City of Tumwater served as the Lead Agency under SEPA (Chapter 43.21C RCW) for the proposed amendments; and

**WHEREAS**, a Determination of Nonsignificance for the amendments was issued on November 3, 2015, in accordance with the State Environmental Policy Act (SEPA), WAC 197-11, and Chapter 16.04 of the Tumwater Municipal Code; and

**WHEREAS**, the Tumwater Planning Commission held public meetings on proposed floodplain amendments on August 11<sup>th</sup>, August 25<sup>th</sup>, October 13<sup>th</sup>, and October 27<sup>th</sup>, 2015; and

**WHEREAS**, the Tumwater Planning Commission held a public hearing on the amendments on November 10<sup>th</sup>, 2015; and

**WHEREAS**, the Tumwater City Council reviewed the amendments at a public meeting held on December 8, 2015; and

**WHEREAS**, the General Government Committee reviewed the amendments at a public meeting held on January 19, 2016; and

**NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF TUMWATER, STATE OF WASHINGTON, DOES ORDAIN AS FOLLOWS:**

**Section 1.** Chapter 18.38 *Floodplain Overlay* of the Tumwater Municipal Code is hereby amended.

**Chapter 18.38**

**FP FLOODPLAIN OVERLAY**

Sections:

- ~~18.38.010 — Purpose.~~
- ~~18.38.015 — Relationship to shoreline master program.~~
- ~~18.38.020 — Areas of special flood hazard.~~
- ~~18.38.030 — Districts established.~~
- ~~18.38.040 — Use of other base flood data.~~

- ~~18.38.050 — Floodway subdistrict — Permitted uses.~~
- ~~18.38.055 — One hundred year floodplain subdistrict — Permitted uses.~~
- ~~18.38.060 — Five hundred year floodplain subdistrict.~~
- ~~18.38.070 — Standards — Generally.~~
- ~~18.38.080 — Standards — Fill.~~
- ~~18.38.090 — Standards — Structures.~~
- ~~18.38.100 — Standards — Utilities.~~
- ~~18.38.110 — Repealed.~~
- ~~18.38.120 — Standards — Storage of materials and equipment.~~
- ~~18.38.130 — Standards — Additional.~~

**18.38.010 — Purpose.**

~~It is the purpose of the floodplain (FP) overlay zone district to promote the public health, safety and general welfare, and to minimize flood losses by provisions designed to:~~

- ~~A. — Restrict or prohibit uses which are dangerous to human health, safety or property in times of flood, or cause increased flood heights or velocities;~~
- ~~B. — Require that uses vulnerable to floods, including public facilities which serve such uses, be provided with flood protection at the time of initial construction;~~
- ~~C. — Alert individuals as much as possible of lands which are unsuited for intended purposes because of flood hazard; and~~
- ~~D. — Encourage conservation of lands prone to flooding for their recreational, agricultural, educational and wildlife values, and to protect those lands from damage due to soil erosion.~~

~~(Ord. O95-035, Amended, 12/19/1995; Ord. 883, Added, 05/06/1984)~~

**18.38.015 — Relationship to shoreline master program.**

~~If there are any conflicts between the shoreline master program and the floodplain overlay regulations which apply in shoreline jurisdiction, the requirements of shoreline master program apply.~~

~~(Ord. O2012-005, Added, 03/18/2014)~~

**18.38.020 — Areas of special flood hazard.**

~~The areas of special flood hazard are identified by the Federal Emergency Management, Federal Insurance Administration, in a scientific and engineering report dated October 16, 2012, and any revisions thereto entitled, “The Flood Insurance Study for Thurston County, Washington and Incorporated Areas,” along with the Flood Insurance Rate Maps dated October 16, 2012, and any~~

revisions thereto. The Flood Insurance Study and the Flood Insurance Rate Maps are on file at Tumwater City Hall, 555 Israel Road SW, Tumwater, WA 98501.

~~(Ord. O2012-018, Amended, 09/18/2012; Ord. O2007-004, Amended, 09/04/2007; Ord. O95-035, Amended, 12/19/1995; Ord. 883, Added, 05/06/1984)~~

**~~18.38.030 — Districts established.~~**

~~The floodplain district shall apply to all areas of the city and urban growth area which are subject to flooding, as defined on the most recent edition of the Federal Emergency Management Agency Flood Insurance Rate Map and Flood Boundary and Floodway Map and shall be indicated on the zoning map. This district is further divided into three subdistricts called the floodway, the one-hundred-year floodplain, and the five-hundred-year floodplain. Each of these subdistricts are described in this chapter as to their definition and function. These subdistricts are overlay districts that shall always apply in addition to another zoning district. Where regulations conflict, the more stringent shall apply.~~

~~(Ord. O2000-024, Amended, 02/06/2001; Ord. O2000-004, Amended, 07/18/2000; Ord. O95-035, Amended, 12/19/1995; Ord. 883, Added, 05/06/1984)~~

**~~18.38.040 — Use of other base flood data.~~**

~~When base flood elevation data has not been provided in accordance with TMC 18.38.030, any base flood elevation and floodway data available from a federal, state or other source shall be obtained and utilized in order to apply the floodplain zoning district and administer the requirements related to flood hazard and floodway areas.~~

~~(Ord. O95-035, Amended, 12/19/1995; Ord. 1199, Amended, 07/18/1989; Ord. 883, Added, 05/06/1984)~~

**~~18.38.050 — Floodway subdistrict — Permitted uses.~~**

~~A. — The following open space uses shall be permitted, subject to the requirements of the zoning district in which the land is located; and provided, that no storage of materials or equipment or other development or substantial improvement, including structures, fill and support facilities, shall be allowed:~~

- ~~1. — Agricultural uses, such as general farming, pasture, grazing, outdoor plant nurseries, horticulture, forestry, sod farming, and wild crops harvesting; and~~
- ~~2. — Private and public recreational uses such as picnic grounds, wildlife and nature preserves, fishing areas, biking and horseback riding trails, and golf course greenways.~~

~~B. The following uses shall be permitted, provided the requirements listed in subsection A of this section shall not apply:~~

~~1. Utility support facilities as defined in TMC Chapter 18.04 and fish hatchery appurtenances in accordance with all applicable local, state, or federal regulations and the following requirements:~~

~~a. Any permitted structure shall be constructed and placed on the building site so as to offer the minimum obstruction to the flow of floodwater.~~

~~b. Whenever possible, structures shall be constructed with the longitudinal axis parallel to the direction of flood flow.~~

~~c. So far as practicable, structures shall be placed approximately on the same flood flow lines as those of adjoining structures.~~

~~d. All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure.~~

~~e. Any new construction in floodways shall not cause any measurable rise in base flood elevation.~~

~~f. All new and replacement water supply systems shall be floodproofed and designed to eliminate infiltration of floodwaters into the system.~~

~~g. New and replacement sanitary sewer systems shall be floodproofed and designed to eliminate infiltration of floodwaters into the systems and discharge from the systems into floodwaters.~~

~~h. Floodproofing and sealing measures must be taken to ensure that toxic or hazardous substances are not displaced or released into the floodwaters.~~

~~i. Such facilities shall not be allowed unless it can be demonstrated that there are no other practicable alternatives.~~

~~j. To the extent possible, the aboveground impact of these types of facilities and appurtenances, especially when placed in open space areas, shall be minimized as to height and mass.~~

~~2. Protection, rehabilitation, restoration and reconstruction of existing sites, buildings, structures and objects significant in American and Washington prehistory, history, architecture, archaeology or culture.~~

~~(Ord. O2013-025, Amended, 01/07/2014; Ord. O2007-004, Amended, 09/04/2007; Ord. O2000-024, Amended, 02/06/2001; Ord. O2000-017, Amended, 09/19/2000; Ord. O95-035, Amended, 12/19/1995; Ord. 883, Added, 05/06/1984)~~

~~**18.38.055 — One hundred year floodplain subdistrict — Permitted uses.**~~

~~The following uses shall be permitted, subject to the requirements of the zoning district in which the land is located:~~

~~A. — Agricultural and aquacultural uses, such as general farming, pasture, grazing, outdoor plant nurseries, horticulture, fish hatcheries and related appurtenances and interpretive centers, forestry, sod farming, and wild crop harvesting.~~

~~B. — Private and public recreational uses such as parks, picnic grounds, wildlife and nature preserves, fishing areas, biking and horseback riding trails, and golf course greenways and appurtenances.~~

