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## Critical Areas—Frequently Flooded Areas



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### What are frequently flooded areas?

Flooding is a natural occurrence that stems from significant rain events or unusually high runoff volumes. Flood waters overflow the banks of rivers, lakes, and other water bodies into adjacent land that is not typically wet. Flooding can result in the free flow of water or standing water on the locally affected properties, which can seriously threaten or damage structures and property as well as endanger lives.

The City uniquely recognizes Frequently Flooded Areas (FFAs) as distinct from other types of critical areas. While occasional flooding may occur adjacent from other water sources, such as streams, ponds, and wetlands, FFAs are defined as occurring in the *Floodplain* (*Flood Fringe*, *Federal Emergency Management Agency (FEMA) Floodway*, and/or *Zero-Rise Floodway*). As a result, areas that fall under any of the above categories are regulated by the Redmond Zoning Code (RZC) in ways that ensure reduced danger and impacts to the community by flooding.

Redmond’s primary sources of flooding are Lake Sammamish, Evans Creek, Bear Creek, and the Sammamish River. The City maintains a map of the local floodplains in the RZC (refer to RZC Chapter 21.64, [Critical Areas](#), Map 64.5, [Frequently Flooded Areas](#)).

#### Classification of FFAs

FFAs are classified based upon their individual characteristics, function and

value, and sensitivity to disturbance. The following are the specific classification types that FFAs may fall under:

**Floodplain** is the whole area where flooding may occur, which includes both the floodway (river or stream watercourse) and flood fringe (adjacent area beyond the floodway). The floodplain area is designated according to a one percent chance that a flood will inundate the whole area of the floodplain in any given year. This is known as the *100-Year Floodplain*.

**Flood Fringe** is the portion of the floodplain that is located outside of the designated floodways. Usually this area will have standing water during flood events instead of rapidly flowing waters.

**Floodway** is broken into two parts: *FEMA Floodway* and *Zero-Rise Floodway*. The **FEMA Floodway** is the more restrictive of the two floodway types because it is the portion of the watercourse area that must remain clear vertically and horizontally of



development in order to allow for flooding from the base flood elevation and includes a one-foot rise above the base flood elevation (100-Year Floodplain). The **Zero-Rise Floodway** includes the designated *FEMA Floodway*, but allows development activity to take place in the floodway outside of the FEMA Floodway as long as the flood storage capacity and base flood elevation remain unchanged.

To illustrate the differences between these terms, Figure 1 below outlines the extent of the 100-Year Floodplain which contains both the Flood Fringe and FEMA/Zero-Rise Floodways. Please

### Understanding the 100-Year Floodplain

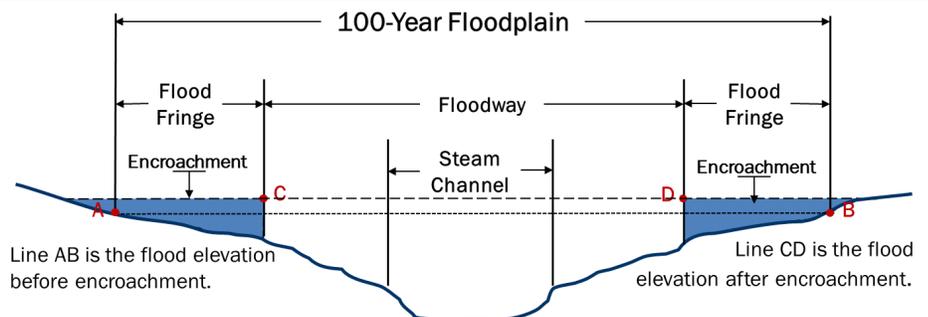


Figure 1



note that, aside from certain areas along Evans Creek and Bear Creek which are specially regulated by both floodway types, most areas only fall under the FEMA Floodway jurisdiction.

### Development in an FFA

The City generally allows development activities to take place within the Flood Fringe and Zero-Rise Floodway of the floodplain, subject to specific regulations. In most cases, it is prohibited to carryout any development activities within a FEMA Floodway unless such activities are deemed to be required infrastructure improvements. When development is allowed in an FFA, it does require the issuance of permits. Some permits may be required from State and Federal agencies in addition to those by the City.

#### Flood Fringe Development

Development in the Flood Fringe is permitted under two separate regulations which are dependent upon the proposed development location:

- By current exemption, Downtown development within the Sammamish River Floodplain (extending from the PSE powerline crossing of the Sammamish River to SR-520) may reduce the effective storage volume of the

floodplain. However, this exemption is likely to change in the future by FEMA regulations.

- All other areas of the city are required to ensure that no effective storage volume would be reduced by development activities. Any activities through grading or construction that reduces the floodplain's effective storage volume would require on-site mitigation or off-site compensatory storage through a legally binding arrangement to off-set these impacts.

Regardless of location in the Flood Fringe, all new or substantial improvements to structures of residential (including mobile and manufactured homes), commercial, industrial, or other uses must apply the following measures of flood protection in construction:

1. All structures must be constructed where they will not be at risk from stream bank destabilization;
2. The lowest floor (including basements) and below-grade crawl spaces of structures must be elevated to the flood protection level per FEMA regulations;
3. Structures must be appropriately anchored to prevent collapse or movement during a flooding event;
4. Any portions of structures that are below the flood protection level must not be fully enclosed. These areas of buildings should be designed with openings that allow the free flow of water so that flood forces will not critically damage the structure.

There must be at least 3,600 square feet of upland for new site plans or plats and lots require recording with appropriate notices of flood hazard, flood elevations, and boundaries of the

floodway and/or floodplain. Utilities and critical public facilities are permitted anywhere in the Flood Fringe, subject to strict flood protection standards and the provision of access.

The storage of any hazardous or dangerous chemicals, substances, or materials regulated by the State or Federal government are prohibited.

#### Zero-Rise Floodway Development

All permitted development in the Zero-Rise Floodway must meet the same basic standards as those outlined for Flood Fringe development. Additionally, no development may reduce the effective storage volume of the floodplain or cause an increase in the zero-rise base flood level and no temporary structures are permitted.

Generally, construction of new structures is permitted only on existing lots. However, new lots may be established if they have at least 3,600 square feet of upland. Reconstruction of any residential structure must conform to the Flood Fringe protection measures.

Utilities and infrastructure are only permitted if there is no practical alternative and when appropriate mitigation negates any impacts in the Zero-Rise Floodway. Floodway dependent structures, such as dams, fish hatcheries, and docks, are permitted, subject to the approval of other agencies and conforming to standards of the RZC.

For more information on FFAs or how you may be affected by the Critical Areas Ordinance, please contact Planning and Community Development via phone at 425-556-2494 or e-mail at [PlannerOnCall@redmond.gov](mailto:PlannerOnCall@redmond.gov).

#### Applicable Code Sections

**RZC 21.64.040:** *Frequently Flooded Areas*

**Appendix 1:** *Critical Areas Reporting Requirements*

**Questions:** 425-556-2494 or [planneroncall@redmond.gov](mailto:planneroncall@redmond.gov).

You can also visit us in person at the Development Services Center located on the 2nd floor of City Hall. Open Monday through Friday from 8 am to 5 pm.

**Development Services Center**  
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