



Planning Commission Meeting Agenda
November 16, 2021
7:00 PM

Chairperson: Todd Culver
Commissioners: Roger Bristol, Rhonda Giles, Jeremy Moritz, Kurt Kayner, Kent Wullenwaber and Susan Jackson.
Meeting Location: Harrisburg Municipal Center Located at 354 Smith St

PUBLIC NOTICES:

1. *This meeting is open to the public and will be tape-recorded.*
2. *Copies of the Staff Reports or other written documents relating to each item on the agenda are on file in the office of the City Recorder and are available for public inspection.*
3. *The City Hall Council Chambers are handicapped accessible. Persons with disabilities wishing accommodations, including assisted listening devices and sign language assistance are requested to contact City Hall at 541-995-6655, at least 48 hours prior to the meeting date. If a meeting is held with less than 48 hours' notice, reasonable effort shall be made to have an interpreter present. The requirement for an interpreter does not apply to an emergency meeting. ORS 192.630(5)*
4. *Persons contacting the City for information requiring accessibility for deaf, hard of hearing, or speech-impaired persons, can use TTY 711; call 1-800-735-1232, or for Spanish voice TTY, call 1-800-735-3896.*
5. *The City of Harrisburg does not discriminate against individuals with disabilities, and is an equal opportunity provider.*
6. *For information regarding items of discussion on this agenda, please contact City Administrator Michele Eldridge, at 541-995-2200.*
7. *The Municipal Center is disinfected prior to meetings. Seating is 6' apart, and only 50 people can be in the room, dependent upon adequate spacing.*
8. *Masks are required, and the City asks for anyone running a fever, having an active cough or respiratory difficulties to not attend the meeting.*
9. *If you would like to provide testimony, and are unable to attend, please contact the City Recorder. We can accept written testimony up until 5:00 on the day of the meeting and can also call someone during the meeting if verbal testimony is needed.*

CALL TO ORDER AND ROLL CALL

CONCERNED CITIZEN(S) IN THE AUDIENCE. (Please limit presentation to two minutes per issue.)

PUBLIC HEARING

1. THE MATTER OF A HISTORIC RESOURCE ALTERATION REVIEW

STAFF REPORT/EXHIBITS:

Exhibit A: Application

Exhibit B: Current East Wall Pictures/1900 East Wall Picture

ACTION: MOTION TO APPROVE AS CONDITIONED, THE HISTORICAL (DOOR) ALTERATION OF THE I.O.O.F. BUILDING (LU 435-2021)

APPLICANT: Donnell & Patrick Freeman

WORK SESSION

2. THE MATTER OF REVIEWING THE FLOOD HAZARD MANAGEMENT ORDINANCE- PROPOSED HMC 18.55.070

STAFF REPORT & EXHIBITS:

Exhibit A: Current Flood Ordinance - HMC Chapter 15.20

Exhibit B: Proposed Flood Hazard Mgmt. Ordinance – HMC 18.55.070

ACTION: FOR REVIEW AND DISCUSSION

OTHERS

ADJOURN

Staff Report Harrisburg Planning Commission Harrisburg, Oregon

THE MATTER OF A HISTORIC RESOURCE ALTERATION REVIEW

STAFF REPORT/EXHIBITS:

Exhibit A: Application

Exhibit B: Current East Wall Pictures/1900 East Wall Picture

ACTION: MOTION TO APPROVE AS CONDITIONED, THE HISTORICAL (DOOR) ALTERATION OF THE I.O.O.F. BUILDING (LU 435-2021)

APPLICANT: Donnell & Patrick Freeman

LOCATION: 190 Smith St., 15S04W16AA005300

HEARING DATE: November 16, 2021

ZONING: C-1/H-1

OWNER: Donnell & Patrick Freeman

BACKGROUND

The subject site is located at 190 Smith Street, zoned Commercial C-1 and Harrisburg Historic District H-1. The structure is known as the IOOF Building (International Order of the Odd Fellows Building) and is listed as Target Building 2B in the *Harrisburg Design and Action Plan, 1991*, serving as a benchmark to guide construction and repair for all Historic properties in Harrisburg in their respective target areas. As such, any alteration to the existing building requires compliance with the standards listed within HMC 18.35 – Harrisburg Historic District H-1, and 18.105 - Historic Resource Alteration and Demolition.

This property was last reviewed by the Planning Commission in 2019, and in 2020, over several meetings, when the owners were seeking to add a garage door to the east wall of the structure, as well as variances for the other changes in relation to driveway spacing and reduction in access spacing. That request was approved with conditions, and the owners had submitted a building permit. However, that permit was recently

terminated by the applicant. Staff understands from Linn County that the owners have decided to discontinue the concept of a 'garage'.

INTRODUCTION

The applicant requests approval of a Historic Resource Alteration Permit (**Exhibit A**) to alter the 'man' door located on the east side of the structure near the middle of the building. This door is not original to the structure and was likely added by the Oddfellows in the mid-1900's. This may have been the same time frame in which the windows were added to east wall of the building as well. The City's report on this structure in the Oregon Inventory of Historic Properties Survey Form includes pictures from 1988; that picture showed the door at an oblique angle, and the 3 windows were present at that time. **Exhibit B** shows a screen shot of the current door, and includes a picture likely taken from a nearby roof, which showed this east wall of the building, and what likely was the original door when the building was constructed in 1882.