~~C. — Support facilities in accordance with all applicable local, state, or federal regulations and the requirements listed in TMC 18.38.050(B)(1)(a) through (i).~~

~~D. — Protection, rehabilitation, restoration and reconstruction of existing sites, buildings, structures and objects significant in American and Washington prehistory, history, architecture, archaeology or culture.~~

~~E. — In accordance with 44 C.F.R. 60.3, recreational vehicles placed on sites within the one hundred year floodplain shall be on the site for fewer than one hundred eighty consecutive days or be ready for highway use. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions.~~

~~(Ord. O2007-004, Amended, 09/04/2007; Ord. O2000-024, Added, 02/06/2001)~~

~~**18.38.060 — Five hundred year floodplain subdistrict.**~~

~~A. — Permitted Uses. Permitted uses in the five hundred year floodplain subdistrict are all uses permitted in the underlying zoning district, provided all structures are elevated at least two feet above the base flood elevation unless otherwise specified hereinafter.~~

~~B. — Development Proposals. All development proposals submitted pursuant to any local ordinance or state or federal statute shall be examined to determine whether all building sites proposed will be reasonably safe from flooding. The city shall require the following:~~

~~1.— That as a part of any subdivision creating five or more lots, or any development comprising five or more acres, that base flood elevation data be an essential element of application, and~~

~~2.— That all such proposals be consistent with the need to minimize flood damage.~~

~~C.— Structures.~~

~~1.— All new construction and substantial improvements to existing residential structures shall have the lowest floor (including basement) elevated at least two feet above the base flood elevation. Fully enclosed areas below the lowest floor that are subject to flooding are prohibited, unless they are designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must meet or exceed the following minimum criteria:~~

~~a.— A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.~~

~~b.— The bottom of all openings shall be no higher than one foot above grade.~~

~~e.— Openings may be equipped with screens, louvers or other coverings or devices provided that they permit the automatic entry or exit of floodwaters.~~

~~2.— All new construction and substantial improvements to nonresidential construction shall:~~

~~a.— Have the lowest floor (including basement) elevated at least two feet above the base flood elevation; or~~

~~b.— Together with attendant utility and sanitary facilities, be completely floodproofed to at or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy. Designs and methods for meeting this requirement must be certified by a registered professional engineer or architect;~~

~~e.— Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in subsection (C)(1) of this section.~~

~~(Ord. O2007-004, Amended, 09/04/2007; Ord. O2000-024, Amended, 02/06/2001; Ord. O95-035, Amended, 12/19/1995; Ord. 1199, Amended, 07/18/1989; Ord. 1157, Amended, 06/21/1988; Ord. 883, Added, 05/06/1984)~~

**18.38.070 — Standards — Generally.**

~~The standards set out in TMC 18.38.080 through 18.38.130 shall apply in the five-hundred-year floodplain subdistrict.~~

~~(Ord. O2000-024, Amended, 02/06/2001; Ord. O95-035, Amended, 12/19/1995; Ord. 883, Added, 05/06/1984)~~

**18.38.080 — Standards — Fill.**

~~A. — Any fill or materials proposed to be deposited must be shown to have a beneficial purpose and the amount thereof not greater than is necessary to achieve that purpose, as demonstrated by a plan submitted by the owner showing the uses to which the filled land will be put and the final dimensions of the proposed fill or other materials.~~

~~B. — Such fill or other materials shall be protected against erosions by rip rap, vegetative cover, or bulk heading.~~

~~C. — Structures may be allowed to be constructed on fill if the first floor or basement floor is two feet above the base flood elevation. The fill shall be no lower than two feet above the base flood elevation at least fifteen feet beyond the limits of any structure or building erected thereon.~~

~~D. — No fill may be allowed which, acting above or in concert with other conditions, may increase flood hazards to other property.~~

~~(Ord. O95-035, Amended, 12/19/1995; Ord. 1157, Amended, 06/21/1988; Ord. 883, Added, 05/06/1984)~~

**18.38.090 — Standards — Structures.**

~~A. — Structures shall not be constructed for human habitation unless they can be designed as to have the habitable portion of the structure above the designated base flood elevation and the foundation constructed in such a manner as to withstand such inundation.~~

~~B. — Any permitted structure shall be constructed and placed on the building site so as to offer the minimum obstruction to the flow of floodwater.~~

~~1. — Whenever possible, structures shall be constructed with the longitudinal axis parallel to the direction of flood flow.~~

~~2. — So far as practicable, structures shall be placed approximately on the same flood flow lines as those of adjoining structures.~~

~~C. — All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure.~~

~~(Ord. O95-035, Amended, 12/19/1995; Ord. 883, Added, 05/06/1984)~~

~~**18.38.100 — Standards — Utilities.**~~

~~A. — All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.~~

~~B. — New and replacement sanitary sewer systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharge from the systems into floodwaters.~~

~~C. — On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.~~

~~D. — Construction of new support facilities may be allowed within the five-hundred-year floodplain subdistrict if no alternative site is available. Any facilities constructed within the five-hundred-year floodplain subdistrict shall have the lowest floor elevated a minimum of two feet above the level of the base flood elevation of the site. Additionally, floodproofing and sealing measures must be taken to ensure that toxic or hazardous substances are not displaced or released into the floodwaters. To the extent possible, access routes shall be elevated to or above the level of the base floodplain.~~

~~(Ord. O2000-024, Amended, 02/06/2001; Ord. O95-035, Amended, 12/19/1995; Ord. 1199, Amended, 07/18/1989; Ord. 883, Added, 05/06/1984)~~

~~**18.38.110 — Repealed.**~~

~~(Ord. O2005-011, Amended, 07/05/2005; Ord. O2000-024, Amended, 02/06/2001; Ord. O95-035, Amended, 12/19/1995; Ord. 1199, Amended, 07/18/1989; Ord. 1157, Amended, 06/21/1988; Ord. 883, Added, 05/06/1984)~~

~~**18.38.120 — Standards — Storage of materials and equipment.**~~

~~A. — Storage or processing of materials that are buoyant, flammable, explosive or could be injurious to human, animal or plant life in time of flooding, is prohibited.~~

~~B. — Storage of other materials or equipment may be allowed if not subject to major damage by floods and if firmly anchored to prevent flotation, or shall be readily removed from the area within the limited time available after flood warning.~~

~~(Ord. O95-035, Amended, 12/19/1995; Ord. 883, Added, 05/06/1984)~~

**18.38.130 Standards Additional.**

The floodproofing standards contained in the U.S. Army Corps of Engineers publication entitled "Flood Proofing Regulations," EP 1165-2-314, dated June 1972, shall be employed within the floodplain overlay district where floodproofing is required.

(Ord. O2000-024, Amended, 02/06/2001; Ord. O95-035, Amended, 12/19/1995; Ord. 883, Added, 05/06/1984)

**18.38.010 Purpose.**

It is the purpose of this chapter to promote the public health, safety, and general welfare by managing development in order to:

- A. Protect human life, health and property from the dangers of flooding;
- B. Minimize the need for publicly funded and hazardous rescue efforts to save those who are isolated by flood waters;
- C. Minimize expenditure of public money for costly flood damage repair and flood control projects;
- D. Minimize disruption of commerce and governmental services;
- E. Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets, and bridges located in the floodplain;
- F. Maintain a stable tax base by providing for the sound use of floodprone areas so as to minimize future flood blight areas;
- G. Encourage those who occupy areas subject to flooding and channel migration to assume responsibility for their actions;
- H. Qualify the City of Tumwater for participation in the National Flood Insurance Program, thereby giving citizens and businesses the opportunity to purchase flood insurance;
- I. Maintain the quality of water in rivers, streams, lakes, estuaries, and marine areas and their floodplains so as to protect public water supplies, areas of the Public Trust, and wildlife habitat protected by the Endangered Species Act;
- J. Retain the natural channel, shoreline, and floodplain creation processes and other natural floodplain functions that protect, create, and maintain habitat for threatened and endangered species;
- K. Prevent or minimize loss of hydraulic, geomorphic, and ecological functions of floodplains and stream channels.

**18.38.020 Lands to which this chapter applies.**

This chapter shall apply to the Special Flood Hazard Area within the jurisdiction of the City of Tumwater, as defined in TMC Sections 18.38.080 through 18.38.120.

