MEMORANDUM

TO: Deschutes County Board of County Commissioners ("Board")

FROM: Nicole Mardell, Associate Planner

DATE: October 14, 2019

SUBJECT: Model Flood Amendments (247-19-000530-TA / 533-PA) – Work Session

The Board is conducting a work session on October 21, 2019 in preparation for a public hearing on November 6, 2019. The Board will consider a text amendment to incorporate elements from the Department of Land Conservation and Development (DLCD)’s 2014 Oregon Model Flood Damage Prevention Ordinance ("Model Flood Ordinance") into the Flood Plain chapter of the Deschutes County Code.

I. PROPOSAL

Deschutes County, through File Nos. 247-19-000530-TA / 533-PA, is amending the Deschutes County Zoning Ordinance and Comprehensive Plan to incorporate text from the Model Flood Ordinance. The Model Flood Ordinance is a statewide standard and includes requirements for critical facilities, accessory structures, and storage in the Flood Plain Zone, among other items. Staff is proposing these amendments to ensure consistency among local and state requirements and to promote best practices in hazard mitigation. Staff is also proposing to add a purpose statement for the Flood Plain Zone in the Comprehensive Plan, as one does not currently exist.

The Model Flood amendments are one of three separate applications proposed as part of the 2019 Flood Plain Amendment package. The status of the two other related amendments are as follows:

- The Planning Commission recommended tabling the amendment related to the use of Flood Plain zoned land in Cluster and Planned Unit Developments until the Lower Bridge Planned Unit Development application, presently under appeal, receives an acknowledged decision.1

- The Planning Commission is still deliberating on the amendment related to the division of split zoned property containing Flood Plain zoning.

1 247-19-000405-CU, 406-TP, 407-SMA, 741-A, 757-A
II. PLANNING COMMISSION HEARINGS
The Deschutes County Planning Commission held public hearings on August 8, September 12, and September 26, 2019. Approximately twenty-four individuals provided oral and/or written testimony.

The vast majority of comments received were general comments directed at all three amendments in the 2019 Flood Plain Amendment package. Individuals expressed concerns that the changes to the Flood Plain zone would negatively impact fish and wildlife resources, which are a staple of Deschutes County quality of life.

Staff received specific comments for the Model Flood Amendments from the following individuals:

- DLCD Natural Hazards Planner, Katherine Daniels, noted the 2019 version of the Model Ordinance was soon to be adopted. She also provided minor edits to the draft text amendments, which have been incorporated into the final version.

- Central Oregon LandWatch and attorney Tim Ramis expressed concerns over new uses being allowed in the Flood Plain Zone. Staff further clarified in the drafted text that structures outside the Special Flood Hazard Area are exempt from floodproofing and Special Construction standards consistent with Federal Emergency Management Agency standards.

- Oregon Department of Fish and Wildlife expressed concerns that the draft purpose statement for the Flood Plain Zone in the Comprehensive Plan prioritized the Flood Plain Zone’s role as a hazard mitigation tool. They believe this language could undermine the Flood Plain Zone’s role as a Goal 5 resource and protection measure. Staff removed the words “Primary Role” and “Secondary Role” to address these concerns.

On October 10, 2019 the Planning Commission voted unanimously to recommend approval of the proposed Model Flood Amendments, with the edits outlined above.

III. NEXT STEPS
The Board will hold a public hearing for the Model Flood Amendments on November 6, 2019.

ATTACHMENTS
1. Staff Findings
2. Proposed Text Amendments
3. Proposed Comprehensive Plan Amendments
FINDINGS – MODEL FLOOD ORDINANCE
Revised 10.03.19

I. SUMMARY

Deschutes County, through File No. 247-19-000530-TA / 533-PA is amending the Deschutes County Zoning Ordinance and Comprehensive Plan to incorporate text from the Department of Land Conservation and Development (DLCD)’s 2014 Oregon Model Flood Damage Prevention Ordinance. The purpose of incorporating these changes is to provide greater consistency between local land use approvals and state requirements.

II. 2017-2018 FLOOD PLAIN AMENDMENT PROCESS

Between March 2017 and September 2018, Deschutes County planning staff initiated a Post Acknowledgement Plan Amendment (PAPA) to DLCD related to flood plain amendments to the County Comprehensive Plan and Zoning Ordinance. Staff conducted public outreach through four open houses, five Planning Commission public hearings, two citizen involvement meetings, and one Board of County Commissioners (Board) hearing.

On September 19, 2018, the Board adopted Ordinance 2018-005, reflecting large scale changes to the Flood Plain Zone, including a proposal to change the Base Zone to a Combining Zone, and proposed text changes to clarify procedures on cluster developments and land divisions on property zoned Flood Plain.

The ordinance was then appealed to the Land Use Board of Appeals, on the basis that the findings were incomplete and did not adequately address State Land Use Planning Goal 5, among other less substantial issues. Prior to the LUBA hearing and in consultation with County legal counsel, the Board found the need for substantial record additions. On May 8, 2019, the Board opted to repeal Ordinance No. 2018-005 (Ordinance 2019-010), and initiate a new PAPA. This County initiated application is specific to the Model Flood Ordinance edits to the Deschutes County Zoning Code and Comprehensive Plan.