The applicants will also be restoring/repairing the windows on the 2nd story of the building. The restoration of the windows will repair and replace wood that has been damaged over the years. Because the applicant is doing a true restoration of the windows, it technically does not require any approval of the Planning Commission. Staff will continue to monitor and evaluate any work being done to restore original architectural features on this building.

CRITERIA AND FINDINGS OF FACT

Chapter 18.35 - HARRISBURG HISTORIC DISTRICT H-1

18.35.070 Historic district area.

The historic downtown district is defined as the area between Monroe and Macy Streets, and between 1st Street and the Union Pacific Railroad tracks. The buildings in the local inventory of historic properties are listed as follows:

- 1. I.O.O.F. Hall, 190 Smith Street;

The subject site is located at 190 Smith Street.

18.35.140 Design standards for new construction.

In an H-1 zone, new commercial construction, facade renovation, or building rehabilitation shall reflect the City's historic, aesthetic, and cultural heritage. The scale and form, style, material and texture, color, and signage shall follow the design guidelines for the historic downtown beginning on page 6-21 of the Harrisburg Design and Community Action Plan, dated June 27, 1991.

18.35.150 Design guidelines for commercial construction.

In an H-1 zone, new commercial construction and exterior remodeling shall follow the guidelines set forth in HMC 18.35.070 through 18.35.160 with the following exception:

The historic downtown commercial buildings shall be maintained and developed to represent a historic riverfront community of the late 1880s to early 1900s. The following

buildings currently listed on the local inventory of historic properties best represent buildings from this era:

- 1. IOOF Hall, 190 Smith Street;**
- 2. Rampy Building, 195 Smith Street;**
- 3. Hubbell Building, 286 Smith Street;**
- 4. May and Senders Store (original three-bay arcaded facade), 125 Smith Street. [Ord. 882 § 3.288, 2010.]**

Discussion: The I.O.O.F. Building is Target Building 2B as shown on page 6-11 of the Community Action Plan and Historic Design Guidelines. As such, it is important for the design aesthetics of this structure to show compliance with the standards in the design and action plan. The plan suggests that historical photographs can provide information on the original details of the building; Staff has included a historical photograph from early 1900's that shows the original door that is now being replaced (**Exhibit B**).

Finding: The current picture of the east wall of the I.O.O.F. building shows a door that was likely added in the mid-1900's, and does not match the design aesthetic of this structure as noted as being Target Building 2B. The replacement door will match the original door details as much as possible. Therefore, this standard has been met.

18.35.160 Building materials for commercial construction. In an H-1 zone, the type of materials used should be selected from those materials exhibited on the buildings representing the targeted era listed in HMC 18.35.150. These include wood, brick, cast iron, and wrought iron.

Finding: The materials being used for this replacement are wood, in the same style as the original door. The colors being used for the door and trim will be black, and therefore will match the storefront as shown in the photo from 1900, as well as the cast iron elements that were present on the building in 1898.

HMC 18.105.070 – Review Criteria for an Alteration Application

- 1. Criterion: The removal or alteration of any historical marker of distinctive architectural features shall be avoided when possible.**

Discussion: The applicant is removing and replacing a door that was added sometime in mid-century 1900, that is not original to the I.O.O.F. Structure. The replacement door is similar in design and features to the original door as shown in the picture from early 1900. (**Exhibit B**).

Finding: The applicant's proposal will not remove or alter any historic markers or architectural features of the resource, and in fact will be restoring the entry access to match the original door as closely as possible. The criterion is met.

- 2. Criterion: Alterations that include materials or a design not in keeping with the historic appearance of the building or structure shall be discouraged.**

Discussion: Alterations to the I.O.O.F. structure will include restoration to a door that is similar to the one shown in **Exhibit B** from 1900. The door being proposed will be custom built by JB Woodworks, and due to the oversized opening added somewhere in the mid-century, will be a pivot door. While French doors could also have been used in this wider door jamb, that type of door would not be as secure as the design that is proposed.

Finding: The proposed alteration does use materials that is historically consistent with those used at the time of construction and are compatible with the same styling as used in early 1900. The door will be custom made to match as closely as possible to the original door. The doorway appears to have been widened in the mid-1900's. That fact that the replacement door will be a pivot door does not alter the fact that the materials used are historically consistent with construction as used in early 1900. The new door is compatible with the historic resource. Therefore, this criterion is met.

3. Criterion: Alterations that have taken place over the course of time are part of the history and development of the building or structure. These alterations may be significant in their own right and shall be preserved if possible and appropriate.

Discussion: The original doorway may or may not have been widened in the mid-1900's. The original picture shown in **Exhibit B** is from early 1900, and the City's historical study files does not include a picture of the east side of the I.O.O.F. structure. In order to preserve the structural integrity of the wall, as well as the custom brick arch above the current door, the width of the door opening should not be changed. The replacement door will be custom made to fit this opening.