**18.38.030 Approach.**

In order to achieve the listed purposes, this chapter:

A. Defines and clarifies the terms and phrases used in this chapter in TMC Section 18.38.070.

B. Identifies in TMC Sections 18.38.080 through 18.38.120 the Special Flood Hazard Area, the Protected Area and the supporting technical data needed to delineate those areas.

C. Establishes a permit requirement in TMC Sections 18.38.130 through 18.38.200 so that all proposed development that may affect flood hazards, water quality, and habitat is reviewed prior to construction.

D. Sets minimum protection standards in TMC Sections 18.38.210 through 18.38.240 for all development to ensure that the development will not increase the potential for flood damage or adversely affect natural floodplain functions.

E. Sets minimum standards to protect new and substantially improved structures from flood damage in TMC Sections 18.38.250 through 18.38.310.

F. Specifies additional habitat protection criteria in TMC Sections 18.38.320 through 18.38.400. Some small projects do not need a permit. For all other development projects, the applicant must assess their impact on those factors that contribute to increased flood hazard and degradation of habitat. If the assessment concludes that the project will cause an adverse effect outside the Protected Area, the permit will be denied unless the project impacts are mitigated (avoided, minimized, restored or compensated for).

G. Is based on the “Floodplain Management and the Endangered Species Act – A Model Ordinance” dated November 2013 and its appendices A through D produced by Region X of the Federal Emergency Management Agency.

**18.38.040 Interpretation.**

In the interpretation and application of this chapter, all provisions shall be:

A. Considered as minimum requirements;

B. Liberally construed in favor of the City of Tumwater; and,

C. Deemed neither to limit nor repeal any other powers granted under State statutes.

**18.38.050 Abrogation and Greater Restrictions.**

Where this chapter and another code, ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

**18.38.060 Warning and Disclaimer of Liability.**

The degree of property and habitat protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods and movement of channels outside of mapped channel migration areas can and will occur on rare occasions. Flood

heights may be increased by man-made or natural causes. This chapter does not imply that land outside the regulated areas, or development permitted within such areas, will be free from flood or erosion damage. This chapter shall not create liability on the part of the City of Tumwater or any officer or employee thereof for any damage to property or habitat that result from reliance on this chapter or any administrative decision lawfully made hereunder.

**18.38.070 Definitions.**

Unless specifically defined below, terms or phrases used in this chapter shall be interpreted so as to give them the meaning they have in common usage and to give this chapter its most reasonable application.

*Adversely affect/Adverse effect:* effects that are a direct or indirect result of the proposed action, or its interrelated or interdependent actions, and the effect is not discountable, insignificant or beneficial. Discountable effects are extremely unlikely to occur. Insignificant effects relate to the size of the impact and should never reach the scale where a take occurs. Based on best judgment, a person would not: (1) be able to meaningfully measure, detect, or evaluate insignificant effects; or (2) expect discountable effects to occur. Beneficial effects are contemporaneous positive effects without any adverse effects. In the event that the overall effect of the proposed action is beneficial, but is also likely to cause some adverse effects, then the proposed action is considered to result in an adverse effect.

*Appurtenant structure:* A structure which is on the same parcel of property as the principle structure to be insured and the use of which is incidental to the use of the principle structure.

*Base Flood:* the flood having a one percent chance of being equaled or exceeded in any given year (also referred to as the “100-year flood”). The area subject to the base flood is the Special Flood Hazard Area designated on Flood Insurance Rate Maps as Zones “A” or “V” including AE, AO, AH, A1-99 and VE.

*Base Flood Elevation:* the elevation of the base flood above the datum of the effective FIRM.

*Basement:* any area of the structure having its floor sub-grade (below ground level) on all sides.

*Channel Migration Zone:* the area within the lateral extent of likely stream channel movement due to stream bank destabilization and erosion, rapid stream incision, aggradation, avulsions, and shifts in location of stream channels.

Critical Facility: a facility necessary to protect the public health, safety and welfare during a flood. Critical facilities include, but are not limited to, schools, nursing homes, hospitals, police, fire and emergency operations installations, water and wastewater treatment plants, electric power stations, and installations which produce, use, or store hazardous materials or hazardous waste (other than consumer products containing hazardous substances or hazardous waste intended for household use).

Development: any man-made change to improved or unimproved real estate in the Special Flood Hazard Area (SFHA), including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, storage of equipment or materials, subdivision of land, removal of more than 5% of the native vegetation on the property, or alteration of natural site characteristics.

Dry Floodproofing: any combination of structural and non-structural measures that prevent flood waters from entering a structure.

Elevation Certificate: the official form (FEMA Form 81-31) used to provide elevation information necessary to ensure compliance with provisions of this chapter and determine the proper flood insurance premium rate.

FEMA: the Federal Emergency Management Agency, the agency responsible for administering the National Flood Insurance Program.

Fish and Wildlife Habitat Conservation Area: lands needed to maintain species in suitable habitats within their natural geographic distribution so that isolated subpopulations are not created. These areas are designated by the City of Tumwater pursuant to the Washington State Growth Management Act and implementing regulations.

Flood or Flooding: a general and temporary condition of partial or complete inundation of normally dry land areas from:

- A. The overflow of inland or tidal waters, and/or
- B. The unusual and rapid accumulation of runoff of surface waters from any source.

Flood Insurance Rate Map (FIRM): the official map on which the Federal Emergency Management Agency has delineated both the Special Flood Hazard Areas and the risk premium zones applicable to the City of Tumwater.

Flood Protection Elevation (FPE): the elevation above the datum of the effective FIRM to which new and substantially improved structures must be protected from flood damage.

Flood Insurance Study: the official report provided by the Federal Emergency Management Agency that includes flood profiles, the Flood Insurance Rate Map, and the water surface elevation of the base flood.

Floodway: the channel of a stream or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot at any point.

Functionally Dependent Use: a use that must be located or carried out close to water, e.g. docking or port facilities necessary for the unloading of cargo or passengers or shipbuilding and ship repair.

Historic Structure: a structure that:

A. Is listed on the National Register of Historic Places, the Washington Heritage Register, or the Washington Heritage Barn Register, or

B. Has been certified to contribute to the historical significance of a registered historic district.

Hyporheic Zone: a saturated layer of rock or sediment beneath and/or adjacent to a stream channel that contains some proportion of channel water or that has been altered by channel water infiltration.

Impervious Surface: a hard surface area which causes water to run off the surface in greater quantities or at an increased rate of flow from the flow present under natural conditions prior to development. Common impervious surfaces include, but are not limited to, roof tops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads, packed earthen materials, and oiled, macadam or other surfaces which similarly impede the natural infiltration of stormwater.

Lowest Floor: the lowest floor of the lowest enclosed area (including basement or crawlspace). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or storage in an area other than a basement area, is not considered a structure's lowest floor, provided that such enclosure is compliant with TMC Section 18.38.260(F), (i.e. provided there are adequate openings to allow floodwaters into the area).

Manufactured Home: a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term “manufactured home” does not include a “recreational vehicle.”

Manufactured Home Park or Subdivision: a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

Native Vegetation: plant species that are indigenous to the community’s area and that reasonably could be expected to naturally occur on the site.

Natural Floodplain Functions: the contribution that a floodplain makes to support habitat, including, but not limited to, providing flood storage and conveyance, reducing flood velocities, reducing sedimentation, filtering nutrients and impurities from runoff, processing organic wastes, moderating temperature fluctuations, and providing breeding and feeding grounds, shelter, and refugia, for aquatic or riparian species.

New Construction: structures for which the “start of construction” commenced on or after the effective date of this chapter.

Protected Area: the lands that lie within the boundaries of the floodway, the riparian habitat zone, and the channel migration area. Because of the impact that development can have on flood heights and velocities and habitat, special rules apply in the Protected Area.

Recreational Vehicle: a vehicle,

A. Built on a single chassis; and

B. 400 square feet or less when measured at the largest horizontal projection; and

C. Designed to be self-propelled or permanently towable by an automobile or light duty truck; and

D. Designed primarily for use as temporary living quarters for recreational, camping, travel, or seasonal use, not as a permanent dwelling.

Riparian: Of, adjacent to, or living on, the bank of a river, lake, pond, ocean, sound, or other water body.

Riparian Habitat Zone: the water body and adjacent land areas that are likely to support aquatic and riparian habitat as detailed in TMC Section 18.38.110(C).