III. NATIONAL FLOOD INSURANCE PROGRAM (NFIP)

The National Flood Insurance Program (NFIP) is based on a mutual agreement between the federal government and Deschutes County. Federally backed flood insurance is made available in Deschutes County, provided that the County agrees to regulate development in mapped Flood Plains. So long as Deschutes County serves its role in ensuring future Flood Plain development meets certain criteria, FEMA provides subsidized flood insurance for properties in rural Deschutes County.

FEMA has prepared a Flood Plain map and flood hazard data for Deschutes County. The NFIP underwrites flood insurance coverage only in those communities that adopt and enforce
Flood Plain regulations that meet or exceed NFIP criteria. The County’s Flood Plain regulations are designed to meet FEMA regulations and to ensure that new buildings will be protected from the flood levels shown on the FEMA-provided Flood Insurance Rate Map (FIRM) and that development will not make the flood hazard worse.

Beginning in 1988 Deschutes County adopted the FIRM as the Flood Plain Zone and also adopted Comprehensive Plan policies and implementing zoning code to comply with FEMA requirements. These maps, policies, and zoning code have been periodically updated to match the latest information and requirements provided by FEMA. It is important to note that the FIRM maps and FEMA regulations explicitly recognize that the mapped Flood Plain is subject to refinement. The map does not capture property-specific topographic details and FEMA regulations allow the County to waive FEMA requirements, such as special construction standards, where development is located above the Base Flood Elevation.

IV. 2019 PROPOSED AMENDMENTS

The proposed amendment are included as Exhibits A-C. Text changes in the exhibits are identified by underline for new text and strikethrough for deleted text. Below are explanations of the proposed changes.

A. Title 18, Zoning Text Amendments

Chapter 18.04. TITLE, PURPOSE AND DEFINITIONS

The proposed amendments incorporate terminology related to current best practices included in the 2014 Oregon Model Flood Damage Prevention Ordinance (Exhibit A).

Chapter 18.96. FLOOD PLAIN ZONE

The proposed amendments in Exhibit B include:

- Section 18.96.080. Criteria to Evaluate Conditional Uses
  - 18.96.080(B): Clarifies other state and federal agencies that are involved in the alteration and relocation of a water course shall be notified.
  - 18.96.080(D)(3): Provides reference that on-site waste disposal systems shall be located consistent with the Oregon Department of Environmental Quality as specified in Oregon Administrative Rule (OAR) 340-071.
  - 18.96.080(E)(4): Provides exception to the submission of flood elevation data if the proposal expressly precludes residential and non-residential construction in the flood plain area.
- **18.96.080(G)(2)**: Requires a comprehensive Maintenance Plan for nonresidential construction and an Emergency Action Plan (EAP) for the installation and sealing of the structure.

- **18.96.080(G)(3)**: Provides relief from elevation or floodproofing requirements for small accessory structures that are less than 200 square feet in area, one story, not temperature controlled, not used for human habitation, and several other use and design standards. This recognizes that the risk to human safety and property loss is relatively low for these structures and the additional design and cost associated with elevation and floodproofing is not warranted under these specific conditions and criteria.

- **18.96.080(G)(4)** Reformats the standards applicable to manufactured dwellings and the section is renumbered due to addition of new section (G)(3).

- **18.96.080(G)(5)**: Renumbered due to addition of new section (G)(3).

- **18.96.080(G)(6)**: Renumbered due to addition of new section (G)(3).

- **18.96.080(G)(7)**: Requires construction of new critical facilities shall be, to the extent possible, located outside the limits of the Area of Special Flood Hazard. “Critical Facility,” as proposed, 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 that produce, use or store hazardous materials or hazardous waste. The purpose of this amendment is to prevent loss of or damage to these critical facilities due to flooding and increase likelihood the facilities are available during and after a flood event.

- **18.96.080(G)(8)**: Relocates standards applicable to incidental storage of materials or equipment from section 18.96.040 and regulates the use as “flood plain development,” a conditional use.

- **Section 18.96.130. Interpretation of FIRM Boundaries**
  - Exempts uses and structures determined to be outside of the Special Flood Hazard Area from special construction standards.
B. Comprehensive Plan Amendments

Text Amendment to Comprehensive Plan, Chapter 2, Section 2.5 - Water Resources.
The proposed amendments (Exhibit C) includes the addition of the flood plain zone purpose statement. The statement identifies the purpose is to promote the public health, safety, and general welfare, and minimize losses due to flood conditions in specific areas.

Chapter 2, Section 2.5 - Water Resources, previously did not include a purpose statement for the Flood Plain zone. This amendment includes adoption of the “Statement of Purpose” from the 2014 Oregon Model Flood Damage Prevention Ordinance. The adoption of the model code provisions, including this purpose statement, was recommended by DLCD. The Flood Plain zone is intended to be responsive to National Flood Insurance Program (NFIP) requirements as well as state guidance and recommendations on the implementation of these requirements.

V. REVIEW CRITERIA

Deschutes County lacks specific criteria in DCC Titles 18, 22, or 23 for reviewing a legislative plan and text amendment. Nonetheless, because this is a Deschutes County initiated amendment, the County bears the responsibility for justifying that the amendments are consistent with the Statewide Planning Goals and its Comprehensive Plan.