Finding: As submitted, the replacement door opening will remain the same size as it is now, and will preserve the brick arch shown in **Exhibit B**. The criterion is met.

4. Criterion: Distinctive stylistic features or examples of skilled craftsmanship should be treated carefully and retained whenever possible.

Discussion: The size of the doorway requires that a custom door be made; with the work being done by a local company who has highly skilled carpenters. The company doing this work has also restored their building that is on the Harrisburg Historic Resource Inventory List, (the Moody Building) and is therefore very respectful of the integrity and features located on Harrisburg Historical Resource structures.

Finding: All proposed distinctive architectural features will be restored to their original state, and the replacement door will be carefully built by local craftsmen who will match the door as closely as possible to the photo from 1900. The criterion is met.

5. Criterion: Deteriorated architectural features shall be repaired, rather than replaced, whenever possible.

Discussion: As noted in the application the owners are retaining all architectural features original to the structure. The man door being replaced is not original to the building, and therefore, is being replaced with one that is compatible and similar to the original door. While the work being done on the windows does not need to be reviewed by the Planning Commission, it should be noted that the company being used for restoration of the windows is also a highly skilled and capable company that has restored other historical structures that are important to their communities.

Finding: As proposed, deteriorated architectural elements will be repaired/restored, and the door that does not currently match the architectural style of the structure will be replaced with one that is. The criterion is met.

6. Criterion: If it is necessary to replace deteriorated architectural features, new materials should match in terms of composition, design, color and texture.

Discussion: The applicant will be replacing the current door with one that matches the composition, design, and texture of the original. The pictures shown in the application of the door shows that it will be painted black. The picture from 1900 (**Exhibit B**) shows the door as being trimmed in white. However, the store front at the front of the building is likely black or a similar dark color. David Cherry, who owned the building in 1886 remodeled the building, and incorporated the cast iron elements in 1889. (He was part owner of the Cherry & Parks Ironworks in Albany.) Because cast iron was black, and the storefront is black in this picture, Staff feels that the door and trim being painted black does match design elements from this time period.

Finding: As proposed, replacement architectural features will be historically compatible in terms of material composition, design and style. The color of the door and trim being black matches the cast iron elements as shown in the store front on Smith St., as well as being noted specifically in the historical study. The criterion is hereby met.

7. Criterion: Repair or replacement of missing architectural features shall be based on accurate duplications of features substantiated by historic, physical or pictorial evidence rather than on availability or architectural elements from other buildings or structures. The design shall be compatible with the size, scale, and material of the historic building or structure and shall be compatible with the character of the neighborhood.

Discussion: The applicant is replacing a missing architectural feature, in this case, the east man door, with a new door that is based on the design substantiated in the photo from 1900. Although the doorway was slightly enlarged mid-century, the door opening still matches the scale of the structure, and specifically to the storefront on the north/northeastern corner and more commercial part of the building. The brick arch that was located over the top of the doorway will be kept in place. As required by ordinance, the City will send a copy of this application to Joy Sears, the restoration specialist at the Oregon State Historic Preservation Office (SHPO). HMC 18.105.040 requires that we notify SHPO of any work being done on a structure on the historical resource list. The applicant will be required to wait on installation of the door until the City gets confirmation that SHPO does not have any objections to the restoration. (**Condition No. 1**).

Finding: As proposed and conditioned, the new door will replace a missing architectural feature, that will match the original door located in the east wall of the I.O.O.F. Building. This criterion is met.

CONCLUSIONS

The applicant requests approval of a historical resource alteration to the International Order of the Odd Fellows Building located at 190 Smith St. As demonstrated by the above discussion, analysis and findings, the application, as conditioned, complies with the applicable criteria from

the Harrisburg Municipal Code. The applicant shall be required to comply with the conditions and narrative as approved by the Planning Commission (**Condition No. 2**).

PLANNING COMMISSION ACTION

The Planning Commission has three options with respect to the subject application. They can:

- 1. Approve the request with conditions; or
- 2. Approve the request with modified conditions; or
- 3. Deny the request.

Based upon the criteria, discussion, and findings of facts above, Staff recommends the Planning Commission Approve with Conditions, the historical resource review of the International Order of the Odd Fellows Building, located at 190 Smith St., and also identified as LU 435-2021.

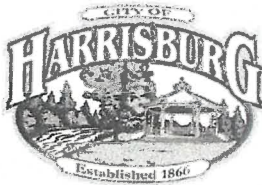
RECOMMENDED MOTION(S)

Consistent with staff’s recommendation to the Planning Commission, the motion is located at the top of this staff report.

RECOMMENDED CONDITIONS OF APPROVAL

Condition No. 1- Notice to be mailed to the State Historic Preservation Office: Applicant shall be required to wait on the installation of the replacement door until the City can confirm that SHPO does not have any objections to the design.

Condition No. 2 - Consistency with Plans – Development shall comply with the plans and narrative in the applicant’s proposal.