Special Flood Hazard Area (SFHA): the land subject to inundation by the base flood. Special Flood Hazard Areas are designated on Flood Insurance Rate Maps

with the letters “A” or “V” including AE, AO, AH, A1-99 and VE. The Special Flood Hazard Area is also referred to as the area of special flood hazard or SFHA.

*Start of Construction:* includes substantial improvement, and means the actual start of construction, repair, reconstruction, rehabilitation, addition, placement or other improvement that occurred before the permit’s expiration date. The actual start is either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory structures not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

*Structure:* a walled and roofed building, including a gas or liquid storage tank that is principally above ground.

*Substantial Damage:* damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred. Substantial damage also means flood-related damage sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25% of the market value of the structure before the damage occurred.

*Substantial Improvement:* any repair, reconstruction, rehabilitation, addition, replacement, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the “start of construction” of the improvement. This term includes structures which have incurred “substantial damage,” regardless of the actual repair work performed. The term does not include any project for improvement of a structure to correct existing violations of State or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions.

*Variance:* a grant of relief from the requirements of this chapter which permits construction in a manner that would otherwise be prohibited by this chapter.

Water Typing: a system for classifying water bodies according to their size and fish habitat characteristics. The Washington Department of Natural Resources' Forest Practices Water Typing classification system is hereby adopted by reference. The system defines four water types:

A. Type "S" = Shoreline: Streams that are designated "shorelines of the State," including marine shorelines

B. Type "F" = Fish: Streams that are known to be used by fish or meet the physical criteria to be potentially used by fish

C. Type "Np" = Non-Fish Perennial streams

D. Type "Ns" = Non-Fish Seasonal streams

Zone: one or more areas delineated on the FIRM. The following zones may be used on the adopted FIRM. The Special Flood Hazard Area is comprised of the A and V Zones.

"A": SFHA where no base flood elevation is provided.

"A#": numbered A Zones (e.g., A7 or A14), SFHA with a base flood elevation.

"AE": SFHA with a base flood elevation.

"AO": SFHA subject to inundation by shallow flooding usually resulting from sheet flow on sloping terrain, with average depths between one and three feet. Average flood depths are shown.

"AH": SFHA subject to inundation by shallow flooding (usually areas of ponding) with average depths between one and three feet. Base flood elevations are shown.

"B": the area between the SFHA and the 500-year flood of the primary source of flooding. It may also be an area with a local, shallow flooding problem or an area protected by a levee.

"C": an area of minimal flood hazard, as above the 500year flood level of the primary source of flooding. B and C Zones may have flooding that does not meet the criteria to be mapped as a Special Flood Hazard Area, especially ponding and local drainage problems.

"D": area of undetermined but possible flood hazard.

"V": the SFHA subject to coastal high hazard flooding including waves of 3' or greater in height. There are three types of V Zones: V, V#, and VE, and they correspond to the A Zone designations.

"X": the area outside the mapped SFHA.

"Shaded X": the same as a Zone B, above.

### **18.38.080 Area to be Regulated.**

The area to be regulated is comprised of the Special Flood Hazard Area and all Protected Areas within the Special Flood Hazard Area within the jurisdiction of the City of Tumwater. The term also includes areas delineated pursuant to TMC Section 18.38.120.

#### **18.38.090 Special Flood Hazard Area.**

A. The Special Flood Hazard Area (SFHA) is the area subject to flooding by the base flood and subject to the provisions of this chapter. It is identified by the Federal Emergency Management Agency in a scientific and engineering report entitled “Flood Insurance Study for Thurston County, Washington and Incorporated Areas“ dated December 19, 2014, and any revisions thereto, with an accompanying Flood Insurance Rate Map (FIRM) for Thurston County, Washington and Incorporated Areas dated December 19, 2014, and any revisions thereto, are hereby adopted by reference and declared to be a part of this chapter. The Flood Insurance Study and the FIRM are on file at Tumwater City Hall, 555 Israel Road SW, Tumwater, WA 98501.

B. Upon receipt of a floodplain development permit application, the floodplain administrator shall compare the elevation of the site to the base flood elevation. A development project is not subject to the requirements of this chapter if it is located on land that can be shown to be:

1. outside the Protected Area, and;
2. higher than the base flood elevation as demonstrated by an elevation certificate.

The floodplain administrator shall inform the applicant that the project will still be subject to the flood insurance purchase requirements unless the owner receives a Letter of Map Amendment from FEMA.

C. The floodplain administrator shall make interpretations where needed, as to the exact location of the boundaries of the SFHA and the Protected Area (e.g., where there appears to be a conflict between the mapped SFHA boundary and actual field conditions as determined by the base flood elevation and ground elevations). The applicant may appeal the floodplain administrator’s interpretation of the location of the boundary to the Hearing Examiner.

#### **18.38.100 Flood Hazard Data.**

A. The base flood elevation for the SFHAs of the City of Tumwater shall be as delineated on the 100-year flood profiles in the Flood Insurance Study for Thurston County, Washington and Incorporated Areas.

B. The base flood elevation for each SFHA delineated as a “Zone AH” or “Zone AO” shall be that elevation (or depth) delineated on the Flood Insurance Rate Map. Where base flood depths are not available in Zone AO, the base flood elevation shall be considered to be two feet above the highest grade adjacent to the structure.

C. The base flood elevation for all other SFHAs shall be as defined in TMC Sections 18.38.100(F) and 18.38.120(C).

D. The Flood Protection Elevation (FPE) shall be the base flood elevation plus one foot.

E. The floodway shall be as delineated on the Flood Insurance Rate Map or in accordance with TMC Sections 18.38.100(F) 18.38.120(D).

F. Where base flood elevation and floodway data have not been provided in Special Flood Hazard Areas, the floodplain administrator shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a Federal, State, or other source.

### **18.38.110 Protected Area.**

A. The Protected Area is comprised of those lands that lie within the boundaries of the floodway, the riparian habitat zone, and the channel migration area.

B. In riverine areas, where a floodway has not been designated in accordance with TMC Sections 18.38.100(E), 18.38.100(F), and 18.38.120(D), the Protected Area is comprised of those lands that lie within the boundaries of the riparian habitat zone, the channel migration area, and the SFHA.

C. Riparian habitat zone: The riparian habitat zone includes those watercourses within the SFHA and adjacent land areas that are likely to support aquatic and riparian habitat.

1. The size and location of the riparian habitat zone is dependent on the type of water body. The riparian habitat zone includes the water body and adjacent lands, measured perpendicularly from ordinary high water on both sides of the water body:

(a) Type S streams that are designated "shorelines of the State:" 250 feet.

(b) Type F streams (fish bearing) streams greater than 5 feet wide and marine shorelines: 200 feet.

(c) Type F streams less than 5 feet wide and lakes: 150 feet.

(d) Type N (nonsalmonid-bearing) perennial and seasonal streams with unstable slopes: 225 feet.

(e) All other Type N (nonsalmonid-bearing) perennial and seasonal streams: 150 feet.

2. The riparian habitat zone shall be delineated on the site plan by the applicant at the time of application for subdivision approval or floodplain development permit for all development proposals within 300 feet of any stream or shoreline.

D. Channel Migration Area:

1. The channel migration area shall be the channel migration zone as delineated plus 50 feet.

2. Where more than one channel migration zone has been delineated, the floodplain administrator shall use the delineation that has been adopted for other local regulatory purposes.

3. Where a channel migration zone has not yet been mapped, the provisions of TMC Section 18.38.120(E) shall apply at the time of permit application.

#### **18.38.120 New Regulatory Data.**

A. All requests to revise or change the flood hazard data, including requests for a Letter of Map Revision and a Conditional Letter of Map Revision shall be reviewed by the floodplain administrator.

1. The floodplain administrator shall not sign the Community Acknowledgement Form for any requests based on filling or other development, unless the applicant for the letter documents that such filling or development is in compliance with this chapter.

2. The floodplain administrator shall not approve a request to revise or change a floodway delineation until FEMA has issued a Conditional Letter of Map Revision that approves the change.

B. If an applicant disagrees with the regulatory data prescribed by this chapter, he/she may submit a detailed technical study needed to replace existing data with better data in accordance with FEMA mapping guidelines or Regional Guidance for Hydrologic and Hydraulic Studies in Support of the Model Ordinance for Floodplain Management under the National Flood Insurance Program and the Endangered Species Act FEMA Region X, 2010. If the data in question are shown on the published FIRM, the submittal must also include a request to FEMA for a Conditional Letter of Map Revision.