VI. APPLICABLE CRITERIA

A. CHAPTER 22.12, LEGISLATIVE PROCEDURES

1. Section 22.12.010.

   Hearing Required

   FINDING: This criterion will be met because a public hearing will be held before the Deschutes County Planning Commission and Board of County Commissioners.

2. Section 22.12.020, Notice

   Notice
   A. Published Notice

   1. Notice of a legislative change shall be published in a newspaper of general circulation in the county at least 10 days prior to each public hearing.

   2. The notice shall state the time and place of the hearing and contain a statement describing the general subject matter of the ordinance under consideration.
FINDING: This criterion will be met by notice being published in the Bend Bulletin newspaper.

B. Posted Notice. Notice shall be posted at the discretion of the Planning Director and where necessary to comply with ORS 203.045.

FINDING: This criterion is met with notices posted on the bulletin board in the lobby of the Deschutes County Community Development Department, 117 NW Lafayette, Bend.

C. Individual notice. Individual notice to property owners, as defined in DCC 22.08.010(A), shall be provided at the discretion of the Planning Director, except as required by ORS 215.503.

FINDING: As this is a legislative process and is not property specific, individual notice is not required. This criterion does not apply.

D. Media notice. Copies of the notice of hearing shall be transmitted to other newspapers published in Deschutes County.

FINDING: Notice will be provided to the County public information official for wider media distribution. This criterion has been met.


A legislative change may be initiated by application of individuals upon payment of required fees as well as by the Board of County Commissioners.

FINDING: The application was initiated by the Deschutes County Planning Division at the direction of the Board of County Commissioners, and has received a fee waiver. This criterion has been met.

4. Section 22.12.040. Hearings Body

A. The following shall serve as hearings or review body for legislative changes in this order:
   1. The Planning Commission.
   2. The Board of County Commissioners.

B. Any legislative change initiated by the Board of County Commissioners shall be reviewed by the Planning Commission prior to action being taken by the Board of Commissioners.
FINDING: The Deschutes County Planning Commission held an initial public hearing on August 8, 2019 and will provide a recommendation to the Board of County Commissioners. The Board will then hold the second set of public hearings. These criteria will be met.

5. Section 22.12.050 Final Decision

All legislative changes shall be adopted by ordinance

FINDING: The legislative changes included in file nos. 247-19-000530-TA / 533-PA will be implemented by ordinance upon approval and adoption by the Board. This criterion will be met.

B. Statewide Planning Goals

The parameters for evaluating these specific amendments are based on an adequate factual base and supportive evidence demonstrating consistency with Statewide Planning Goals. The following findings demonstrate the proposed amendments comply with applicable statewide planning goals and state law.

- **Goal 1, Citizen Involvement**
  The adoption process for the proposed amendments will include public hearings before the Planning Commission and the Board, consistent with ORS 215.060 and DCC 22.12.010. This goal is met.

- **Goal 2, Land Use Planning**
  ORS 197.610 allows local governments to initiate post acknowledgments plan amendments (PAPA). An Oregon Department of Land Conservation and Development 35-day notice was initiated on July 3, 2019. This findings document provides the adequate factual basis and documented analysis for the plan amendment and zoning text amendments. This goal is met.

- **Goal 3, Agricultural Lands**
  The proposed amendments add and clarify hazard mitigation measures for development in the Flood Plain. No changes to the EFU zone are proposed. This goal does not apply.

- **Goal 4, Forest Lands**
  The proposed amendments add and clarify hazard mitigation measures for development in the Flood Plain. No changes to the F-1 and F-2 zones are proposed. This goal does not apply.
• **Goal 5, Natural Resources, Scenic and Historic Areas, and Open Spaces**
Local governments are required to apply Goal 5 to a PAPA when the amendment allows a new use and the new use “could be” a conflicting use with a particular Goal 5 resource site on an acknowledged resource list.\(^1\) OAR 660-023-0240 “Relationship of Goal 5 to Other Goals” establishes that the requirements of Goal 5 do not apply to the adoption of measures required by Goals 6 and 7.

As the amendments are incorporating minor changes or clarifications to uses that are currently allowed in the zone and adding additional requirements to ensure development in the Flood Plain Zone is consistent with NFIP and DLCD requirements per Goal 7, staff finds no Goal 5 resource will be negatively affected. Therefore, this goal is met.

• **Goal 6, Air, Water and Land Resources Quality**
The Deschutes County Code contains numerous regulations pertaining to development in the Flood Plain Zone that are designed to protect air, water and land resources quality. These regulations will be altered using language from DLCD’s 2014 *Oregon Model Flood Damage Prevention Ordinance* to establish greater consistency between state and local regulations in the Flood Plain Zone. This goal is met.

• **Goal 7, Natural Hazards**
As previously stated, the purpose of the proposed amendments are to update the Flood Plain Zone regulations to establish greater consistency between state and local regulations in the Flood Plain Zone. These amendments are specifically related to mitigation of natural hazards associated with flooding. This goal is met.

• **Goal 8, Recreational Needs**
The proposed amendments are not addressing a recreational use or need. Therefore, this goal is not applicable.