City of Harrisburg
120 Smith Street
Harrisburg, OR 97446
Phone (541) 995-6655
www.ci.harrisburg.or.us/planning

LAND USE APPLICATION

STAFF USE ONLY	
File Number:	LU 435-2021
Fee Amount:	\$ 100
Date Received:	11-8-21

APPLICATION TYPE	
<input type="checkbox"/> Annexation*	<input type="checkbox"/> Property Line Adjustment
<input type="checkbox"/> Comprehensive Plan Amendment*	<input type="checkbox"/> Partition/Replat* Minor Major
<input type="checkbox"/> Conditional Use Permit*	<input type="checkbox"/> Site Plan Review*
<input checked="" type="checkbox"/> Historic Permit*	<input type="checkbox"/> Site Plan Review – Parking Only
<input checked="" type="checkbox"/> Resource Alteration	<input type="checkbox"/> Subdivision/Replat*
<input type="checkbox"/> Resource Demolition	<input type="checkbox"/> Vacation of street, alley or easement
<input type="checkbox"/> Historic Review – District	<input type="checkbox"/> Variance*
<input type="checkbox"/> Legal Lot Determination	<input type="checkbox"/> Zone Map Change*
	<input type="checkbox"/> Zoning Ordinance Text Amendment*

*A Pre-Application Conference with City Staff is Required

PLEASE PROVIDE A BRIEF SUMMARY OF THE PROPOSAL	
Project Description	<p>Replacing missing original East entry main door with historically accurate replica door. No significant changes to major design aesthetics.</p> <p>Plans to keep and refinish all other existing doors and windows that are currently in place.</p>
Project Name	Odd Fellow Lodge 12 improvements

PRIMARY CONTACT AND OWNER INFORMATION	
Applicant's Name	Donnell and Patrick Freeman
Phone	4153775382
Email	freeman_patrick@hotmail.com
Mailing Address	310 South Williams St., DENVER, CO 80209
Applicant's Signature	<i>Donnell</i>
Date	11/8/2021
Property Owner Name	Donnell and Patrick Freeman
Phone	4153775382
Email	freeman_patrick@hotmail.com
Mailing Address	310 South Williams St.
Owner Signature	<i>Donnell</i>
Date	11/8/2021
*If more than one property owner is involved, provide a separate attachment listing each owner or legal representative and their signature.	

PROPERTY DESCRIPTION (general vicinity, side of street, distance to intersection, etc.)	
Street Address	120 2nd St. Harrisburg Oregon 97446
General Location Description	Odd Fellow building - corner of 2nd and Smith St.
Assessor's Map Number(s)	Related Tax Lot(s)
Map #	Tax Lot(s) #
1554W16AA	5300
The Assessor's Map Number (Township, Section and Range) and the Tax Lot Number (parcel) can be found on your tax statement, at the Linn County Assessor's Office, or online at http://linn-web.co.linn.or.us/propertywebquerypublic/	
Lot Area	2,528.79 <i>sq ft</i>

LAND USE AND OVERLAY ZONES

Existing Zone(s)

Existing Comprehensive Plan Designation(s)

Please select any of the following zone overlays or natural areas that apply to the subject site:

Historic Overlay Willamette River Greenway Floodplain

Riparian Corridors Wetlands

*Please include a discussion in the project narrative indicating how these overlays affect your proposal. For more information about any of these overlays, please contact the City Planner at (541) 995-6655.

CHECK THE BOX NEXT TO INCLUDED EXHIBITS

<input checked="" type="checkbox"/> Narrative* (address all applicable HMC review criteria)	<input type="checkbox"/> Architectural Elevations
<input type="checkbox"/> Assessor's Map with Applicable Tax Lots Highlighted	<input type="checkbox"/> Architectural Floor Plans
<input type="checkbox"/> Site Plan	<input type="checkbox"/> Utilities Plan
<input type="checkbox"/> Survey / ALTA	<input type="checkbox"/> Geotechnical Report/Site
<input type="checkbox"/> Aerial Photograph / Existing Land Use(s) Map	<input type="checkbox"/> Assessment
<input type="checkbox"/> Zoning Map (if applicable, show proposed change(s))	<input type="checkbox"/> Electronic Versions of Exhibits
<input type="checkbox"/> Comprehensive Plan Map(s) (if applicable, show proposed changes))	<input type="checkbox"/> Application Fee
<input type="checkbox"/> Subdivision or Partition Plat	<input type="checkbox"/> Other

*A written narrative is required for all application types. Typical drawings sizes are 24"X36", 11"X17", or 8.5"X11". Sizes of required drawings will depend on the type and scope of applications involved. Contact the City Planner to verify requirements. On your plans, include the following: property lines, points of access for vehicles, pedestrians, and bicycles, water courses, any natural features (wetlands, floodplain, etc.), existing and proposed streets and driveways, parking areas, utilities, pedestrian and bike paths, and existing easements. Please note there are additional specific graphic and narrative requirements for each application type. Refer to the Harrisburg Municipal Code for more information.

A Pre-application Conference is Required with City Staff prior to turning in your land use application. Please contact the City Administrator, or City Recorder/Assistant City Administrator to make an appointment. Date of Appointment:

PLEASE TELL US MORE ABOUT THE PROPOSAL AND ITS SITE

1. Are there existing structures on the site? Yes No If yes, please explain

The building itself is the only structure on the property.

