FLOOD HAZARD PERMIT
SUBMITTAL REQUIREMENTS

CITY OF ISSAQUAH

These instructions include the following attachments:

- Attachment A - FEMA/ESA Habitat Assessment Instructions
- Attachment B - Issaquah Municipal Code Chapter 16.36 – Areas of Special Flood Hazard

The following forms that will be required for a permit submittal are available on the Development Services Department webpage:

- Flood Hazard Permit Application
- FEMA/ESA Habitat Assessment Checklist
- Covenant Not to Sue Form
- FEMA Elevation Certificate and Instructions (required after start of construction)

A. General Requirements

1. No land within the areas of special flood hazard shall hereafter be subdivided or short subdivided, improved, filled, graded or cleared; nor shall any structure, including manufactured homes, be constructed, reconstructed, substantially improved, relocated, or erected on such lands unless the person(s) responsible for such improvements shall first obtain a Flood Hazard Permit for such action in accord with the provisions of Issaquah Municipal Code Chapters 16.36.
2. The areas of flood hazard include those identified on the latest version of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), or subsequent floodplain information prepared by the City to show updated flood hazard information, or on site-specific studies if required for development application purposes. Publicly available flood hazard information is available from the Permit Center and Public Works Engineering.
3. A Habitat Assessment report is required as part of project permitting to help project proponents and government agencies identify and address potential impacts of a proposed *development* on *protected areas* that could potentially adversely affect habitat functions for species listed under the Endangered Species Act (ESA). For the purposes of this assessment, "ESA listed species" include any species listed as endangered, threatened, or being considered for listing, and have been documented to be present in streams near and adjacent to the project site. Refer to Attachments A and B for more information.

B. Required Analysis Methods

1. When analysis is required. Projects that displace floodwaters require an engineer's certification that compensatory storage and no reduction in floodway conveyance will result. Examples of projects exempt from the compensatory storage and conveyance certification analysis requirement include, but are not limited to:
    - Projects in the floodplain that do not involve any activity below the base flood elevation, such as a second story addition (an elevation certificate may still be required, however).
    - Activities that do not involve recontouring of ground or new fill, such as an on-grade driveway.

- New or improved structures in the flood fringe (i.e., away from flowing flood water), where no fill is proposed and adequate foundation openings are provided.
- New or improved structures constructed on flow-through foundations or pilings where no fill is proposed.

The City will verify that the exemption is valid before a permit is issued.

2. Compensatory Storage Required. Development proposals shall not reduce the effective base flood storage volume of the floodplain. Grading or other activity which would reduce the effective storage volume must be mitigated by creating compensatory storage either on-site, or approved adjacent off-site location. The compensatory storage must be hydraulically connected to the source of floodwaters and excavated at an elevation at or below the elevation of the filled storage that is being compensated.
3. No Reduction in Floodplain Conveyance. Development proposals shall not reduce the hydraulic capability of the floodplain on-site to convey floodwaters through the property during the base flood event. No rise in base flood elevations is allowed on adjacent properties. Providing this compensatory conveyance capacity can be done in conjunction with the compensatory storage, either on-site or off-site.
4. Floodplain Hydraulic Study. Compliance with the compensatory storage, compensatory conveyance requirements, and other requirements of Chapter 18.10.530 and Chapter 16.36 IMC shall be documented in a floodplain hydraulic study prepared by a licensed civil engineer registered in the state of Washington. The following methods shall be used to assess impacts and required mitigation:
    a. Base flood information, including flood magnitudes, shall be consistent with the latest Flood Insurance Study, or with subsequent reports and data furnished to the applicant by the City. The applicant should verify these assumptions, and whether hydraulic models that represent the current base flood mapping are available, with the Public Works Department.
    b. The floodplain hydraulic study shall include site topographic mapping, plans and specifications for proposed grading and structures, surveyed cross-section data and graphs, flood profiles, model input and output data, and any other information necessary to document modeling assumptions, conditions and conclusions. If requested, floodplain study submittals shall be accompanied by electronic copies of floodplain models and topographic maps.
    c. Acceptable modeling methodologies for calculating floodplain conveyance impacts and mitigation are described in Table 1. Alternative methods may be approved by the City.

Table 1. Acceptable Modeling Methodologies

Activity	Modeling Methodology
1) No impact: All activities not causing obstruction of floodwaters or fill, such as vegetation removal or planting, building improvements that do not increase footprint, maintenance to restore an original permitted condition, etc.	No modeling required.
2) Minor grading or structures: Under 10 feet of obstruction width or less than 2 feet of fill, not to exceed 100 square feet of total obstruction under base flood.	Hand-computed conveyance (K) calculation assuming no change in water surface elevation and using appropriate Mannings “n” value.
3) Major grading or structure: Activities that do not meet the definitions of 1) or 2).	Step-backwater computer model such as HEC-2 or HEC-RAS

C. Document and Plans Submittal

The following documents and plans shall be provided by the applicant at the time the permit application is filed with the City:

1. A complete legal description of the property; parcel number, lot number(s) and name of platted subdivision; or the tax lot number assigned by the County Assessor's Office, together with the Section, Township and Range Number.
2. A topographic survey of the property prepared by a licensed surveyor, with sufficient scale (1"=20') and contour interval (2') to adequately assess variations in the ground surface, and based on the City of Issaquah datum (NAVD88).
3. Compensatory Storage and Floodplain Conveyance Design. The grading plan shall identify description, location and volume of compensatory storage provided, and features of floodplain conveyance facilities. Calculations and analysis methods shall be documented, as required in Section B (above), in the floodplain hydraulic study prepared by a licensed civil engineer registered in the state of Washington
4. A design of site stormwater drainage in compliance with Chapter 13.28 IMC (if required).
5. Habitat Assessment (see Attachments A and B – City of Issaquah ESA Habitat Assessment Checklist and Guidance).
6. Two sets of plans, profiles, sections or sketches, drawn clearly and legibly, showing pertinent distances, dimensions, contours, elevations and details.
7. Permit application.

