



To: The Chehalis Basin Flood Authority

From: Emil Pierson, Centralia Community Development Director

Re: Floodplain Management in Centralia

Date: April 30, 2012

You have requested information concerning the regulations that govern “fill” within the Chehalis River floodplain specifically for the City of Centralia. Centralia participates in a program administered by the Federal Emergency Management Agency (FEMA) known as the National Flood Insurance Program (NFIP). All local governments participating in NFIP are required to comply with federal regulatory standards in managing the floodplain. The City of Centralia participates in the NFIP program and currently has a Class 5 rating under the Community Rating System (CRS) program. This rating reflects the City’s support and continuing efforts to reduce flood damage within the community. This rating has resulted in lower flood insurance rates to Centralia homeowners. In order to maintain this rating, the City adopted the FEMA’s recommended model floodplain management ordinance but to achieve a lower CRS rating the City has developed even higher standards. These higher standards protect the floodplain by regulating fill, new construction and how they develop, and keeping certain areas as undeveloped.

For example, in Centralia Municipal Code (CMC) 16.21.035 it states the methods that the City uses to reduce flood losses these include:

- 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;
- Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction.
- Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel floodwaters;
- Controlling filling, grading, dredging, and other development which may increase flood damage;
- Preventing or regulating the construction of flood barriers which will unnaturally divert floodwaters or may increase flood hazards in other areas; and
- A floodplain overlay area that protects the health, safety and property in the most flood prone areas.

Higher floodplain standards in CMC 16.21 include:

- **Zero-rise floodplain overlay in CMC 16.21.165.** The intent of this section is to preserve areas of the floodplain most prone to flooding and has no physical protection during flooding. To best protect human life, health and property, the following restrictions are placed on development within this area known as the zero-rise floodplain overlay.
 - Filling and Grading. Development shall not reduce the effective base flood storage volume of the zero-rise floodplain overlay.
 1. Grading or other activity in the zero-rise floodplain overlay which would reduce the effective storage volume must be mitigated by creating compensatory

- mitigation. When development is permitted under this subsection, it shall be designed to meet the compensatory mitigation requirements in CMC [16.21.170\(F\)](#).
2. Any fills over five hundred cubic yards require a zero-rise analysis.
 3. Excavation shall not be counted as compensating for fill if such areas will be filled with water in nonstorm winter conditions.
- Zero-Rise Floodplain Overlay General Requirements.
 1. The provisions of this section apply to lands located within the zero-rise floodplain overlay depicted on the zero-rise floodplain overlay map, adopted May 12, 2009. Development requirements in this section shall be in addition to those of the underlying zone and, where explicitly noted, supersede the underlying zoning. If implementation of this section conflicts with the other provisions of the Centralia Municipal Code, state or federal law, the more restrictive requirement applies.
 2. Development activity must not reduce the effective storage volume of the floodplain.
 3. Development proposals, including permitted new construction or reconstruction, must not cause an increase in the one-hundred-year flood elevation.
 4. All temporary structures or materials hazardous to public health and safety must be removed or secured during the flood season, from September 30th to May 1st.
 - Construction/Building.
 1. The designated construction period is May 1st to September 30th. Any construction performed outside this period, during the flood season, must be permitted by the community development director dependent upon weather conditions. These renewable permits will be issued at ten-day increments throughout the flood season. There shall be no limit to the number of temporary flood season building permits issued for any single project.
 2. Agricultural Structures. The lowest floor in an agricultural structure may be located at the base flood elevation or higher; provided, that the structure is 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 either be certified by a professional engineer in the state of Washington or 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 higher than one foot above grade; and
 - c. Openings may be equipped with screens, louvers, or other covering or devices; provided, that they permit the automatic entry and exit of floodwaters.
 3. New residential or nonresidential structures shall be constructed at least three feet above the BFE and/or constructed utilizing piers or pilings.
 - Zero-Rise Analysis.
 1. When it is determined that a proposed project is located within a zero-rise floodplain overlay area, a zero-rise analysis shall be required to determine that no increase in base flood elevation, displacement of flood volume, or flow conveyance reduction will occur as a result of the development or fill. A zero-rise analysis may be waived at the discretion of the director if it can be found that impacts from a project will not contribute to an overall rise to the zero-rise floodplain overlay area.
 2. The zero-rise analysis shall be conducted utilizing HEC-RAS modeling methodology or other alternative methodology approved by the city. The proposed development may need to be reduced or specially engineered (such as utilizing piers or pilings) to achieve zero rise.

3. The zero-rise analysis shall be prepared, signed, and dated by a professional engineer.
 4. When structures are elevated by piers or pilings and no fill is placed in the zero-rise floodplain overlay area, the requirement to submit a zero-rise analysis may be waived at the director's discretion.
- **General standards 16.21.170.** Compensatory Mitigation (Fill in the Floodplain).
 1. The amount of compensatory mitigation required within the floodplain is determined by the following:
 - a. Zero to five hundred cubic yards of fill: No mitigation is required.
 - b. Five hundred one plus cubic yards of fill: Mitigation is required which is a zero-rise or a minimum of a one-to-one ratio which means for filling and grading new excavated storage volume shall be equivalent to the flood storage capacity eliminated by filling or grading. "Equivalent" shall mean that the storage removed shall be replaced by equal live storage volume.
 2. Mitigation storage may be located off site but it must be located within the city of Centralia jurisdictional boundaries unless the director approves other alternatives if it is within the same drainage areas.
 3. All off-site storage must be documented by a legally binding contract that maintains the storage in perpetuity. This document must be recorded with the Lewis County assessor's office.
 4. Fees in lieu of compensatory mitigation for any fills over five hundred one cubic yards of fill may be permitted through the city's SEPA process. The collected funds shall be used for an established flood protection enhancement program or mitigation project as listed in the city's adopted comprehensive floodplain management plan. The fee shall be set at ten dollars per cubic yard of fill material that will be located within the floodplain. The fees will be calculated based on the total amount of fill per the entire project. All enhancement program(s) or mitigation project(s) shall decrease flooding damage to businesses and/or residential properties within the city of Centralia or its urban growth area.

At the discretion of the director, through the SEPA process, the mitigation fee may be reduced if mitigation techniques or a project is demonstrated to reduce flooding in the city or its urban growth area.

- **Specific standards 16.21.180.** In all areas of special flood hazards where base flood elevation data has been provided as set forth in CMC [16.21.060](#) or [16.21.140\(B\)](#), the following provisions are required:
 - A. Residential Construction.
 1. New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated two feet or more above base flood elevation (minimum FEMA standards required the lowest floor to be elevated "to or above" the BFE; however, adding an additional foot of freeboard increases safety and can reduce insurance premiums by as much as thirty percent. Adopting additional freeboard is strongly encouraged by FEMA).

Fill in the Floodplain

The City has records of fill permits has issued cut, fill, and grade permits for 509,777 cubic yards of fill from 2000-2012 in the floodplain this includes areas within the City's Urban Growth Area. Of the 509,777 yards of fill 360,000 was issued to a project called OPUS which moved fill from one area of the floodplain on their project site to another. Therefore, the actual amount of fill added from 2000 to 2012 was 149,777 cubic yards in the floodplain. No permits were issued for fill in the floodway.