2. Indicate the uses proposed and describe the intended activities:

Commercial tenant space (currently occupied), single family home and AirBnB opportunity (with city approval)

3. How will open space, common areas and recreational facilities be maintained?

by the owner

4. Are there previous land use approvals on the development site? Yes No If yes, please include a discussion in the project narrative describing how the prior approvals impact your proposal.

Garage door replacement was approved.

5. Have you reviewed the Oregon Fire Code Applications Guide in relation to your land use request? Yes No Do you have questions about any element of these requirements? If yes, please explain:

Original doors and windows being replaced following historic preservation standards.

AUTHORIZATION FOR STAFF & DECISION MAKERS TO ENTER LAND

City staff, Planning Commissioners, and City Councilors are encouraged to visit the sites of proposed developments as part of their review of specific land use applications. Decision maker site visits are disclosed through the public hearing process. Please indicate below whether you authorize City staff and decision makers to enter onto the property(-ies) associated with this application as part of their site visits.

I authorize City staff and decision makers to enter onto the property(-ies) associated with this application.

I do not authorize City decision makers to enter onto the property(-ies) associated with this application.

18.105.070 Review criteria for an alteration application.

In reviewing an application to alter a historic building and to preserve the historical and architectural integrity of historical resources, and to provide for public safety, Planning Commission decisions shall be based on applicable State and local codes and ordinances related to building, fire and life safety, and the following criteria:

1. The removal or alteration of any historical marker or distinctive architectural features shall be avoided when possible.

We are keeping all historical markers (cast iron dates/names on columns, ornamental paint detailing, etc.). We're also preserving the original windows and all original doors. The only new door will be the main entry door on the East wall. For this door we're attempting to recreate the door design based on the historical photos of the door from the early 1900's that were received from the Harrisburg museum.

2. Alterations that include materials or a design not in keeping with the historic appearance of the building or structure shall be discouraged.

The only new building materials will be for the new door. These will maintain a consistent design aesthetic with the other exterior doors.

3. Alterations that have taken place over the course of time are part of the history and development of the building or structure. These alterations may be significant in their own right and shall be preserved if possible and appropriate.

We're making every effort to preserve and restore all existing doors (aside from the main entry door which will match the historical original door) and windows.

4. Distinctive stylistic features or examples of skilled craftsmanship should be treated carefully and retained whenever possible.

We're using a local, custom woodworking company to recreate the new door (JB woodworks). The remaining existing doors and windows are being restored by a historical restoration window/door company (Chosen wood window maintenance). These companies are both highly skilled, capable and experienced in restoration of historical buildings.

5. Deteriorated architectural features shall be repaired, rather than replaced, whenever possible.

We're repairing everything without replacement of any current architectural features.

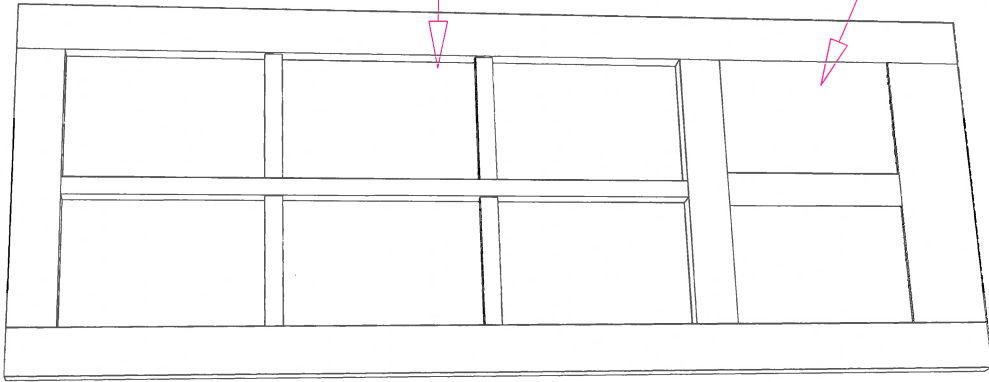
6. If it is necessary to replace deteriorated architectural features, new materials should match in terms of composition, design, color and texture.

We are making every effort to match the original door design based on the historical photos.

7. Repair or replacement of missing architectural features shall be based on accurate duplications of features substantiated by historic, physical or pictorial evidence rather than on availability or architectural elements from other buildings or structures. The design shall be compatible with the size, scale, and material of the historic building or structure and shall be compatible with the character of the neighborhood. [Ord. 882 § 5.260, 2010.]

We're matching the door to the historical accurate size and design based on the historical photos from the Harrisburg museum.

Approval



Date	1.
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(541) 995-6515

CCB # 109654

www.jbwoodworks.com

PO BOX 261 Harrisburg, Oregon 97446

A black door with a six-pane window. The window is divided into two columns and three rows by dark frames. Below the window is a solid black panel with a recessed rectangular area. A black handle is mounted on the right side of the door. The door is set within a black frame.