D. Elevation Certificate

1. A preliminary elevation certificate shall be completed and submitted to the City at the time of first floor construction.
2. A final elevation certificate shall be submitted at completion of construction.
3. Elevation certificates shall be completed by or under the supervision of a Washington State Registered Professional Surveyor. Per state law, and licensed engineer cannot sign an elevation certificate.
4. The City shall approve preliminary and final elevation certificates. No acceptance or occupancy shall be granted prior to submittal of the as-built elevation certification.

E. Other Permits

The City's approval of this application and permit does not grant approval for drainage work, grading or crossings that may affect streams or wetlands. Contact the City for more information on other permits that may be required for the project.

F. Review and Approval

1. Your application when completed on the forms provided by the City, together with required materials describe above, will be reviewed by the Designated Official, and, when appropriate and necessary, by other public agency officials, engineers, and persons. Their recommendations will be forwarded to the Designated who will examine, approve or reject drawings, plans, sketches or floodplain analyses for any proposed improvement.

The approved application, together with the "Covenant Not to Sue", letter of permit provisions, and approved plans will represent the permit.

ATTACHMENT A
FEMA/ESA HABITAT ASSESSMENT INSTRUCTIONS

CITY OF ISSAQUAH

Purpose of Habitat Assessment

A Habitat Assessment report is required as part of project permitting to help project proponents and government agencies identify and address potential impacts of a proposed *development* on *protected areas* that could potentially adversely affect habitat functions for species listed under the Endangered Species Act (ESA). For the purposes of this assessment, "ESA listed species" include any species listed as endangered, threatened, or being considered for listing, and have been documented to be present in streams near and adjacent to the project site.

This assessment is required by FEMA Region X for all floodplain development projects. See http://www.fema.gov/about/regions/regionx/nfipesa.shtm for additional information. Habitat Assessments shall be submitted with all Flood Hazard Permit applications, even if exempt (as defined below).

Key Definitions

Development: any man-made change to improved or unimproved real estate in the Regulatory Floodplain, 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.

Protected Area: land within the boundaries of the floodplain, the riparian buffer zone (RBZ), 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.

Riparian Buffer Zone (RBZ): a non-disturbance buffer, other than for activities that will not adversely affect habitat function. Only those actions that would not Adversely Affect habitat functions for threatened and endangered species are allowed in the RBZ. The RBZ is defined as the 250-foot buffer of any stream containing an ESA-listed species.

Special Flood Hazard Area: Areas designated on Flood Insurance Rate Maps as Zone AE or AO (i.e., 100-year floodplain).

When a Habitat Assessment is Required

Habitat Assessments are triggered when a Flood Hazard Permit is required, and with few exceptions includes all development projects located within the FEMA designated

100-year floodplain. If the proposed development extends beyond the 100-year floodplain boundary, review is expanded to include project activities within the RBZ.

Exemptions from Habitat Assessments

There are only two circumstances where a habitat assessment would not be required:

1) Projects that are listed as "Non-Development Activities" or "Activities Allowed" are exempt from conducting a habitat assessment (see below); and
2) Projects that have undergone Section 7 consultation under the ESA in order to obtain a federal permit or funding. If a permit application has prepared a Biological Evaluation or a Biological Assessment and has received concurrence from USFWS or NMFS, the project is deemed to comply with ESA.

Allowed Activities that Do Not Require a Habitat Assessment

Non-Development Activities

Activities allowed in the Regulatory Floodplain without the need for a floodplain development permit are:

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 public utilities and facilities, such as replacing downed power lines;
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; and
G. Plowing and other normal farm practices (other than structures or filling) on farms in existence as of the effective date of this ordinance

Activities Allowed With a Floodplain Permit

The following activities are allowed in the Regulatory Floodplain without a habitat impact assessment.

A. Repairs or remodeling of an existing structure, provided that the repairs or remodeling are not a substantial improvement
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 ordinance. 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, grading, fill, impervious surfaces or removal of more than 5% of the native vegetation on that portion of the property in the Regulatory Floodplain.

ATTACHMENT B
AREAS OF SPECIAL FLOOD HAZARD
ISSAQUAH MUNICIPAL CODE CHAPTER 16.36

(Ordinance 2420, adopted March 21, 2005)

Sections:

16.36.010 Findings.

The City Council finds that:

A. Certain areas within the corporate limits of the City, identified herein, are subject to periodic inundation which endangers life, property, health and safety, causes disruption of commerce and governmental services, and creates extraordinary public expenditures for flood protection and relief.

B. These flood losses are caused by the natural flow and ponding of floodwaters and the cumulative effect of obstructions in areas of special flood hazards, which increase flood depths and velocities. Buildings that are inadequately floodproofed, elevated or protected from flood damage or that otherwise encroach on the natural storage capacity of the floodplain increase the extent of flooding and the amount of flood damage.

C. These regulations are promulgated in order to promote the public health, safety and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed:

1. To protect life and property by preventing the unwise use of floodprone lands;

2. To minimize expenditure of public money and costly flood control projects;

3. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;

4. To minimize prolonged business interruptions;

5. To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in areas of special flood hazard;

6. To help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas;

7. To ensure that potential buyers, appraisers, assessors, and others are notified that property is in an area of special flood hazard;

8. To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions; and

9. To ensure that existing and new homes, businesses and public buildings will qualify for participation in the National Flood Insurance Program.

D. The purposes of this regulation will best be fulfilled by regulations and provisions for:

1. Restricting or prohibiting uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;

2. Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;

3. Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel floodwaters;

4. Controlling filling, grading, dredging and other development which may increase flood damage; and

5. Preventing or regulating the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards in other areas. (Ord. 2030 § 6, 1994; Ord. 1465 § 1, 1981).