• **Goal 9, Economic Development**
The proposed amendments incorporate requirements from DLCD's 2014 *Oregon Model Flood Damage Prevention Ordinance* related to critical facilities, storage of equipment, accessory structures and manufactured dwellings. These requirements provide greater protection from flood damage and associated costs for property owners. The proposed amendments do not limit any existing commercial or industrial activities. This goal is met.

• **Goal 10, Housing**
Unlike municipalities, unincorporated areas in Deschutes County are not obligated to fulfill certain housing requirements as detailed in Goal 10. Therefore, this goal does not apply.

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\(^1\) OAR 660-023-0250(3)(b)
• **Goal 11, Public Facilities**
  The proposed amendments provide requirements to uses that currently exist within the Flood Plain Zone chapter of the Deschutes County Code. The proposed amendments do not impact any existing public facilities nor do they substantiate a need for the development of new public facilities. Therefore, this goal does not apply.

• **Goal 12, Transportation**
  The proposed text amendments pertain to development standards for currently allowed uses in the Flood Plain Zone for greater consistency between state and local requirements and do not approve any specific development proposal or a new land use. Development projects will be reviewed individually for compliance with the Transportation Planning Rule. Therefore, this goal does not apply.

• **Goal 13, Energy Conservation**
  The proposed text amendments alter countywide development standards for types of projects in the Flood Plain Zone, that are currently allowed uses. No specific development proposals are proposed. Any future site-specific application will be required to demonstrate consistency with Goal 13. Therefore, this goal does not apply.

• **Goal 14, Urbanization**
  The purpose of Goal 14 is to direct urban uses to areas inside urban growth boundaries. As proposed, these amendments do not seek to allow urban uses on rural land, nor do they seek to expand an existing urban growth boundary, this goal does not apply.

• **Goals 15 through 19**
  Goals 15 through 19 are not applicable to any amendments to the County's Comprehensive Plan as the County does not contain any of the relevant land types included in the goals.

B. **Deschutes County Comprehensive Plan**

Chapter 2, Resource Management  
Section 2.5, Water Resources  
2.5.10 Support educational efforts and identify areas where the County could provide information on the Deschutes River ecosystem, including rivers, riparian areas, floodplains and wetlands.  
  a. Explore methods of ensuring property owners know and understand regulations for rivers, riparian areas, floodplains and wetlands.
**FINDING:** In order to ensure all interested persons are aware of the proposed changes, staff will present an overview of the proposed amendments and administration of the Flood Plain Zone during Planning Commission and Board work sessions and public hearings.

**2.5.16 Use a combination of incentives and/or regulations to mitigate development impacts on river and riparian ecosystems and wetlands.**

**FINDING:** The Flood Plain Zone limits development and establishes standards to mitigate impacts. DCC 18.96.060(B) requires that no new construction of a dwelling, accessory structure or farm use structure shall be located in the flood plain unless it can be demonstrated that no alternative exists that would allow the structure to be placed outside of the flood plain. If development is located within the Flood Plain Zone, there are specific standards that mitigate development impacts on riparian ecosystems and wetlands. The proposed text amendments add additional regulations to ensure flood proofing, equipment storage, critical facilities, and manufactured homes are compliant with state regulations. In clarifying this consistent message, staff can administratively ensure development impacts are mitigated through the land use review process.

**Section 3.5, Natural Hazards**

**3.5.10 Regulate development in designated floodplains identified on the Deschutes County Zoning Map based on Federal Emergency Management Act regulations.**

- **Participate in and implement the Community Rating System as part of the National Flood Insurance Program.**

**FINDING:** The Flood Plain Zone will continue regulating and restricting development within its boundary. The amendment incorporates provisions of the 2014 *Oregon Model Flood Damage Prevention Ordinance*. Administration of the Flood Plain Zone demonstrates the County’s commitment to participation and implementation of the County Rating System as part of NFIP.

**3.5.11 Review and revise County Code as needed to:**

- **Make the Floodplain Zone a combining zone and explore ways to minimize and mitigate floodplain impacts.**

**FINDING:** Although the proposed amendments do not alter the Flood Plain Zone from a base zone to a combining zone, the proposed amendments provide greater consistency with state regulations through incorporation of text through DLCD’s 2014 *Oregon Model Flood Damage Prevention Ordinance*, which include additional requirements pertaining to critical facilities, storage of equipment, accessory structures, and manufactured dwellings. The existing Flood Plain protections will remain in place to ensure flood plain impacts are properly mitigated.
Chapter 18.04.  TITLE, PURPOSE AND DEFINITIONS


... “Base flood” means the flood having a one percent chance of being equaled or exceeded in any given year. Also referred to as the “100-year flood.” Designation on flood plain maps always includes the letters A or V.

“Base flood elevation” means the computed elevation to which floodwater is anticipated to rise during the base flood. Base Flood Elevations (BFEs) are shown on Flood Insurance Rate Maps (FIRMs) and on the flood profiles.

... “Below-grade crawl space” means an enclosed area below the base flood elevation in which the interior grade is not more than two feet below the lowest adjacent exterior grade and the height, measured from the interior grade of the crawlspace to the top of the crawlspace foundation, does not exceed 4 feet at any point.