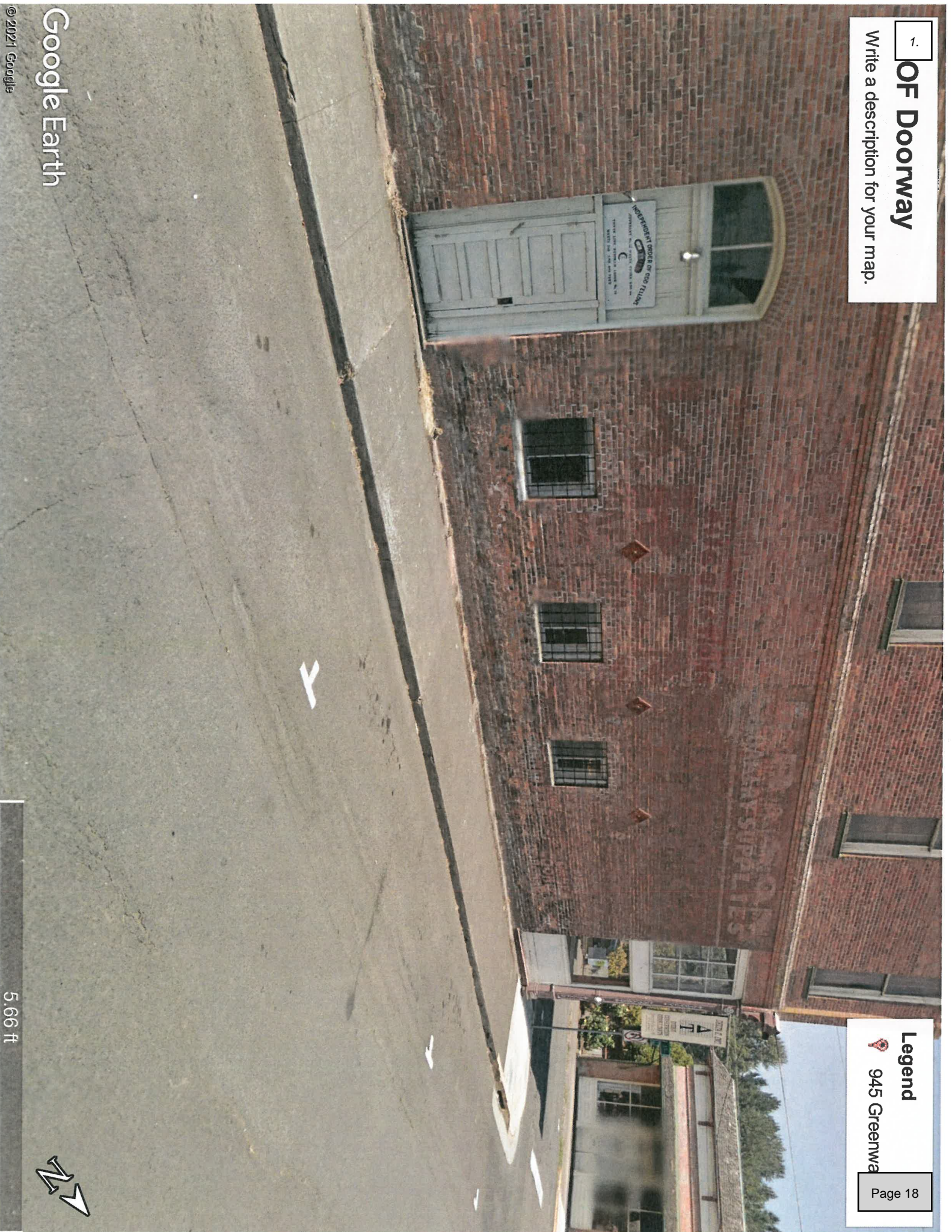
1.



1.

1. **OF Doorway**

Write a description for your map.



Legend
📍 945 Greenwa





Staff Report Harrisburg Planning Commission Harrisburg, Oregon

THE MATTER OF REVIEWING THE FLOOD HAZARD MANAGEMENT ORDINANCE - PROPOSED HMC 18.55.070

STAFF REPORT & EXHIBITS:

Exhibit A: Current Flood Ordinance - HMC Chapter 15.20

Exhibit B: Proposed Flood Hazard Mgmt. Ordinance – HMC 18.55.070

ACTION: FOR REVIEW AND DISCUSSION

MEETING DATE: November 16, 2021

BACKGROUND

The Planning Commission reviewed the model code flood ordinance back in 2018; and Staff had been working on converting that for review before the last meeting. However, because Staff is also the Flood Plain Administrator for the City of Harrisburg, she was aware of the new Flood Hazard Management Model Code that had just been released towards the end of 2020. As such, the code in this report is the newest flood hazard management code, written between the State of Oregon Department of Land Conservation and Development (DLCD), and that was reviewed and approved by the FEMA Region X authorities.

Staff have removed sections that don't apply to Harrisburg; specifically we are not near the coast, and therefore, the standards for coastal high hazard flood zones does not apply to the City of Harrisburg. The opening chapters of this model ordinance were kept, due to the references included to current Oregon Revised Statutes and Oregon Administrative Rules. These and the notes provided by the authors will be removed in the final version of this ordinance.

Most of the provisions in the model code are the same as Harrisburg's current Flood Hazard Code. There are a few sections that the Planning Commission should discuss. In 18.55.070(U)(3)(b) and (c), the model code specifies that Cities are allowed to be more rigid than what is required by law. The Planning Commission could choose to change this section, by increasing the elevation level to more than 1 foot above the Base Flood Elevation (BFE). Technically, the Planning Commission could increase this to 3', as it removes more property from the chances of being flooded.