16.36.020 Scope.

A. The provisions of this chapter shall apply to any lands and buildings thereon, whether existing or proposed, located within the areas of special flood hazard. These regulations shall apply to the construction, reconstruction, relocation, addition, or substantial improvement of such buildings, in conjunction with a building permit authorized under IMC 16.04, Construction Codes, which may include additional requirements for flood resistant construction under the International Building Code, the International Residential Code, and other applicable requirements, and to land altering activities involving placement or move of fill or other material that impede the movement and/or storage of floodwater. (Ord. 2030 § 6, 1994; Ord. 1827 § 1, 1989; Ord. 1465 § 2, 1981).

B. Exemptions. The following land altering activities within areas of special flood hazard are not considered to alter the movement and/or storage of floodwater and therefore are exempt from the provisions of this chapter:

1. Clearing of non-native vegetation and planting of City approved native vegetation at streamside restoration projects.

2. Temporary placement of sand bags for flood protection purposes, provided they are placed within 5 feet of structures being protected and not along property boundaries or stream banks. Temporary shall mean that sand bags are in place no longer than 6 months within any year. Discarded sand bags must be completely removed from Areas of Special Flood Hazard.

3. Replacement of rip rap protection at bridge footings, piers and abutments, removal of accumulated sediment from bridges and sedimentation facilities, removal of accumulated sediment from detention ponds and drainage ditches, and other maintenance actions intended to restore the original design dimensions and condition of a constructed facility.

4. Installation and maintenance of underground utilities, and maintenance of streets and other utilities, provided there is no net loss of flood storage capacity.

5. Naturally fallen trees and flood- or storm-deposited sediment and debris in or across the floodplain or floodway areas shall not be considered obstructions or fill for the purposes of this chapter.

16.36.030 Definitions.

Unless specifically defined in this section, words 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.

1. "Appeal" means a request for a review of the Designated Official's interpretation of any provision of this chapter or a request for a variance.

2. "Area of shallow flooding" means a designated AO or AH zone on the Flood Insurance Rate Map (FIRM). The base flood depths range from 1 to 3 feet, a clearly defined channel does not exist, the path of flooding is unpredictable and indeterminate, and velocity flow may be evident. (AO zones are characterized by sheet flow, and AH zones are indicative of ponding).

3. "Area of special flood hazard" means the land in the floodplain within the City subject to a 1 percent or greater chance of flooding in any given year. Designation on maps always includes the letters A or V.

4. "Base flood" means the flood having a 1 percent chance of being equaled or exceeded in any given year. Designation on maps always includes the letters A or V.

5. "Basement" means any area of the building having its floor subgrade (below ground level) on all sides.

6. "Critical facility" means a facility for which even a slight chance of flooding might be too great. Critical facilities include, but are not limited to, schools, nursing homes, hospitals, police, fire, and emergency response installations, installations which produce, use, or store hazardous materials or hazardous waste in manor that could result in a significant release during flooding conditions, and any structure classified as a group "E", "H" or "I" occupancy as defined by the International Building Code.

7. "Designated Official" means the City of Issaquah Director of Public Works or any duly authorized representative of such director. For the purposes of reviewing development proposals for building code compliance and elevation certificates, the Director authorizes the Building Official to administer the relevant portions of this Chapter.

8. "Development" means any manmade change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, installation of landscape berms and planters, storage of equipment or materials, excavation or drilling operations located within the area of special flood hazard.

9. "Flood Insurance Rate Map (FIRM)" means the official map on which the Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.

10. "Flood Insurance Study" means the official report provided by the Federal Emergency Management Agency that includes flood profiles, the Flood Boundary-Floodway Map, and the water surface elevation of the base flood.

11. "Flood or flooding" means a general and temporary condition of partial or complete inundation of normally dry land areas from:

a. The overflow of inland waters; and/or

b. The unusual and rapid accumulation of runoff of surface waters from any source.

12. "Floodplain management regulations" means the zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as a floodplain ordinance, grading ordinance and erosion control ordinance) and other applications of police power. The term describes such state or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

13. "Floodplain or flood-prone area" means a land area adjoining a river, stream, watercourse, or lake which is likely to be flooded.

14. “Floodproofing” means any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

15. “Flood wall” means any material, so constructed, piled, bermed or otherwise placed in an area of special flood hazard that diverts or displaces flood water for the purpose of protecting structures and/or property.

16. “Floodway” means the channel of a river 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 1 foot at any point.

17. “Fully enclosed area” means (a) an area where the net free openings in an exterior wall comprise less than 30 percent of the exposed wall under consideration. The exposed wall is the area within the boundaries described by the grade line, the vertical edges of the wall, and a horizontal line set at an elevation of 1 foot above the base flood elevation; or (b) any time the bottom edge of an opening, considered to be a portion of the net free opening area as described above, is located more than 1 foot above the grade line.

18. “Improvement” means any repair, reconstruction, or improvement of an existing structure.

19. “Lowest floor” means the lowest floor of the lowest enclosed area (including basement). 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 building’s lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable nonelevation design requirements of IMC 16.36.130.

20. “Manufactured home” means 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 connected to the required utilities. For floodplain management purposes the term “manufactured home” also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than 180 consecutive days. For insurance purposes the term “manufactured home” does not include park trailers, travel trailers and other similar vehicles.

21. “Manufactured home park or subdivision” means a parcel (or contiguous parcels) of land divided into 2 or more manufactured home lots for rent or sale.

22. “Map” means the Flood Hazard Boundary Map (FHBM) or the Flood Insurance Rate Map (FIRM) for a community issued by the Federal Emergency Management Agency.

23. “Mean sea level” means the average height of the sea for all stages of the tide.

24. “New construction” means new, complete residential or non-residential structures for which the start of construction is commenced on or after the effective date of the ordinance codified in this chapter. For the purposes of this Chapter building additions are termed improvements (see “substantial improvements”).

25. “100-year flood.” See “base flood”.

26. “Person” includes any individual or group of individuals, corporation, partnership, association, or any other entity, including state and local governments and agencies.

27. “Post-FIRM building” is a structure built after May 1, 1980 when the Flood Insurance Rate Maps (FIRMs) first became effective in the City of Issaquah and associated construction standards were adopted under Ord. 1422 (replaced in 1981 by Ord. 1465).