... “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, and installations which produce, use or store hazardous materials or hazardous waste.

... "Flood Insurance Rate Map (FIRM)" is the official map on which the United States Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to the community. The FIRM is adopted by reference in Ordinance No. 88-0312007-019.

"Flood Insurance Study" is the official report provided by the Federal Insurance Administration that includes flood profiles, the Flood Boundary-Floodway Map, and the water surface elevation of the base flood condition of partial or complete inundation of normally dry land areas. The Study is adopted by reference in Ordinance No. 88-0342007-019.

"Flood plain" means the area adjoining a stream that is subject to inundation by the base flood discharge that is outside the floodway.

... “Substantial damage” means 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 improvement" means any repair, reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the true cash market value of the structure either:

A. Before the improvement or repair 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 building commences, whether
or not that alteration affects the external dimensions of the structure. The term does not, however, include either:

The term does not, however, include either:

A. 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; or

B. Any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places provided that the alteration will not preclude the structure’s designation as a ‘historic structure’.

(Ord. 2019-00x §x, 2019; Ord. 2017-015§1, 2017; Ord. 2016-026§1, 2016; Ord. 2016-015§1, 2016; Ord. 2015-004 §1, 2015; Ord. 2014-009 §1, 2014; Ord. 2013-008 §1, 2013; Ord. 2012-007 §1, 2012; Ord. 2012-004 §1, 2012; Ord. 2011-009 §1, 2011; Ord. 2010-022 §1, 2010; Ord. 2010-018 3, 2010, Ord. 2008-007 §1, 2008; Ord. 2008-015 §1, 2008; Ord. 2007-005 §1, 2007; Ord. 2007-020 §1, 2007; Ord. 2007-019 §1, 2007; Ord. 2006-008 §1, 2006; Ord. 2005-041 §1, 2005; Ord. Chapter 18.04 35 ( 04/2015) 2004-024 §1, 2004; Ord. 2004-001 §1, 2004; Ord. 2003-028 §1, 2003; Ord. 2001-048 §1, 2001; Ord. 2001-044 §2, 2001; Ord. 2001-037 §1, 2001; Ord. 2001-033 §2, 2001; Ord. 97-078 §5, 1997; Ord. 97-017 §1, 1997; Ord. 97-003 §1, 1997; Ord. 96-082 §1, 1996; Ord. 96-003 §2, 1996; Ord. 95-077 §2, 1995; Ord. 95-075 §1, 1975; Ord. 95-007 §1, 1995; Ord. 95-001 §1, 1995; Ord. 94-053 §1, 1994; Ord. 94-041 §§2 and 3, 1994; Ord. 94-038 §3, 1994; Ord. 94-008 §§1, 2, 3, 4, 5, 6, 7 and 8, 1994; Ord. 94-001 §§1, 2, and 3, 1994; Ord. 93-043 §§1, 1A and 1B, 1993; Ord. 93-038 §1, 1993; Ord. 93-005 §§1 and 2, 1993; Ord. 93-002 §§1, 2 and 3, 1993; Ord. 92-066 §1, 1992; Ord. 92-065 §§1 and 2, 1992; Ord. 92-034 §1, 1992; Ord. 92-025 §1, 1992; Ord. 92-004 1 and 2, 1992; Ord. 91-038 §§3 and 4, 1991; Ord. 91-020 §1, 1991; Ord. 91-005 §1, 1991; Ord. 91-002 §11, 1991; Ord. 90-014 §2, 1990; Ord. 89-009 §2, 1989; Ord. 89-004 §1, 1989; Ord. 88-050 §3, 1988; Ord. 88-030 §3, 1988; Ord. 88-009 §1, 1988; Ord. 87-015 §1, 1987; Ord. 86-056 2, 1986; Ord. 86-054 §1, 1986; Ord. 86-032 §1, 1986; Ord. 86-018 §1, 1986; Ord. 85-002 §2, 1985; Ord. 84-023 §1, 1984; Ord. 83-037 §2, 1983; Ord. 83-033 §1, 1983; Ord. 82-013 §1, 1982)
Chapter 18.96. FLOOD PLAIN ZONE - FP

18.96.010. Purposes.
18.96.020. Designated Areas.
18.96.030. Uses Permitted Outright.
18.96.050. Prohibited Uses.
18.96.060. Limitations on Conditional Uses.
18.96.070. Application for Conditional Use.
18.96.080. Criteria to Evaluate Conditional Uses.
18.96.085. Elevation Certification.
18.96.090. Yard and Setback Requirements.
18.96.100. Stream Setback.
18.96.110. Dimensional Standards.
18.96.120. Warning and Disclaimer of Liability.
18.96.130 Interpretaion of FIRM Boundaries
18.96.140 Use Variances.

18.96.080. Criteria to Evaluate Conditional Uses.

A. A conditional use permit in a Flood Plain Zone shall not be approved unless all standards established by the Federal Emergency Management Agency and DCC Title 18 are addressed and findings are made by the Hearings Body or Planning Director that each of the standards and criteria are satisfied.

B. Approval to alter or relocate a water course shall require notification to adjacent communities, the Department of Land Conservation and Development and Department of State Lands, and other appropriate state and federal agencies prior to any such alteration or relocation and submit evidence to the Federal Insurance Administration. Maintenance shall be provided within the altered and relocated portion of said watercourse so that the flood carrying capacity is not diminished.