C. Where base flood elevation data are not available in accordance with TMC Sections 18.38.100, applicants for approval of new subdivisions and other proposed developments shall include such data with their permit applications.

D. Where floodway delineation is not available in accordance with TMC Section 18.38.100, the floodway will be designated to be one-half the distance of the mapped 100-year floodplain at any point, and the prohibition on floodway development adheres, unless a floodway study indicates otherwise. This provision applies to any floodplain development permit, including those for substantial improvements.

E. Where channel migration zone data are not available in accordance with TMC Section 18.38.110(D), the permit applicant shall either:

1. Designate the entire SFHA as the channel migration zone; or,
2. Identify the channel migration area in accordance with Regional Guidance for Hydrologic and Hydraulic Studies in Support of the Model Ordinance for Floodplain Management under the National Flood Insurance Program and the Endangered Species Act, FEMA Region X, 2012.

F. All new hydrologic and hydraulic flood studies conducted pursuant to this TMC Section 18.38.120 shall consider future conditions, and the cumulative effects from anticipated future land use changes, in accordance with Regional Guidance for Hydrologic and Hydraulic Studies in Support of the Model Ordinance for Floodplain Management under the National Flood Insurance Program and the Endangered Species Act, FEMA Region X, 2012.

G. The floodplain administrator shall use the most restrictive data available for the channel migration zone, floodways, future conditions, and riparian habitat areas.

**18.38.130 Establishment of Floodplain Development Permit.**

A floodplain development permit shall be obtained before construction or development begins within the Special Flood Hazard Area. The permit shall be for all development as set forth in TMC 18.38.070 *Definitions*.

**18.38.140 Floodplain Development Permit Application.**

Application for a floodplain development permit shall be made on forms furnished by the floodplain administrator and shall include, but are not limited to:

A. One or more site plans, drawn to scale, showing:

1. The nature, location, dimensions, and elevations of the property in question;

2. Names and location of all lakes, water bodies, waterways and drainage facilities within 300 feet of the site;

3. The elevations of the 10-, 50-, 100-, and 500-year floods, where such data are available;

4. The boundaries of the SFHA, floodway, riparian habitat zone, and channel migration area, delineated in accordance with TMC Sections 18.38.080 through 18.38.120;

5. The proposed drainage system including, but not limited to storm sewers, overland flow paths, detention facilities and roads;

6. Existing and proposed structures, fill, pavement and other impervious surfaces, and sites for storage of materials;

7. All wetlands;

8. Designated fish and wildlife habitat conservation areas, and habitat areas identified for conservation or protection under state or federal or local laws or regulations (e.g: Endangered Species Act, Magnuson-Stevens Fishery Conservation and Management Act, Growth Management Act, Shorelines Management Act, Priority Habitat and Species List); and

9. Existing native vegetation and proposed revegetation.

B. If the proposed project involves grading, excavation, or filling, the site plan shall include proposed post-development terrain at one foot contour intervals.

C. If the proposed project includes a new structure, substantial improvement, or repairs to a substantially damaged structure that will be elevated, the application shall include the Flood Protection Elevation for the building site and the proposed elevations of the following:

1. The top of bottom floor (including basement, crawlspace, or enclosure floor)
2. The top of the next higher floor
3. The bottom of the lowest horizontal structural member (in V Zones only)
4. The top of the slab of an attached garage
5. The lowest elevation of machinery or equipment servicing the structure
6. The lowest adjacent (finished) grade next to structure
7. The highest adjacent (finished) grade next to structure
8. The lowest adjacent grade at the lowest elevation of a deck or stairs, including structural support

D. If the proposed project includes a new structure, substantial improvement, or repairs to a substantially damaged nonresidential structure that will be dry floodproofed, the application shall include the FPE for the building site, the elevation in relation to the datum of the effective FIRM to which the structure will be dry floodproofed, and a certification by a registered professional engineer or licensed architect that the dry floodproofing methods meet the floodproofing criteria in TMC Section 18.38.270.

E. The proposed project must be designed and located so that new structural flood protection is not needed.

F. The application shall include a description of the extent to which a stream, lake, or other water body, including its shoreline, will be altered or relocated as a result of the proposed development.

1) Bank stabilization measures along salmonid-bearing streams, channel migration zones, and along estuarine and marine shorelines must be minimized to the maximum extent possible. If bank stabilization measures are necessary, bioengineered armoring of streambanks and shorelines must be used.

2) Channel Migration: No activity is allowed that limits the natural meandering pattern of the channel migration zone, however, natural channel migration patterns may be enhanced or restored.

G. The application shall include documentation that the applicant will apply for all necessary permits required by Federal, State, or local law. The application shall include written acknowledgment that the applicant understands that the final certification of use or certificate of occupancy will be issued only if the applicant provides copies of the required Federal, State, and local permits or letters stating that a permit is not required. The floodplain permit is not valid if

those other permits and approvals are not obtained prior to any ground disturbing work or structural improvements.

H. The application shall include acknowledgment by the applicant that representatives of any Federal, State or local unit of government with regulatory authority over the project are authorized to enter upon the property to inspect the development.

**18.38.150 Floodplain Development Permit Expiration.**

If there has been no start of construction, a floodplain development permit shall expire 180 days after the date of issuance. Where the applicant documents a need for an extension beyond this period due to conditions beyond the applicant's control, the floodplain administrator may authorize one or more extensions.

**18.38.160 Designation of the Floodplain Administrator.**

The floodplain administrator is hereby appointed to administer and implement this chapter by granting or denying floodplain development permit applications in accordance with its provisions. The Community Development Director, in accordance with 44 C.F.R. § 59.22(b)(1) may designate the "floodplain administrator" to be an agency (department), a full time staff person, a part time staff assignment, or a contractor to the community.

**18.38.170 Duties of the Floodplain Administrator.**

Duties of the floodplain administrator shall include, but not be limited to:

A. Review all floodplain development permits to determine that the permit requirements of this chapter have been satisfied.

B. Review all floodplain development permits to determine that all necessary permits have been obtained from those Federal, State, or local governmental agencies from which prior approval is required, including those local, State or Federal permits that may be required to assure compliance with the Endangered Species Act and/or other appropriate State or Federal laws.

C. Review all floodplain development permits to determine if the proposed development is located in the Protected Area. If located in the Protected Area, ensure that the provisions of TMC Sections 18.38.320 through 18.38.400 are met.

D. Ensure that all development activities within the Special Flood Hazard Area of the jurisdiction of the City of Tumwater meet the requirements of this chapter.

E. Inspect all development projects before, during and after construction to ensure compliance with all provisions of this chapter, including proper elevation of the structure.

F. Maintain for public inspection all records pertaining to the provisions of this chapter.

G. Submit reports to include the projects for which they issue floodplain development permits, including effects to flood storage, fish habitat, and all indirect effects of development and mitigation provided to FEMA as required for the National Flood Insurance Program.

H. Notify FEMA of any proposed amendments to this chapter.

I. Cooperate with State and Federal agencies to improve flood and other technical data and notify FEMA of any new data that would revise the FIRM.

### **18.38.180 Records.**

A. Where base flood elevation data have been obtained pursuant to TMC Sections 18.38.100 and 18.38.120, the floodplain administrator shall obtain, record, and maintain the actual “finished construction” elevations for the locations listed in TMC Section 18.38.140(C). This information shall be recorded on a current FEMA Elevation Certificate (FEMA Form 81-31), signed and sealed by a professional land surveyor, currently licensed in the State of Washington.

B. For all new or substantially improved dry floodproofed nonresidential structures, where base flood elevation data has been obtained pursuant to TMC Sections 18.38.100 and 18.38.120, the floodplain administrator shall obtain, record and maintain the elevation (in relation to the datum of the effective FIRM) to which the structure was floodproofed. This information shall be recorded on a current FEMA Floodproofing Certificate (FEMA Form 81-65) by a professional engineer currently licensed in the State of Washington.

### **18.38.190 Certificate of Occupancy.**

A. A certification of use for the property or a certificate of occupancy for a new or substantially improved structure or an addition shall not be issued until:

1. The permit applicant provides a properly completed, signed and sealed Elevation or Floodproofing Certificate showing finished construction data as required by TMC Section 18.38.180;

2. If a mitigation plan is required by TMC Sections 18.38.380 and 18.38.390, all work identified in the plan has been completed according to the plan’s schedule;

3. The applicant provides copies of all required Federal, State, and local permits noted in the permit application per TMC 18.38.140(F);

4. All other provisions of this chapter have been met.

B. The floodplain administrator may accept a performance bond or other security that will ensure that unfinished portions of the project will be completed after the certification of use or certificate of occupancy has been issued.