28. “Recreational vehicle” means a vehicle which is:

a. Built on a single chassis;

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

c. Designed to be self-propelled or permanently towable by a light duty truck; and

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

29. “Start of construction” includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, placement or other improvement was within 180 days of the building permit date. The actual start means 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 foundation or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure.

30. “Structure” means a walled and roofed building including a gas or liquid storage tank that is principally above ground.

31. “Substantial improvement” means any repair, reconstruction, or improvement of an existing structure, the cumulative cost of which since the year 1980 equals or exceeds 50 percent of the current fair market value of the structure either:

a. Before the proposed improvement or repair (construction) is started; or

b. If the structure has been damaged and is being restored, before the damage occurred. For the purposes of this definition, substantial improvement is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the structure commences, whether or not that alteration affects the external dimensions of the structure.

The term does not, however, include either:

a. Any project for improvement of a structure to correct existing violations with existing state or local health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions; or

b. Any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places.

32. “Variance” means a grant of relief from the requirements of this chapter which permits construction in a manner that would otherwise be prohibited by this chapter.

33. “Water dependent” means a structure for commerce or industry which cannot exist in any other location and is dependent on the water by reason of the intrinsic nature of its operations.

34. “Water surface elevation” means the projected heights in relation to mean sea level reached by floods of various magnitudes and frequencies in the floodplains of shoreline or riverine areas. (Ord. 2065 § 1, 1995; Ord. 2030 § 6, 1994; Ord. 1827 § 2, 1989; Ord. 1465 § 3, 1981).

16.36.040 Areas of special flood hazard designated

The areas of special flood hazard include, but are not limited to, those areas identified by the Federal Emergency Management Agency (FEMA) in the King County, Washington, Flood Insurance Study dated April 19, 2005 with accompanying Flood Insurance Rate Maps (FIRMs), and any revisions hereto, which are adopted by reference and declared to be part of this chapter. Other base flood areas may be determined in accordance with Chapter 18.36.210 B. The Flood Insurance Study and accompanying FIRMs are on file at the Issaquah Public Works Engineering Department. (Ord. 2182 § 1, 1998; Ord. 2065 § 2, 1995; Ord. 2030 § 6, 1994; Ord. 1827 § 3, 1989; Ord. 1465(A), 1981).

16.36.060 Interpretation.

A. The Designated Official is authorized and directed to interpret the provisions of this chapter.

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

1. Considered as minimum requirements;

2. Liberally construed in favor of the governing body; and

3. Deemed neither to limit nor repeal any other powers granted under state statutes. (Ord. 2030 § 6, 1994; Ord. 1465 § 5(D), 1981).

16.36.070 Abrogation and greater restrictions.

This chapter is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this chapter and another ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail. (Ord. 2030 § 6, 1994; Ord. 1465 § 5(C), 1981).

16.36.080 Warning and disclaimer of liability.

A. The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering consideration. Larger floods can and will occur on rare occasions. Flood heights may be increased by manmade or natural causes. This chapter does not imply that land outside the areas of special flood hazard or uses permitted within such areas will be free from flooding or flood damages. This chapter shall not create liability on the part of the City, any officer or employee thereof, or the Federal Insurance Administration, for any flood damages that result from reliance on this chapter or any administrative decision lawfully made thereunder.

B. In addition to the terms, conditions and requirements of this chapter, the City's Building Code and other City ordinances, any person making application for improvements to lands or structures or construction of new structures on lands included in the areas of special flood hazard shall, as a condition for approval of the permit, provide the City with an executed "Covenant Not to Sue," as required by Chapter 16.24 IMC. (Ord. 2030 § 6, 1994; Ord. 1827 § 4, 1989; Ord. 1465 § 5(E), 1981).

16.36.090 Permits – Required.

A. No land within the areas of special flood hazard shall hereafter be subdivided or short subdivided, improved, filled, graded or cleared; nor shall any structure or development, including manufactured homes, be constructed, reconstructed, improved, relocated, or erected on such lands unless the person(s) responsible for such improvements shall first obtain a Flood Hazard Permit for such action in accord with the provisions of this chapter. When the development results in the displacement of flood water, the Flood Hazard Permit shall include a certification by a licensed civil engineer registered in the state of Washington that compensatory storage is provided and the hydraulic capability of the floodplain is preserved on-site to convey floodwaters through the property without affecting adjacent properties, in accordance with Chapters 16.36.130 and 16.36.140. (Ord. 2030 § 6, 1994; Ord. 1827 § 5, 1989; Ord. 1465 § 6(A), 1981).

B. To certify that actual building elevations meet the requirements of this Chapter, an Elevation Certificate prepared by or under the direct supervision of a Professional Land Surveyor licensed in the State of Washington is required for new and substantially improved structures in special flood hazard areas and shall be submitted and approved by the city prior to a final inspection or issuance of a certificate of occupancy.

C. To certify that floodproofing meets National Flood Insurance Program requirements, a Floodproofing Certificate prepared by a Washington State licensed Engineer or Architect is required for non-residential buildings floodproofed up to or above the Base Flood Elevation.

D. Compliance with the requirements of this Chapter is intended to meet the minimum requirements of the Federal Emergency Management Agency, which allows City participation in the National Flood Insurance Program and makes federally subsidized flood insurance available to owners and occupants of structures located in the City. Meeting the minimum standards does not necessarily mean that a structure will receive the lowest insurance premium, as determined by insurance rating factors, that is potentially available for a new or improved structure constructed at a particular location. It is applicant's responsible to identify those higher building

standards that could potentially improve a structure's insurance rating and lower the resulting flood insurance premium.

E. Exemptions: This section shall not apply to small accessory buildings under 200 square feet that are exempt from a building permit, provided that no displacement of floodwaters occurs.