C. A conditional use permit shall be based upon findings which relate to the property and existing and proposed structure(s). They shall not pertain to the property owner, inhabitants, economic or financial circumstances.

D. All structures in the flood plain shall meet the following standards.

   1. Anchoring.
      a. All new construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure.
      b. All manufactured homes must 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.

   2. Construction Materials and Methods.
      a. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
      b. All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.
      c. 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.

3. Utilities.
   a. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.
   b. New and replacement sanitary systems shall be designed to minimize or eliminate infiltration of floodwaters into the system and discharge from the system into flood waters.
   c. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding consistent with the Oregon Department of Environmental Quality as specified in OAR 340-071-0100 et seq.


E. Subdivision and Partition Proposals.
   1. All subdivision and partition proposals shall be consistent with the need to minimize flood damage.
   2. All subdivision and partition 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 and partition proposals shall have adequate drainage provided to reduce exposure to flood damage.
   4. Where Base Flood Elevation data has not been provided or is not available from another authoritative source, it shall be generated for subdivision proposals and other proposed developments which contain at least 50 lots or 5 acres (whichever is less). Generation of Base Flood Elevation data shall not be required for subdivision proposals and other proposed developments that expressly preclude residential and non-residential construction in a Special Flood Hazard Area.

F. Review of Building Permits. Where elevation data is not available either through the Flood Insurance Study or from another authoritative source, 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 at least two feet above grade in these zones may result in higher insurance rates.)

G. Specific Standards. In the Flood Plain Zone, the following requirements must be met:
   1. Residential Construction.
      a. New construction, including replacement, and substantial improvement of any residential structure shall have the lowest floor of the entire structure, including basement, elevated at least one foot above base flood elevation.
      b. Fully enclosed areas below the lower 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 satisfy the standards in FEMA Technical Bulletin 11-01 and must either be certified by a registered professional engineer or architect and meet or exceed the following criteria:
         i. 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.
         ii. The bottom of all openings shall be no higher than one foot above grade.
         iii. Openings may be equipped with screens, louvers or other coverings or devices, provided that they permit the automatic entry and exit of floodwaters.
   2. Nonresidential Construction. New construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor,
including basement, elevated at least one foot above the level of the base flood elevation, or, together with attendant utility and sanitary facilities, shall:

a. Be flood proofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water.

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

c. Be certified by a registered professional engineer or architect that the design and methods of construction are subject to accepted standards of practice for meeting provisions of DCC 18.96.080, based on their development and/or review of the structural design, specifications and plans. Such certifications shall be provided to the County as set forth in DCC 18.96.070(H).

d. Nonresidential structures that are elevated, but not flood proofed, must meet the same standards for space below the lowest floor as described in DCC 18.96.080(F).

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

f. Applicants shall supply a comprehensive Maintenance Plan for the entire structure that shall include but not limited to: exterior envelope of structure; all penetrations to the exterior of the structure; all shields, gates, barriers, or components designed to provide floodproofing protection to the structure; all seals or gaskets for shields, gates, barriers, or components; and, the location of all shields, gates, barriers, and components as well as all associated hardware, and any materials or specialized tools necessary to seal the structure.

g. Applicants shall supply an Emergency Action Plan (EAP) for the installation and sealing of the structure prior to a flooding event that clearly identifies what triggers the EAP and who is responsible for enacting the EAP.

3. Small Accessory Structures. Relief from elevation or floodproofing as required in (G)(1) or (G)(2) above may be granted for small accessory structures that are:

a. Less than 200 square feet and do not exceed one story;

b. Not temperature controlled;

c. Not used for human habitation and are used solely for parking of vehicles or storage of items having low damage potential when submerged;

d. Not used to store hazardous or toxic material, oil or gasoline, or any priority persistent pollutant identified by the Oregon Department of Environmental Quality unless confined in a tank installed in compliance with this ordinance or stored at least one foot above Base Flood Elevation;

e. Located and constructed to have low damage potential;

f. Constructed with materials resistant to flood damage;

g. Anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, during conditions of the base flood;

h. Constructed to equalize hydrostatic flood forces on exterior walls by allowing for the automatic entry and exit of floodwater. Designs for complying with this requirement must be certified by a licensed professional engineer or architect or:

i. Provide a minimum of two openings with a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;

ii. The bottom of all openings shall be no higher than one foot above the higher of the exterior or interior grade or floor immediately below the opening; and
iii. Openings may be equipped with screens, louvers, valves or other coverings or devices provided they permit the automatic flow of floodwater in both directions without manual intervention.

i. Constructed with electrical, and other service facilities located and installed so as to prevent water from entering or accumulating within the components during conditions of the base flood.

43. Manufactured Dwellings.
   a. Manufactured dwellings supported on solid foundation walls shall be constructed with flood openings that comply with (G)(1)(b) above;
   b. The bottom of the longitudinal chassis frame beam in A zones shall be at or above the Base Flood Elevation and the lowest floor of the manufactured dwelling shall be at least one foot above the Base Flood Elevation;
   c. The manufactured dwelling shall be anchored to prevent flotation, collapse, and lateral movement during the base flood. 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); and
   d. Electrical crossover connections shall be a minimum of 12 inches above Base Flood Elevation.