### **18.38.200 Variances.**

A. In reviewing applications for a variance, the hearings examiner shall consider all technical evaluations, all relevant factors, standards specified in other sections of this chapter, and:

1. The danger to life and property due to flooding or erosion damage;
2. The danger that materials may be swept onto other lands to the injury of others;
3. The safety of access to the property in times of flood for ordinary and emergency vehicles;
4. The expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site;
5. The susceptibility of the proposed facility and its contents to flood or erosion damage and the effect of such damage on the individual owner;
6. The availability of alternative locations for the proposed use which are not subject to flooding or channel migration and are not in designated fish and wildlife habitat conservation areas;
7. The relationship of the proposed use to the comprehensive plan, growth management regulations, critical area regulations, the shoreline management program, and floodplain management program for that area;
8. The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, and streets and bridges;
9. The potential of the proposed development project to destroy or adversely affect a fish and wildlife habitat conservation area or create an adverse effect to federal, state or locally protected species or habitat; and
10. The potential of the proposed development project to affect, or be affected by, channel migration; and
12. Is the minimum necessary to grant relief; and
13. Must be compliant with the ESA.

B. No variance shall be granted to the requirements of this chapter unless the applicant demonstrates that:

1. The development project cannot be located outside the Special Flood Hazard Area;
2. An exceptional hardship would result if the variance were not granted;
3. The relief requested is the minimum necessary;
4. The applicant's circumstances are unique and do not represent a problem faced by other area properties;
5. If the project is within a designated floodway, no increase in flood levels during the base flood discharge would result;
6. The project will not adversely affect features or quality of habitat supporting local, state or federally protected fish or wildlife;

7. There will be no additional threat to public health, safety, beneficial stream or water uses and functions, or creation of a nuisance;

8. There will be no additional public expense for flood protection, lost environmental functions, rescue or relief operations, policing, or repairs to streambeds, shorelines, banks, roads, utilities, or other public facilities; and

9. All requirements of other permitting agencies will still be met.

C. Variances requested in connection with restoration of a historic site, building or structure may be granted using criteria more permissive than the above requirements, provided:

1. The repair or rehabilitation is the minimum necessary to preserve the historic character and design of the site, building or structure; and

2. The repair or rehabilitation will not result in the site, building or structure losing its historic designation.

D. Variances may be requested for new construction, substantial improvements, and other development necessary for the conduct of functionally dependent uses provided:

1. There is good and sufficient cause for providing relief;

2. The variance is the minimum necessary to provide relief;

3. The variance does not cause a rise in the 100 year flood level within the regulatory floodway;

4. The project will not adversely affect federal, state or locally protected fish, wildlife and their habitat or the functions associated with their habitat.

E. Variances to the provisions of TMC Sections 18.38.250 through 18.38.310 of this chapter may be issued for a structure on a small or irregularly shaped lot contiguous to and surrounded by lots with existing structures constructed below the FPE, providing the other variance criteria are met. The applicant for such a variance shall be notified, in writing, that the structure (i) will be subject to increased premium rates for flood insurance up to amounts as high as \$25 for \$100 of insurance coverage and (ii) such construction below the FPE increases risks to life and property. Such notification shall be maintained with a record of all variance actions.

F. Variances pertain to a physical piece of property. They are not personal in nature and are not based on the inhabitants or their health, economic, or financial circumstances.

### **18.38.210 Subdivisions.**

This section applies to all subdivision proposals, short subdivisions, short plats, planned developments, and new and expansions to manufactured housing parks.

A. All proposals shall be consistent with the need to minimize flood damage.

B. The proposed subdivision must have one or more new lots in the Special Flood Hazard Area set aside for open space use through deed restriction, easement, subdivision covenant, or donation to a public agency.

1. In the Special Flood Hazard Area outside the Protected Area, zoning must maintain a low density of floodplain development.

2. In the Special Flood Hazard Area outside the protected area in which the current zoning is less than 5 acres must maintain the current zoning.

3. The density of the development in the portion of the development outside the Special Flood Hazard Area may be increased to compensate for the amount of land in the Special Flood Hazard Area preserved as open space in accordance with TMC Title 18.

C. If a parcel has a buildable site outside the Special Flood Hazard Area, it shall not be subdivided to create a new lot, tract, or parcel within a binding site plan that does not have a buildable site outside the Special Flood Hazard Area. This provision does not apply to lots set aside from development and preserved as open space.

D. All proposals shall have utilities and facilities, such as sewer, gas, electrical, and water systems located and constructed to minimize or eliminate flood damage.

E. All proposals shall ensure that all subdivisions have at least one access road connected to land outside the Special Flood Hazard Area with the surface of the road at or above the FPE wherever possible.

F. All proposals shall have adequate drainage provided to avoid exposure to water damage.

G. The final recorded subdivision plat shall include a notice that part of the property is in the SFHA, riparian habitat zone and/or channel migration area, as appropriate.

### **18.38.220 Site Design.**

A. Structures and other development shall be located to avoid flood damage.

1. If a lot has a buildable site out of the Special Flood Hazard Area, all new structures shall be located in that area, when possible.

2. If a lot does not have a buildable site out of the Special Flood Hazard Area, all new structures, pavement, and other development must be sited in the location that has the least impact on habitat by locating the structures as far from the water body as possible or placing the structures on the highest land on the lot.

3. A minimum setback of 15 feet from the Protected Area shall be required for all structures.

4. If the proposed project does not meet the criteria of TMC Sections

18.38.220(A) and 18.38.220(B), a habitat impact assessment shall be conducted pursuant to TMC Section 18.38.380 and, if necessary, a habitat mitigation plan shall be prepared and implemented pursuant to TMC Section 18.38.390.

B. All new development shall be designed and located to minimize the impact on flood flows, flood storage, water quality, and habitat.

1. Stormwater and drainage features shall incorporate low impact development techniques, if technically feasible, that mimic pre-development hydrologic conditions, such as stormwater infiltration, rain gardens, grass swales, filter strips, disconnected impervious areas, permeable pavement, and vegetative roof systems.

2. If the proposed project will create new impervious surfaces so that more than 10 percent of the portion of the lot in the Special Flood Hazard Area is covered by impervious surface, the applicant shall demonstrate that there will be no net increase in the rate and volume of the stormwater surface runoff that leaves the site or that the adverse impact is mitigated, as provided by TMC Sections 18.38.380 and 18.38.390.

C. The site plan required in TMC Section 18.38.140 shall account for surface drainage to ensure that:

1. Existing and new buildings on the site will be protected from stormwater runoff; and,

2. The project will not divert or increase surface water runoff onto neighboring properties.

#### **18.38.230 Hazardous Materials.**

A. No new development shall create a threat to public health, public safety, or water quality. Chemicals, explosives, gasoline, propane, buoyant materials, animal wastes, fertilizers, flammable liquids, pollutants, or other materials that are hazardous, toxic, or a threat to water quality are prohibited from the Special Flood Hazard Area. This prohibition does not apply to small quantities of these materials kept for normal household use. This prohibition does not apply to the continued operations of existing facilities and structures, reuse of existing facilities and structures, or functionally dependent facilities or structures.

B. If the proposed project will cannot meet TMC Section 18.38.230(A) of this chapter then a habitat assessment must be conducted in accordance with TMC Sections 18.38.380 and 18.38.390.

#### **18.38.240 Critical Facilities.**

A. Construction of new critical facilities shall be, to the extent possible, located outside the limits of the Special Flood Hazard Area.

B. Construction of new critical facilities in the Special Flood Hazard Area shall be permissible if no feasible alternative site is available, provided

1. Critical facilities shall have the lowest floor elevated three feet

above the base flood elevation or to the height of the 500-year flood, whichever is higher. If there is no available data on the 500-year flood, the permit applicants shall develop the needed data in accordance with FEMA mapping guidelines.