16.36.100 Permit – Application.

A. To obtain a permit required in this chapter, the applicant shall fill out an application form, provided by the Designated Official, shall include at a minimum the following:

1. The name and address of the applicant;

2. The name and address of the legal owner;

3. The nature of the proposed action;

4. Description of proposed new structure or improvements to an existing structure;

5. Description of proposed fill and other non-structure site improvements, with accompanying site plan, showing details of proposed mitigation that will be required to meet the floodplain standards contained in this Chapter.

B. The following documents shall be provided by the applicant at the time the permit application is filed with the City:

1. A topographic survey of the property, prepared by a licensed surveyor, with sufficient scale and contour interval to adequately assess variations in the ground surface, and based on the mean sea level datum;

2. A design of site drainage in compliance with Chapter 13.28 IMC, Stormwater Management Policy;

3. A description of the extent to which any watercourse will be altered or relocated as a result of the proposed improvements or development. (Ord. 2030 § 6, 1994; Ord. 1465 § 6(B, C), 1981).

16.36.110 Permit – Fees.

A fee shall accompany the permit application in accordance with Chapter 3.65.040 (I) IMC, Public Works Department Fees.

16.36.120 General standards.

In all areas of special flood hazards, the following standards are required:

A. Anchoring.

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

2. All manufactured homes must likewise be anchored to prevent flotation, collapse or lateral movement, and shall be installed using methods and practices that minimize flood damage. Anchoring methods may include, but are not limited to, use of over-the-top or frame ties to ground anchors (Reference FEMA's "Manufactured Home Installation in Flood Hazard Areas" guidebook for additional techniques).

B. Construction Materials and Methods.

1. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.

2. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.

3. Electrical, heating, ventilation, plumbing, and air-conditioning equipment and other service facilities shall be designed and/or otherwise elevated or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

C. Crawlspaces. Crawlspaces are allowed in residential and non-residential construction only where the difference in elevation between the crawlspace interior grade and lowest adjacent exterior grade is 2 feet or less, the total height of the crawlspace as measured from the interior grade of the crawlspace to the bottom of the floor joists is 4 feet or less, and adequate drainage is provided to remove floodwaters within a reasonable amount of time after a flood event. Interpretation and application of these requirements shall be consistent with official FEMA technical bulletin guidance on crawlspace construction. Other types of foundations, such as open pile or column foundations, that allow free-flow of flood waters may be required in high velocity areas (i.e., velocities exceeding 5 feet per second). Below grade crawlspaces constructed in accordance with these requirements will not be considered basements. Crawlspaces that are excavated below grade will result in higher flood insurance premiums.

D. Utilities.

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

2. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharge from the systems into floodwaters; and

3. On-site disposal systems shall be located to avoid impairment to them or contamination from them during flooding. On-site disposal systems require permits and approval by Seattle-King County Department of Public Health.

4. Utility transmission lines transporting hazardous substances shall be buried at a minimum depth of four (4) feet below the maximum depth of scour for the base flood as predicted by a Washington State licensed professional civil engineer and shall achieve sufficient negative buoyancy so that any potential for flotation or upward migration is eliminated.

E. Subdivision Proposals.

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

2. All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage.

3. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage.

4. Main collector roads serving new subdivisions shall have a surface elevation high enough to be safely used for evacuation in the event of a 100-year flood. In addition, all roads serving new subdivisions shall be of sufficient width to allow parking of vehicles and access for emergency vehicles during periods of inundation.

5. Where base flood elevation data has not been provided or is not available from another authoritative source, it shall be generated by the applicant for subdivision proposals and other proposed developments which contain at least 2 lots or 2 acres, whichever is less.

F. Review of Building Permits. Where base flood elevation data is not available, either through the Flood Insurance Study or from another authoritative source (IMC 16.36.210 (B)), applications for building permits shall be reviewed to assure that proposed construction will be reasonably safe from flooding. The test of reasonableness is a local judgment and includes use of historical data, high water marks, photographs of past flooding, etc., where available. Failure to elevate the lowest floor at least 2 feet above the highest existing grade may result in higher insurance rates. (Ord. 2030 § 6, 1994; Ord. 1827 § 7, 1989; Ord. 1465 § 7(A), 1981).

G. Channel Migration and Bank stabilization. No structure shall be allowed which would be at risk due to stream bank destabilization including that associated with channel relocation or meandering.

H. Temporary Structures. Temporary structures that do not have footings, foundations, or other anchorage to prevent floatation, collapse or movement of the structure during floods shall be removed from the floodplain during the flood season from September 30th to May 1st.

I. Flood walls. No flood walls are allowed except if constructed within 3 feet of a flood-prone structure that is not built to current flood standards. Flood walls shall be designed by a qualified engineer to withstand hydrostatic pressures and undermining of footings. Flood walls are also subject to the floodway encroachment standard in Chapter 16.36.140, and reduction in floodplain conveyance and storage due to flood wall construction shall require mitigation. A flood wall is not meant to include a building wall or foundation that is associated with an approved structure. Applicants constructing flood walls shall be notified that flood insurance premiums for residential structures will still be based on lowest floor elevations regardless of the effect of the flood wall.

J. Flood Hazard Notification. Base flood data and flood hazard notes shall be shown on the face of the recorded plat, including, but not limited to, the base flood elevation, required flood protection elevations, and the boundaries of the floodplain. The following note, or similar language, shall appear on the face of the recorded plat and on the individual titles for all affected lots:

"N O T I C E"

"Lots and structures located within flood hazard areas may be inaccessible by emergency vehicles and personnel during flood events. Residents and property owners should take appropriate advance precautions. Property damage and personal safety risks may occur."

16.36.130 Specific standards (Zone AE).

In all areas of special flood hazards designated with the letters AE where base flood elevation data has been provided as set forth in IMC 16.36.040 or 16.36.210(B), the following provisions are required:

A. Residential Construction. New construction, substantial improvement of any residential structure, and improvement of any post-FIRM residential structure shall have the lowest floor and all electrical, heating, ventilation, plumbing, air conditioning equipment, and other utility and service facilities elevated to at least 1 foot above the base flood elevation.