Sections D & E, also located in 18.55.070(U)(3), and are also optional. However, flood insurance companies are now requiring both Maintenance Plans as well as Emergency Action Plans. In the interest of protecting our citizens to the best of our abilities, staff included both of these requirements. The Planning Commission could decide to remove these entirely if so desired.

Finally, towards the end of the entire code, there is section 18.55.070(U)(3)(g). The section Below-Grade Crawl Spaces is pertaining to properties located in a Flood Hazard Area. Because of Harrisburg's storm drainage issues, many properties will likely not have any crawl spaces. However, staff felt that even though it might be in a flood hazard area, that the property owner should have the choice on whether they wanted them or not. The Planning Commission can discuss this, and if desired, can completely remove the Below-Grade Crawl Spaces from the standards.

The Planning Commission should review these standards, and let Staff know if they have any questions or concerns.

**Chapter 15.20
FLOOD DAMAGE PREVENTION**

Sections:

[15.20.010 Findings of fact.](#)

[15.20.020 Statement of purpose.](#)

[15.20.030 Methods of reducing flood losses.](#)

[15.20.040 Definitions.](#)

[15.20.050 Lands to which this chapter applies.](#)

[15.20.060 Basis for establishing the areas of special flood hazard.](#)

[15.20.070 Penalties for noncompliance.](#)

[15.20.080 Abrogation and greater restrictions.](#)

[15.20.090 Interpretation.](#)

[15.20.100 Warning and disclaimer of liability.](#)

[15.20.110 Development permit required.](#)

[15.20.120 Application for development permit.](#)

[15.20.130 Designation of the City Planner.](#)

[15.20.140 Duties and responsibilities of the City Planner.](#)

[15.20.150 Variance procedure.](#)

[15.20.160 General standards.](#)

[15.20.170 Specific standards.](#)

[15.20.180 Floodways.](#)

[15.20.190 Standards for shallow flooding areas.](#)

[15.20.200 Critical facility.](#)

[15.20.210 Severability.](#)

15.20.010 Findings of fact.

1. The flood hazard areas of the City of Harrisburg are subject to periodic inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.
2. These flood losses are caused by the cumulative effect of obstructions in areas of special flood hazard which increase flood heights and velocities and, when inadequately anchored, damage uses in other areas. Uses that are inadequately floodproofed, elevated, or otherwise protected from flood damage also contribute to the flood loss. [Ord. 885 § 1.010, 2010.]

15.20.020 Statement of purpose.

It is the purpose of this chapter 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 promote human life and health;
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 are notified that property is in an area of special flood hazard;
and
8. To ensure that those who occupy the areas of special flood hazard assure responsibility for their actions. [Ord. 885 § 1.020, 2010.]

15.20.030 Methods of reducing flood losses.

In order to accomplish its purposes, this chapter includes methods 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 damages or 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 flood plains, stream channels, and natural protective barriers, which help accommodate or channel flood waters;
4. Controlling filling, grading, dredging, and other development which may increase flood damage;
5. Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or may increase flood hazards in other areas; and
6. Coordinating and supplementing the provisions of the State Building Code with local land use and development ordinances. [Ord. 885 § 1.030, 2010.]

15.20.040 Definitions.

Unless specifically defined below, 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.

“Appeal” means a request for a review by the City Planner for interpretations of any provision of this chapter or a request for a variance.

“Area of shallow flooding” means a designated AO or AH Zone on the flood insurance rate map (FIRM). The base flood depths range from one to three feet; a clearly defined channel does not exist; the path of flooding is unpredictable and indeterminate; and velocity flow may be evident. AO is characterized as sheet flow and AH indicates ponding.

“Area of special flood hazard” means the land in the flood plain within a community subject to a one percent or greater chance of flooding in any given year. Designation on maps always includes the letter A.

“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 maps always includes the letter A.

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

“Below-grade crawlspace” 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 four 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.

“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, excavation or drilling operations or storage of equipment or materials located within the area of special flood hazard.

“Elevated building” means, for insurance purposes, a nonbasement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns.

“Existing manufactured home park or subdivision” means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the adopted floodplain management regulations.

“Expansion to an existing manufactured home park or subdivision” means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

“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 or tidal waters; and/or
- b. The unusual and rapid accumulation of runoff of surface waters from any source.

“Flood insurance rate map (FIRM)” means the official map on which the Federal Insurance Administration has delineated both the areas of special flood hazard and the risk premium zones applicable to the community.

“Flood insurance study” means 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.

“Floodway” means the channel of a river or other watercourse and the adjacent land area that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

“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 HMC [15.20.170](#).

“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 attached to the required utilities. This term does not include a recreational vehicle.

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

“New construction” means structures for which the start of construction commenced on or after the effective date of the ordinance codified in this chapter.

“New manufactured home park or subdivision” means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of adopted floodplain management regulations.

“Recreational vehicle” means a vehicle which is:

- a. Built on a single chassis;
- b. Four hundred 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.