Manufactured Homes. All manufactured homes to be placed or substantially improved shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is at least one foot above the base flood elevation. Such manufactured homes shall be securely anchored to an adequately anchored foundation system subject to the provisions of DCC 18.96.080(C)(1).

54. Docks, Piers and Walkways.
   a. No individual boat dock or pier shall be allowed on any lot with less than 200 feet of river frontage.
   b. No community boat dock or pier shall be allowed on any lot with less than 100 feet of river frontage.
   c. No individual boat dock or pier shall be more than 20 feet in length or more than eight feet in width. The total surface area shall not exceed 160 square feet.
   d. No community boat dock or pier shall be more than 20 feet in length. The total surface area shall not exceed 320 square feet.
   e. A boat dock or pier shall not extend into or over the water more than 20 feet as measured from the ordinary high water mark (OHM), or five percent of the distance between the ordinary low water mark (OLM) on each river or stream bank measured at right angles to the shoreline, whichever is less, unless it can be shown that a greater extension:
      i. Is necessary to allow access to the OHM;
      ii. Will not increase flood hazard; and
      iii. Will not cause the deterioration or destruction of marine life or wildlife habitat.
      When the lines of ordinary high or low water cannot be determined by survey or inspection, then such lines shall be determined by a registered professional engineer using the annual mean high or low water for the preceding year, using data from the State of Oregon Watermaster.
   f. Individual boat docks and piers shall have a minimum five foot setback from adjoining property boundaries projected over the water surface.
   g. Dock, pier and walkway structures shall not be covered or enclosed.
   h. All materials used in dock, pier or walkway construction must be in compliance with all DEQ and EPA regulations.
i. Docks, piers and walkways shall use either pilings or Styrofoam floats if such floats are fully enclosed and sealed.

j. Docks, piers and walkways shall not impede water movement or cause deposition on waterway beds.

k. Docks, piers and walkways containing concrete or wood preservatives shall be fully cured or dried prior to placement in the water.

l. No walkway shall be more than four feet in width. The length of the walkway shall be no more than the minimum required to allow access to a dock.

m. Walkways shall include at least one handrail if the structure is elevated 30 inches or more from ground level.

n. All docks, piers and walkways shall meet the test of noninterference with navigation.

65. Parking Facilities. No parking facility shall be located within 20 feet (measured at right angles) of the ordinary high water mark (OHM).

7. Construction of new critical facilities shall be, to the extent possible, located outside the limits of the Area of Special Flood Hazard (100-year floodplain). Construction of new critical facilities shall be permissible within the Area of Special Flood Hazard if no feasible alternative site is available. Critical facilities constructed within the Area of Special Flood Hazard shall have the lowest floor elevated three feet above Base Flood Elevation or to the height of the 500-year flood, whichever is higher. Access to and from the critical facility should also be protected to the height utilized above. Floodproofing and sealing measures must be taken to ensure that hazardous or toxic substances, oil or gasoline, or any priority persistent pollutant identified by the Oregon Department of Environmental Quality will not be displaced by or released into floodwaters. Access routes elevated to or above the level of the Base Flood Elevation shall be provided to all critical facilities to the extent possible unless deemed impractical by the Hearings Body or Planning Director.

8. Storage of material or equipment, incidental to an established primary use on the property that is either not subject to damage by flood may be permitted. If such material is not readily removable, it shall be anchored to prevent flotation and shall not obstruct water flow. Material or equipment stored shall include only items which will not create a hazard to the health or safety of persons, property, animals or plant life should the storage area be inundated.

H. Floodways. In floodways the following provisions shall apply:

1. Encroachments, including fill and removal, replacement of a dwelling lawfully in existence on the effective date of Ordinance 88-030 and other development are prohibited unless certification by a registered professional engineer is provided demonstrating that the proposed encroachments will not result in any increase in flood levels during a base flood discharge.

2. The applicant must demonstrate that all necessary federal, state and local government agency permits have been or can be obtained and that all other applicable sections of DCC Title 18 have been satisfied.

3. Replacement of a dwelling shall not increase the square footage or footprint of the structure by more than 20 percent of the square footage or footprint of such dwelling as of the effective date of Ordinance 88-030.

4. No replacement of a dwelling shall be allowed if the use of the preexisting dwelling has been abandoned or otherwise terminated for a period of over one year.

(Ord. 2019-0xx §1, 2019; Ord. 2007-019 §2, 2007; Ord. 2000-033 §6, 2000; Ord. 95-075 §1, 1995; Ord. 95-022 §1, 1995; Ord. 93-043 §15B, 1993; Ord. 93-002 §§6-8, and 9, 1993; Ord. 91-020 §1, 1991; Ord. 89-009 §7, 1989; Ord. 88-030 §4, 1988)
18.96.130 Interpretation of FIRM Boundaries

The Planning Director shall make interpretations where needed, as to exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions). Such interpretations shall be processed as a development action pursuant to Chapter 22.16.