2. Access to and from the critical facility shall be protected to the elevation of the 500-year flood.

### **18.38.250 Standards for Protection of Structures.**

The provisions of this Section shall apply in the Special Flood Hazard Area. All new structures and substantial improvements shall be protected from flood damage below the Flood Protection Elevation. This section's protection requirement applies to all new structures and substantial improvements, which include:

- A. Construction or placement of a new structure.
- B. Reconstruction, rehabilitation, or other improvement that will result in a substantially improved building.
- C. Repairs to an existing building that has been substantially damaged.
- D. Placing a manufactured home on a site.
- E. Placing a recreational vehicle or travel trailer on a site for more than 180 days.

### **18.38.260 Flood Protection Standards.**

A. All new structures and substantial improvements shall have the lowest floor, including basement, elevated above the FPE.

B. The structure shall be aligned parallel with the direction of flood flows where practicable.

C. The structure shall be anchored to prevent flotation, collapse, or lateral movement of the structure.

D. All materials below the FPE shall be resistant to flood damage and firmly anchored to prevent flotation. Materials harmful to aquatic wildlife, such as creosote, are prohibited below the FPE.

E. Electrical, heating, ventilation, duct work, plumbing, and air-conditioning equipment and other service facilities shall be elevated above the FPE. Water, sewage, electrical, and other utility lines below the FPE shall be constructed so as to prevent water from entering or accumulating within them during conditions of flooding.

F. Fully enclosed areas below the lowest floor that are subject to flooding shall be used only for parking, storage, or building access and shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement shall either be certified by a registered professional engineer or licensed architect and/or meet or exceed the following minimum criteria:

- 1. A minimum of two openings having a total net area of not less than

one square inch for every square foot of enclosed area subject to flooding shall be provided.

2. The bottom of all openings shall be no higher than one foot above grade.

3. Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

G. In Zones V, V1-30 and VE, new structures and substantial improvements shall be elevated on pilings or columns so that:

1. The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated above the FPE.

2. The pile or column foundation and structure attached thereto is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components. Wind and water loading values shall each have a one percent chance of being equaled or exceeded in any given year (100-year mean recurrence interval).

3. The areas below the lowest floor that are subject to flooding shall be free of obstruction.

4. The structure or improvement shall be located landward of the reach of mean high tide.

5. The use of fill for structural support of a structure or addition is prohibited.

6. A registered professional engineer or architect shall develop or review the structural design, specifications and plans for the construction, and shall certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting these provisions.

#### **18.38.270 Nonresidential Construction.**

New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall be elevated in accordance with TMC Section 18.38.260. As an alternative to elevation, a new or substantial improvement to a nonresidential structure and its attendant utility and sanitary facilities, may be dry floodproofed in A Zones. The project must meet the following:

A. The structure is not located in Zones V, V1-30, or VE; and

B. Below the FPE the structure is watertight with walls substantially impermeable to the passage of water; and

C. The structural components are capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and

D. The plans are certified by a registered professional engineer or licensed architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their development and/or review of the structural design, specifications and plans.

Such certifications shall be provided to the floodplain administrator as set forth in TMC Sections 18.38.180(B) and 18.38.190(A)(1).

**18.38.280 Manufactured Homes.**

All manufactured homes to be placed or substantially improved on sites shall be:

A. Elevated on a permanent foundation in accordance with TMC Section 18.38.260, and

B. Securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement. Methods of anchoring may include, but are not to be limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to other applicable anchoring requirements for resisting wind forces.

**18.38.290 Recreational Vehicles.**

Recreational vehicles placed on sites shall:

A. Be on the site for fewer than 180 consecutive days, or

B. Be fully licensed and ready for highway use, on their wheels or jacking system, attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions; or

C. Meet the requirements of TMC Section 18.38.280 above.

**18.38.300 Appurtenant Structures.**

A structure which is on the same parcel of property as the principle structure and the use of which is incidental to the use of the principle structure and is not used for human habitation may be exempt from the elevation requirement of TMC Section 18.38.260(A), provided:

A. It is used only for parking or storage; and,

B. It is constructed and placed on the building site so as to offer minimum resistance to the flow of floodwaters; and,

C. It is anchored to prevent flotation which may result in damage to other structures; and,

D. All portions of the structure below the FPE must be constructed of flood-resistant materials; and,

E. Service utilities such as electrical and heating equipment meet the standards of TMC Sections 18.38.260(E) and 18.38.310; and,

F. It has openings to allow free flowage of water that meet the criteria in TMC 18.38.260(F); and,

G. The project meets all the other requirements of this chapter, including TMC Sections 18.38.320 through 18.38.400.

**18.38.310 Utilities.**

A. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems;

B. Water wells shall be located outside the floodway and shall be protected to the FPE;

C. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters;

D. Onsite waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding. A habitat impact assessment shall be conducted in accordance with TMC Section 18.38.380 as a condition of approval of an onsite waste disposal system to be located in the Special Flood Hazard Area.

**18.38.320 Non-Development Activities.**

Activities that do not meet the definition of “development” are allowed in the Special Flood Hazard Area without the need for a floodplain development permit under this chapter, provided all other Federal, State, and local requirements are met. The following are examples of activities not considered development or “man-made changes to improved or unimproved real estate.”

A. Routine maintenance of landscaping that does not involve grading, excavation, or filling;

B. Removal of noxious weeds and hazard trees and replacement of non-native vegetation with native vegetation;

C. Normal maintenance of structures, such as re-roofing and replacing siding, provided such work does not qualify as a substantial improvement;

D. Normal maintenance of above ground utilities and facilities, such as replacing downed power lines and utility poles;

E. Normal street and road maintenance, including filling potholes, repaving, and installing signs and traffic signals, but not including expansion of paved areas.

F. Normal maintenance of a levee or other flood control facility prescribed in the operations and maintenance plan for the levee or flood control facility are allowed in the Special Flood Hazard Area without need for a floodplain development permit. Normal maintenance does not include repair from flood damage, expansion of the prism, expansion of the face or toe or addition for protection on the face or toe with rock armor; and

G. Plowing and other normal farm practices (other than structures or filling) on farms in the Special Flood Hazard Area and in existence as of the effective date of this chapter do not require a floodplain development permit. Clearing additional land for agriculture after the date of this chapter will require a flood plain development permit.

**18.38.330 Activities Allowed With a Floodplain Permit.**

The following activities are allowed in the Special Flood Hazard Area without the analysis required in TMC Section 18.38.360 or the habitat impact assessment required under TMC Section 18.38.380, providing all other requirements of this chapter are met, including obtaining a floodplain development permit:

A. Repairs or remodeling of an existing structure, provided that the repairs or remodeling are not a substantial improvement or a repair of substantial damage.

B. Expansion of an existing structure that is no greater than ten percent beyond its existing footprint, provided that the repairs or remodeling are not a substantial improvement or a repair of substantial damage. This measurement is counted cumulatively from the effective date of this chapter, or September 22, 2011, whichever is earlier. If the structure is in the floodway, there shall be no change in the dimensions perpendicular to flow.

C. Activities with the sole purpose of creating, restoring or enhancing natural functions associated with floodplains, streams, lakes, estuaries, marine areas, habitat, and riparian areas that meet Federal and State standards, provided the activities do not include structures, grading, fill, or impervious surfaces.

D. Development of open space and recreational facilities, such as parks, trails, and hunting grounds, that do not include structures, fill, impervious surfaces or removal of more than 5% of the native vegetation on that portion of the property in the Special Flood Hazard Area.

E. Repair to onsite Septic Systems provided the ground disturbance is the minimal necessary.

**18.38.340 Other Activities.**

All other activities not listed in TMC Sections 18.38.320 and 18.38.330 that are allowed by the underlying zoning are allowed, provided they meet all the other requirements of this chapter, including the analysis required in TMC Section 18.38.360 and the habitat impact assessment required under TMC Section 18.38.380, and a floodplain development permit is issued.

**18.38.350 Native Vegetation.**

The site plan required in TMC Section 18.38.140 shall show existing native vegetation.

A. In the riparian habitat zone, native vegetation shall be left undisturbed, except as provided in TMC Sections 18.38.320 and 18.38.330(C).

B. Outside the riparian habitat zone, removal of native vegetation shall not exceed 35 percent of the surface area of the portion of the site in the Special Flood Hazard Area. Native vegetation in the riparian habitat zone portion of the property can be counted toward this requirement.

C. If the proposed project does not meet the criteria of TMC Sections 18.38.350(A) and 18.38.350(B), a habitat impact assessment shall be conducted pursuant to TMC Section 18.38.380 and, if necessary, a habitat mitigation plan shall be prepared and implemented pursuant to TMC 18.38.390.