1. Fully enclosed areas below the lowest floor that are subject to flooding are prohibited, or 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 must be certified by a registered professional engineer and must meet or exceed the following minimum criteria:

a. A minimum of 2 openings having a total net free area of not less than 1 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 1 foot above the adjacent exterior grade;

c. Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters, and provided that the screens, louvers, or other devices meet the requirements of the International Building Code.

B. Nonresidential Construction. New construction, substantial improvement of any commercial, industrial or other nonresidential structure, and improvement of any post-FIRM commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, and all electrical, heating, ventilation, plumbing, air conditioning equipment, and other utility and service facilities elevated to at least 1 foot above the level of the base flood elevation; or, together with attendant utility and sanitary facilities, shall:

1. Be floodproofed so that up to a level of 1 foot above the base flood level the structure is watertight with walls substantially impermeable to the passage of water;

2. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;

3. Be certified by a registered professional engineer 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 official as set forth in IMC 16.36.210(C)(2);

4. Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in IMC 16.36.130(A);

5. Applicants floodproofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are 1 foot below the floodproofed level (e.g. a building constructed to the base flood level will be rated as 1 foot below that level).

C. Compensatory Storage and No Reduction in Floodplain Conveyance Required. Development proposals shall not reduce the effective base flood storage volume of the floodplain, and also shall not reduce the hydraulic capability of the floodplain on-site to convey floodwaters through the property during the base flood event. The compensatory storage requirement means that the project shall not result in any additional net fill within the floodplain. No reduction in floodplain conveyance means that no rise in base flood elevations is allowed on adjacent properties. Providing this compensatory conveyance capacity can be done in conjunction with the compensatory storage. Compensatory storage can be provided either on-site or at a hydraulically connected off-site location, and can be obtained from a previous project that was constructed by the applicant or by another owner who provides written permission, provided that excess and unused compensatory storage is available from that project. A floodplain hydraulic study prepared by a licensed civil engineer registered in the state of Washington may be required to verify compliance with the compensatory storage and compensatory conveyance requirements. Certification by the engineer that appropriate hydraulic modeling methods were used to comply with these requirements shall accompany the Flood Hazard Permit. In lieu of an engineering study the applicant must be able to provide adequate information that demonstrates an understanding of flood plain conveyance and compliance with this section.

D. Manufactured Homes. All manufactured homes to be placed or substantially improved within Zones A1-30, AH, and AE on the community's FIRM shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is 1 foot above the base flood elevation and shall be securely anchored to an anchored foundation system in accordance with the provisions of IMC 16.36.120 (A).

E. Recreational Vehicles. Recreational vehicles placed on sites are required to either:

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

2. Be fully licensed and ready for highway use, 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; or

3. Meet the requirements for manufactured homes.

F. Bank Improvements. Where proposed development or improvements include modifications or work within the portion of the stream channel under the jurisdiction of the Washington Department of Fisheries and Wildlife (WDFW), an application shall also be made for a State Hydraulics Permit Approval (HPA), the application for which is through WDFW using a Joint Aquatic Resource Permit Application (JARPA). Once the State HPA Permit is approved, application shall be made for the permit required by this chapter.

G. Critical Facilities. Construction of new critical facilities shall be, to the extent possible, located outside the limits of the base floodplain. Construction of critical facilities shall be permissible within the base floodplain if no feasible alternative site is available. Critical facilities constructed within the floodplain shall have the lowest floor elevated to 3 or more feet above the level of the base flood elevation at the site. Floodproofing and sealing measures must be taken to assure that toxic substances will not be displaced by or released into floodwaters. Access routes elevated to or above the level of the base floodplain shall be provided to all critical facilities to the extent possible. (Ord. 2115 § 1, 1996; Ord. 2065 § 3, 1995; Ord. 2030 § 6, 1994; Ord. 1872 § 7, 1989; Ord. 1465 § 7(B), 1981).

16.36.140 Floodways.

Located within the area of special flood hazard established in Chapter 16.36.040 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles, and erosion potential, the following provisions apply:

A. Prohibit encroachments, including fill, new construction, substantial improvements, and other development unless certification by a registered professional engineer is provided demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels during the occurrence of the base flood discharge. New construction and substantial improvements meeting this standard shall comply with all applicable provisions of Chapter 16.36.130.

B. All new construction, substantial improvement, any improvement to a structure that increases the ground floor area, and relocation of structures, including manufactured homes, is prohibited Work done on structures to correct existing violations with existing health, sanitary, or safety codes which have been identified by the local code enforcement or building official and are the minimum necessary to assure safe living conditions may be excluded in the monetary calculation of a substantial improvement. A residential dwelling located partially within a designated floodway will be considered as totally within a designated floodway and must comply with this chapter. However, the floodway prohibition in this subsection does not apply to existing farmhouses in designated floodways that meet the provisions of WAC 173-158-075, or to substantially damaged residential dwellings other than farmhouses that meet the depth and velocity and erosion analysis provisions of Chapter 16.36.140(D), or to structures identified as historical places.

C. Agricultural uses, including crops, nursery stock, tree farming, stream improvements and all stream maintenance functions or operations of any government agencies, or private individuals, public works such as streets, bridges, water and sewer and other underground utility lines, and park and recreational facilities, excluding structures, may be permitted in the floodway when shown to be in conformance with the provisions of this chapter. (Ord. 2030 § 6, 1994; Ord. 1827 § 8, 1989; Ord. 1465 § 7(C), 1981).

D. Substantially damaged residential dwellings in floodways other than farmhouses. For all substantially damaged residential structures, other than farmhouses, located in a designated floodway, the Department of Ecology, at the request of the City, is authorized to assess the risk of harm to life and property posed by the specific conditions of the floodway. Based upon scientific analysis of depth, velocity, flood-related erosion and debris load potential, the Department of Ecology may exercise best professional judgment in recommending to the City repair, replacement or relocation of a substantially damaged structure. The property owner shall be responsible for submitting to the City any information necessary to complete the assessment required by this section when such information is not otherwise available.