Where Flood Plain zoned land has been recognized as above the base flood elevation in a FEMA Letter of Map Change, uses and structures on such land shall be exempt from 18.96.080(D); 18.96.080(E); 18.96.080(G)(1), (2), and (3); 18.96.080(H); and 18.96.085.

(Ord. 2019-0xx §1, 2019; Ord. 2007-019 §2, 2007)
Section 2.5 Water Resources

... 

Riparian Areas

Riparian areas are areas adjacent to rivers, streams, lakes or ponds where there is vegetation that requires free or unbound water or conditions that are more moist than normal. Riparian areas form an interconnected system within a watershed. At the water’s edge they define the transition zone between aquatic and terrestrial systems. Riparian areas often contain a diversity of vegetation not found in upland areas. Riparian areas are limited in Deschutes County and are important habitats for both fish and wildlife.

The Deschutes County Comprehensive Plan, adopted in 1979 and revised, mapped riparian areas along the following rivers and streams.

**Table 2.5.5 - Riparian Acreage in Deschutes County**

<table>
<thead>
<tr>
<th>Streams</th>
<th>Riparian Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deschutes River</td>
<td>1,440</td>
</tr>
<tr>
<td>Little Deschutes</td>
<td>2,920</td>
</tr>
<tr>
<td>Paulina Creek</td>
<td>846</td>
</tr>
<tr>
<td>Indian Ford Creek</td>
<td>573</td>
</tr>
<tr>
<td>Tumalo Creek</td>
<td>50</td>
</tr>
<tr>
<td>Whychus Creek</td>
<td>47</td>
</tr>
<tr>
<td>Fall River</td>
<td>43</td>
</tr>
<tr>
<td>Crooked River</td>
<td>38</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>5,966</strong></td>
</tr>
</tbody>
</table>

Source: Deschutes County/City of Bend River Study 1986

Significant riparian habitat is located in one or more of the following three areas:

- The area within 100 feet of the ordinary high water mark of an inventoried river or stream. The 100 foot wide area may contain both riparian vegetation and upland vegetation.
- Wetlands and flood plain are also frequently within 100 feet of a stream or river. In some cases the riparian vegetation may extend beyond 100 feet from the ordinary high water mark if it is a designated wetland or flood plain.
- The area adjacent to an inventoried river or stream and located within a flood plain mapped by the Federal Emergency Management Agency and zoned Flood Plain by the County. The flood plain may extend beyond 100 feet from the ordinary high water mark of the stream and may contain wetland.

The County has not conducted an inventory of riparian areas adjacent to lakes and ponds on private land. However, many of these areas are included in National Wetland Inventory Maps and are subject to County, State and/or Federal wetland fill and removal regulations. Riparian areas adjacent to the many lakes on federal lands are managed and protected under federal land and resource management plans and are not included in the County inventory.

...
**Floodplains**

*Federal Emergency Management Agency Maps*

The Federal Emergency Management Agency (FEMA) maps flood-plains adjacent to the following rivers and streams in Deschutes County. The floodplain along these rivers and streams is recognized in a Flood Plain zone by the County.

**Table 2.5.6 - Floodplains Adjacent to Rivers and Streams**

<table>
<thead>
<tr>
<th>River/Stream</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deschutes River</td>
<td>Long Prairie</td>
</tr>
<tr>
<td>Little Deschutes River</td>
<td>Dry River</td>
</tr>
<tr>
<td>Whychus Creek</td>
<td>Spring River</td>
</tr>
<tr>
<td>Crooked River</td>
<td>Indian Ford Creek</td>
</tr>
<tr>
<td>Paulina Creek</td>
<td></td>
</tr>
</tbody>
</table>

Source: Deschutes County GIS

Floodplains are defined as the lowland and relatively flat areas adjoining inland waters including at a minimum, that area subject to a one percent (100-year recurrence) or greater chance of flooding in any one year. Generally, river flooding along the Deschutes River has not historically been a serious problem in Deschutes County. This is due to the porous nature of the local geology, irrigation diversion canals and reservoir retention. Studies completed by the U.S. Army Corp of Engineers have resulted in designating a 100 year flood-plain for the Little Deschutes River and Whychus Creek. Regular flooding events have occurred near the headwaters of Tumalo Creek and in the Tumalo community. Along Whychus Creek, the city of Sisters frequently experiences flooding, with the most significant event occurring in 1964 (see also Section 3.5).

In 2019, Deschutes County amended its Flood Plain Zone to incorporate additional standards from the 2014 DLCD Model Flood Ordinance.

The purpose of the Zone is to continue promoting public health, safety, and general welfare, and minimize losses due to flood conditions in specific areas. It is designed to:

1. Protect human life and health;
2. Minimize expenditure of public money and costly flood control projects;
3. Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
4. Minimize prolonged business interruptions;
5. 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. 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. Ensure that potential buyers are notified that property is in an area of special flood hazard; and,
8. Ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

The Zone also provides riparian area conservation along inventoried rivers and streams for fish and wildlife and preservation of significant scenic and natural resources. Comprehensive plan policies for Water Resources (Section 2.5), Wildlife Resources (Section 2.6), Open Space and
Scenic Views and Sites Resources (Section 2.7), and the corresponding development standards in Title 18 implement protections pertaining to Goal 5.