**18.38.360 Floodway Standards.**

A. In addition to the other requirements of this chapter, a project to develop in the floodway as delineated pursuant to TMC Sections 18.38.100(E), 18.38.100(F), or 18.38.120(D) shall meet the following criteria:

1. The applicant shall provide a certification by a registered professional engineer demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed development would not result in any increase in flood levels during the occurrence of the base flood discharge.

2. Construction or reconstruction of residential structures is prohibited within designated floodways, except for the following. The following exceptions must still meet all other requirements in the chapter, including TMC Section 18.38.360(A)(1).

(a) Repairs, reconstruction, or improvements to a residential structure that do not increase the ground floor area, providing the cost of which does not exceed 50 percent of the market value of the structure either,

(i) before the repair, or reconstruction is started, or

(ii) if the structure has been damaged, and is being restored, before the damage occurred. Any project for improvement of a structure to correct existing violations of State or local health, sanitary, or safety code specifications that have been identified by a local code enforcement official, and which are the minimum necessary to assure safe living conditions, or to an historic structure, may be excluded from the 50 percent calculations.

(b) Repairs, replacement, reconstruction, or improvements to existing farmhouses located in designated floodways and located on designated agricultural lands that do not increase the building's total square footage of encroachment and are consistent with all requirements of WAC 173-158-075;

(c) Repairs, replacement, reconstruction, or improvements to substantially damaged residential dwellings other than farmhouses that do not increase the building's total square footage of encroachment and are consistent with all requirements of WAC 173-158-076; or

(d) Repairs, reconstruction, or improvements to residential structures identified as historic structures that do not increase the building's dimensions.

B. In riverine Special Flood Hazard Areas where a floodway has not been delineated pursuant to TMC Sections 18.38.100(E), 18.38.100(F), or 18.38.120(D), the applicant for a project to develop in the SFHA shall provide a certification by a registered professional engineer demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed development and all other past or future similar developments would not cumulatively result in an increase of flood levels during the occurrence of the base flood discharge by more than one (1) foot.

**18.38.370 Compensatory Storage.**

New development shall not reduce the effective flood storage volume of the Special Flood Hazard Area. A development proposal shall provide compensatory storage if grading or other activity eliminates any effective flood storage volume. Compensatory storage shall:

A. Provide equivalent volume at equivalent elevations to that being displaced. For this purpose, “equivalent elevation” means having similar relationship to ordinary high water and to the best available 10-year, 50-year and 100-year water surface profiles;

B. Be hydraulically connected to the source of flooding; and

C. Provide compensatory storage in the same construction season as when the displacement of flood storage volume occurs and before the flood season begins.

D. The newly created storage area shall be graded and vegetated to allow fish access during flood events without creating fish stranding sites.

**18.38.380 Habitat Impact Assessment.**

Unless allowed under TMC Sections 18.38.320 and 18.38.330, a permit application to develop in the Special Flood Hazard Area shall include an assessment of the impact of the project on federal, state or locally protected species and habitat, water quality and aquatic and riparian habitat. The assessment shall be:

A. A Biological Evaluation or Biological Assessment developed per 50 C.F.R. § 402.12 to initiate Federal Interagency consultation under Endangered Species Act section 7(a)(2); or

B. Documentation that the activity fits within Section 4(d) of the Endangered Species Act; or

C. Documentation that the activity fits within a Habitat Conservation Plan approved pursuant to Section 10 of the Endangered Species Act, where any such assessment has been prepared or is otherwise made available; or

D. An assessment prepared in accordance with Regional Guidance for Floodplain Habitat Assessment and Mitigation, FEMA Region X, 2013. The assessment shall determine if the project would adversely affect:

1. Species that are Federal, state or local listed as threatened or

Endangered.

2. The primary constituent elements for critical habitat, when designated, including but not limited to water quality, water quantity, flood volumes, flood velocities, spawning substrate, and/or floodplain refugia for listed salmonids.

3. Essential Fish Habitat designated by the National Marine Fisheries Service.

4. Fish and wildlife habitat conservation areas.

5. Other protected areas and elements necessary for species conservation.

### **18.38.390 Habitat Mitigation Plan.**

A. If the assessment conducted under TMC Section 18.38.380 concludes the project is expected to have an adverse effect on water quality and/or aquatic or riparian habitat or habitat functions, the applicant shall provide a plan to mitigate those impacts, in accordance with Regional Guidance for Floodplain Habitat Assessment and Mitigation, FEMA Region X, 2013.

1. If the USFWS or NMFS issues an Incidental Take Permit under Section 10 of the ESA or a Biological Opinion under Section 7 of the ESA; then it can be considered to qualify as a plan to mitigate those impacts.

2. If the project is located in the Protected Area, the mitigation plan shall stipulate avoidance measures as are needed to ensure that there is no adverse effect during any phase of the project. No compensatory mitigation is allowed in the Protected Area.

3. If the project is located outside the Protected Area, the mitigation plan shall include such avoidance, minimization, restoration, or compensation measures so that indirect adverse effects of development in the floodplain are mitigated such that equivalent or better habitat protection is provided for the following functions:

(a) Stormwater: Reduce flood volumes and stormwater runoff from new development by ensuring that increased volumes of stormwater reach the river at the same frequency, timing and duration as historical runoff. LID is required to be incorporated as described in TMC Section 18.38.220(B) above.

(b) Riparian vegetation: maintain or replace riparian function by providing equivalent area, diversity, and function of riparian vegetation as currently exists on the site. Riparian retention requirements as outlined in TMC 18.38.350.

(c) Hyporheic zones: No activity is allowed that interferes

with the natural exchange of flow between surface water, groundwater, and hyporheic zone, however, natural hyporheic exchange may be enhanced or restored.

(d) Wetlands: Wetland function must be maintained or replaced by providing equivalent function.

(e) Large woody debris: Any large woody debris (LWD) removed from the floodplain must be replaced in kind, replicating or improving the quantity, size, and species of the existing LWD. 4. No new stream crossings are allowed outside the Protected Area unless approval has been obtained as stated in TMC Section 18.38.390(A)(1).

B. The plan's habitat mitigation activities shall be incorporated into the proposed project. The floodplain development permit shall be based on the redesigned project and its mitigation components.

C. As required in TMC Section 18.38.190, the floodplain administrator shall not issue a certification of use or a certificate of occupancy until all work identified in the Habitat Assessment and mitigation plan has been completed or the applicant has provided the necessary assurance that unfinished portions of the project will be completed, in accordance with TMC Section 18.38.190(B).

#### **18.38.400 Alteration of Watercourses.**

A. In addition to the other requirements in TMC Sections 18.38.320 through 18.38.400, an applicant for a project that will alter or relocate a watercourse shall also submit a request for a Conditional Letter of Map Revision (CLOMR), where required by FEMA. The project will not be approved unless FEMA issues the CLOMR (which requires ESA consultation) and the provisions of the letter are made part of the permit requirements.

B. The floodplain administrator shall notify adjacent communities and the Washington Department of Ecology prior to any alteration or relocation of a watercourse, and submit evidence of such notification to FEMA.

C. Maintenance shall be provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished. If the maintenance program does not call for cutting of native vegetation, the system shall be oversized at the time of construction to compensate for said vegetation growth or any other natural factor that may need future maintenance.

**Section 2. Corrections.** The City Clerk and codifiers of this ordinance are authorized to make necessary corrections to this ordinance including, but not limited to, the correction of scrivener/clerical errors, references, ordinance numbering, section/subsection numbers and any references thereto.

**Section 3. Ratification.** Any act consistent with the authority and prior to the effective date of this ordinance is hereby ratified and affirmed.

**Section 4. Severability.** The provisions of this ordinance are declared separate and severable. The invalidity of any clause, sentence, paragraph, subdivision, section, or portion of this ordinance or the invalidity of the application thereof to any person or circumstance, shall not affect the validity of the remainder of the ordinance, or the validity of its application to other persons or circumstances.

**Section 5. Effective Date.** This Ordinance shall become effective thirty days after passage, approval and publication as provided by law.

ADOPTED this 2<sup>nd</sup> day of February, 2016.

CITY OF TUMWATER



Pete Kmet, Mayor

ATTEST:

  
Melody Valiant, City Clerk

APPROVED AS TO FORM:

  
Karen Kirkpatrick, City Attorney

Published: 02-04-2016

Effective Date: 03-05-2016