1. Recommendation to repair or replace a substantially damaged residential structure located in the regulatory floodway shall be based on the flood characteristics at the site. In areas of the floodway that are subject to shallow and low velocity flooding, low flood-related erosion potential, and adequate flood warning time to ensure evacuation, the Department of Ecology may recommend the replacement or repair of the damaged structure. Any substantially damaged residential structure located in the regulatory floodway in a high risk zone based on the flood characteristics will not be recommended to be repaired or replaced. Flood warning times must be twelve hours or greater, except if the local government demonstrates that it has a flood warning system and/or emergency plan in operation. For purposes of this paragraph flood characteristics must include:

a. Flood depths can not exceed more than three feet; flood velocities cannot exceed more than three feet per second**.**

b. No evidence of flood-related erosion. Flood erosion will be determined by location of the project site in relationship to channel migration boundaries adopted by the City. Absent channel migration boundaries, flood erosion will be determined by evidence of existing overflow channels and bank erosion.

2. At the request of the City, the Department of Ecology will prepare a report of findings and recommendations for the City concurrence on repair or replacement of substantially damaged residential structures located in the regulatory floodway. Without a recommendation from the Department of Ecology for the repair or replacement of a substantially damaged residential structure located in the regulatory floodway, no repair or replacement is allowed per Chapter 16.36.140(B).

3. Before the repair, replacement, or reconstruction is started, all other requirements of this Chapter must be satisfied. In addition the following conditions must be met:

a. There is no potential safe building location for the replacement residential structure on the same property outside the regulatory floodway.

b. A replacement residential structure is a residential structure built as a substitute for a previously existing residential structure of equivalent use and size.

c. Repairs or reconstruction or replacement of a residential structure shall not increase the total square footage of floodway encroachment.

d. The elevation of the lowest floor of the substantially damaged or replacement residential structure is a minimum of one foot higher than the base flood elevation.

e. New and replacement water supply systems are designed to eliminate or minimize infiltration of flood water into the system.

f. New and replacement sanitary sewerage systems are designed and located to eliminate or minimize infiltration of flood water into the system and discharge from the system into the flood waters.

g. All other utilities and connections to public utilities are designed, constructed, and located to eliminate or minimize flood damage.

16.36.145 Shallow Flooding Areas (AO Zones)

Shallow flooding areas appear on FIRMs as AO zones with depth designations. The base flood depths in those zones range from 1 to 3 feet where a clearly defined channel does not exist, or where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is usually characterized as sheet flow. In these areas, the following provisions apply:

A. Require adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed structures, and to ensure that flood water in likely flow pathways such as swales are not blocked and cause it to be diverted to adjacent properties;

B. New construction, substantial improvement of any residential structure and manufactured home, and improvement of any post-FIRM residential structure and manufactured home within AO zones shall have the lowest floor (including basement) elevated above the highest adjacent grade to the structure, one foot or more above the depth number specified in feet on the community's FIRM (at least two feet above the highest adjacent grade to the structure if no depth number is specified);

1. Fully enclosed areas below the lowest floor that are subject to flooding are prohibited, or 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 must be certified by a registered professional engineer and must meet or exceed the following minimum criteria:

a. A minimum of 2 openings having a total net free area of not less than 1 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 1 foot above the adjacent exterior grade;

c. Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters, and provided that the screens, louvers, or other devices meet the requirements of the International Building Code.

C. New construction, substantial improvement of any commercial, industrial or other nonresidential structure, and improvement of any post-FIRM commercial, industrial or other nonresidential structure within AO zones shall either:

1. Have the lowest floor (including basement) elevated above the highest adjacent grade of the building site, one foot or more above the depth number specified on the FIRM (at least two feet if no depth number is specified), or

2. Together with attendant utility and sanitary facilities, be completely floodproofed to 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 effects of buoyancy. If this method is used, compliance shall be certified by a registered professional engineer as set forth in IMC 16.36.210(C)(2)(b).

3.Applicants floodproofing nonresidential buildings shall be notified that flood insurance premiums will be based on rates that are 1 foot below the floodproofed level (e.g. a building constructed to the base flood level will be rated as 1 foot below that level).

D. Recreational Vehicles. Recreational vehicles placed on sites are required to either:

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

2. Be fully licensed and ready for highway use, 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; or

3. Meet the requirements for manufactured homes.

16.36.150 Hazardous materials.

The placement or storage of chemicals, petroleum products or by-products, fertilizers, insecticides, pesticides, lime, cement or other material that, when inundated, will contribute to or constitute a hazard to life, health and

safety, and/or adversely affect the quality of surface waters is prohibited within the areas of special flood hazard. (Ord. 2030 § 6, 1994; Ord. 1465 § 7(D), 1981).

16.36.160 Appeals.

Any person aggrieved by a decision or interpretation of the Designated Official relative to the provisions of this chapter may appeal such decision to the Hearing Examiner as established by the City and shall comply with all procedural requirements prescribed by the Hearing Examiner and IMC 1.32, Appeals. The Hearing Examiner shall affirm the decision unless from a review of the record it is determined the decision being appealed was clearly erroneous.

16.36.170 Variances

A. Purpose: The variance provision is provided to property owners who, due to the strict implementation of standards set forth in this chapter, and/or due to unique circumstances regarding the subject property, are deprived of privilege commonly enjoyed by other properties in the same vicinity and flood area and under the same flood regulation; provided however, the fact that surrounding properties have been developed under regulations in force prior to the adoption of this Code shall not be the sole basis for the granting of a variance.

B. Variance Criteria

1. Variances shall only be issued upon:

a. A showing of good and sufficient cause;

b. A determination that failure to grant the variance would result in exceptional hardship to the applicant;

c. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances;

d. Variances may be issued for nonresidential buildings to allow a lesser degree of floodproofing than watertight or dry-floodproofing, where it can be determined that such action will have low damage potential, complies with all other variance criteria and otherwise complies with IMC 16.36.120 and 16.36.130.

2. Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the State Inventory of Historic Places, without regard to the procedures set forth in this section.

3. Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

4. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

5. Generally, variances may be issued for new construction and substantial improvements to be erected on a lot of 1/2 acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing the provisions of subsection C of this section have been fully considered. As the lot size increases beyond the 1/2 acre, the technical justification required for issuing the variances increases.

C. In passing upon such variance applications, the Hearing Examiner shall consider all technical evaluations, all relevant factors, standards specified in other sections of this chapter, and:

1. The danger that materials may be swept onto other lands to the injury of others;

2. The danger to life and property due to flooding or erosion damage;

3. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;

4. The importance of the services provided by the proposed facility to the community;

5. The necessity to the facility of a waterfront location, where applicable;

6. The availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;

7. The compatibility of the proposed use with existing and anticipated development;

8. The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;

9. The safety of access to the property in times of flood for ordinary and emergency vehicles;

10. The expected heights, velocity, duration, rate of rise, and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site; and

11. 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.

D. Upon consideration of the factors of subsection C of this section and the purposes of this chapter, the Hearing Examiner may attach such conditions to the granting of variances as it deems necessary to further the purposes of this chapter

E. Any applicant to whom a variance is granted relief from the lowest elevation standards in this Chapter shall be given written notice that the structure will be permitted to be built with a lowest floor elevation below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation. (Ord. 2030 § 6, 1994; Ord. 1827 § 10, 1989; Ord. 1465 § 4(F), 1981).

F. The Designated Official shall maintain the records of all variance actions and report any variances to the Federal Insurance Administration upon request.

16.36.180 Enforcement authority.

The Designated Official is authorized and directed to enforce all provisions of this chapter and is empowered to promulgate such rules and administrative procedures as may from time to time be necessary to accomplish the purpose of this chapter, subject to approval by the City Council. (Ord. 2030 § 6, 1994; Ord. 1465 § 4(A), 1981).

16.36.190 Designated Official – Right of entry.

A. Whenever necessary to make an inspection to enforce any of the provisions of this code, or whenever the Designated Official or his authorized representative has reasonable cause to believe that there exists in any building or upon any lands any condition or violation of this chapter which makes such building or lands unsafe, dangerous or hazardous, the Designated Official or his authorized representative may enter such building or lands at all reasonable times to inspect the same or to perform any duty imposed on the Designated Official by this chapter; provided, that if such building or lands be occupied, he shall first present proper credentials and request entry; and if such building or lands be unoccupied, he shall first make a reasonable effort to locate the owner or other persons having charge or control of the building or lands and request entry. If such entry is refused, the Designated Official or his authorized representative shall have recourse to every remedy provided by law to secure entry.

B. No owner or occupant or any other person having charge, care, or control of any building or lands shall fail or neglect, after proper request is made as provided in this chapter, to promptly permit entry by the Designated

Official or his authorized representative for the purpose of inspection and examination pursuant to this chapter. (Ord. 2030 § 6, 1994; Ord. 1465 § 4(B), 1981).

16.36.200 Inspections.

Whenever it is necessary to verify compliance with the provisions of this chapter, either during the review process before any work is commenced, or during the construction or development stage after all permits have been obtained, it shall be the responsibility of the Designated Official to ensure that all necessary inspections are performed in a timely manner. The Designated Official shall keep records reflecting inspection dates and results thereof. (Ord. 2030 § 6, 1994; Ord. 1465 § 4(C), 1981).

16.36.210 Designated Official – Duties and responsibilities.

The duties of the Designated Official shall include, but not be limited to:

A. Permit Review.

1. The Designated Official shall review all development permits to determine that the permit requirements of this chapter have been satisfied;

2. The applicant shall obtain and comply with conditions of all necessary federal, state, and local permits, and incorporate those conditions into all applicable development permits and the Flood Hazard Permit.

B. Use of Other Base Flood Data. When base flood elevation data has not been provided in accordance with IMC 16.36.040, the Designated Official shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a federal, state or other source, in order to administer Sections 16.36.130, 16.36.140 and 16.36.145. Sources of other base flood elevation and floodway data includes, but is not limited to, draft work maps prepared for flood insurance study updates, preliminary flood insurance rate maps, and site-specific floodplain studies conducted by a licensed professional engineer. If available flood information provide sufficient evidence that the base flood elevations shown on the flood insurance rate maps are not accurate, or if the development site area is not within the mapped coverage of the flood insurance rate maps and flood hazards exist at the site due to proximity to a stream or evidence of past flooding, a development proposal may be required to submit a floodplain hydraulic anaysis based on available flood and site information in order for the Designated Official to administer Sections 16.36.130, 16.36.140 and 16.36.145.

C. Information to be Obtained and Maintained.

1. Where base flood elevation data is provided through the Flood Insurance Study, flood insurance rate map, or as required through Section 16.36.210B, obtain and review all Elevation Certificates and record the actual elevation for new and substantially improved structures, to ensure completeness and accuracy, and file with property's building records. Elevation data shall be provided in both the FEMA datum shown on the effective flood insurance rate map and the City datum (NAVD 88).

2. For all new or substantially improved floodproofed non-residential structures, Obtain and review all Floodproofing Certificates for Non-Residential Structures, to ensure completeness and accuracy, and file with property's building records. Elevation data shall be provided in both the FEMA datum shown on the effective flood insurance rate map and the City datum (NAVD 88).

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

D. Alteration of Watercourses.

1. Notify FEMA and affected landowners adjacent communities and the Department of Ecology prior to any alteration or relocation of a watercourse. Applicants may be required to submit applications and fees for Letters

of Map Revision to FEMA to modify flood insurance rate maps if a permitted development activity results in any change to a floodway boundary or a greater than 0.5 foot change to base flood elevations.

2. Require that maintenance is provided within the altered or relocated portion of the watercourse so that the flood-carrying capacity is not diminished. (Ord. 2030 § 6, 1994; Ord. 1844 § 1, 1990; Ord. 1465 § 4(D), 1981).