“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 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 the excavation for a basement, floggings, 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. For a substantial improvement, the “actual start of construction” means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or

not that alteration affects the external dimensions of the building.

“State Building Code” means the combined specialty codes adopted by the State of Oregon and applicable to the City of Harrisburg.

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

“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, or improvement of a structure, the cost of which equals or exceeds 50 percent of the 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 a 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:

- 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.

“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.

“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. [Ord. 885 § 2.010, 2010.]

15.20.050 Lands to which this chapter applies.

This chapter shall apply to all areas of special flood hazard within the jurisdiction of the City of Harrisburg. [Ord. 885 § 3.010, 2010.]

15.20.060 Basis for establishing the areas of special flood hazard.

The areas of special flood hazard identified by the Federal Insurance Administration in a scientific

and engineering report entitled “The Flood Insurance Study for Linn County, Oregon, and Incorporated Areas,” dated March 29, 2010, with accompanying flood insurance maps is hereby adopted by reference and declared to be part of this chapter. The flood insurance study is on file at the City Recorder’s office, City Hall, Harrisburg, Oregon. The best available information for flood hazard area identification as outlined in HMC [15.20.140\(2\)](#) shall be the basis for regulation until a new FIRM is issued which incorporates the data utilized under HMC [15.20.140\(2\)](#). [Ord. 885 § 3.020, 2010.]

15.20.070 Penalties for noncompliance.

No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this chapter and other applicable regulations. Failure to comply with any of the requirements of this chapter, including violations of conditions and safeguards established in connection with conditions, shall constitute a violation. Any person who violates this chapter or fails to comply with any of its requirements shall upon conviction thereof be fined no more than \$1,000 for each violation, and in addition shall pay all costs and expenses involved in the case. Each day a violation continues shall be considered a separate offense. Nothing herein contained shall prevent the City of Harrisburg from taking such other lawful action as is necessary to prevent or remedy any violation. [Ord. 885 § 3.030, 2010.]

15.20.080 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, State Building Code, easement, covenant or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail. [Ord. 885 § 3.040, 2010.]

15.20.090 Interpretation.

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 and rules including the State Building Codes. [Ord. 885 § 3.050, 2010.]

15.20.100 Warning and disclaimer of liability.

The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. 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 of Harrisburg, 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 hereunder. [Ord. 885 § 3.060, 2010.]

15.20.110 Development permit required.

A development permit shall be obtained before construction or development begins within any area of special flood hazard established in HMC [15.20.060](#). The permit shall be for all structures, including manufactured homes, as set forth in HMC [15.20.040](#), and for all development including fill and other activities, also set forth in HMC [15.20.040](#). [Ord. 885 § 4.010, 2010.]

15.20.120 Application for development permit.

Application for a development permit shall be made on forms furnished by the City Recorder. The application shall include but not be limited to:

1. Plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question;
2. Existing or proposed structures, fill, storage of materials, drainage facilities, and the location of the foregoing;
3. Elevation in relation to mean sea level of the lowest floor (including basement) of all structures;
4. Elevation in relation to mean sea level to which any structure has been floodproofed;
5. Certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet the floodproofing criteria in HMC [15.20.170](#)(2)(c); and
6. Description of the extent to which a watercourse will be altered or relocated as a result of proposed development. [Ord. 885 § 4.012, 2010.]

15.20.130 Designation of the City Planner.

The City planner is hereby appointed to administer and implement this chapter by granting or denying development permit applications in accordance with its provisions. [Ord. 885 § 4.020, 2010.]

15.20.140 Duties and responsibilities of the City Planner.

1. Permit Review. The City Planner shall be responsible for:
 - a. Review of all development permits to determine that the permit requirements and conditions of this chapter have been satisfied.
 - b. Review all development permits to determine that all necessary permits have been obtained for those Federal, State or local governmental agencies from which prior approval is required.
 - c. Review all development permits to determine if the proposed development is located in the

floodway. If located in the floodway, assure that the encroachment provisions of HMC [15.20.180](#) are met.

2. Use of Other Base Flood Data. When base flood elevation data has not been provided in accordance with HMC [15.20.060](#), Basis for establishing the areas of special flood hazard, the City planner 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 HMC [15.20.170](#), Specific standards, and [15.20.180](#), Floodways.

3. Information to Be Obtained and Maintained.

a. Where base flood elevation data is provided through the flood insurance study or required as in subsection (2) of this section, obtain and record the actual elevation (in relation to mean sea level) of the lowest floor (including basements and below-grade crawlspaces) of all new or substantially improved structures, and whether or not the structure contains a basement.

b. For all new or substantially improved floodproofed structures:

(1) Verify and record the actual elevation (in relation to mean sea level); and

(2) Maintain the floodproofing certification required in HMC [15.20.120](#)(5).

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

4. Alteration of Watercourses.

a. Notify adjacent communities, the State Department of Land Conservation and Development and other appropriate State and Federal agencies, prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration.

b. Require that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished.

5. Interpretation of FIRM Boundaries. Make interpretations, where needed, as to exact location of the boundaries of the areas of special flood hazard (for example, where there appears to be a conflict between a mapped boundary and actual field conditions). The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in HMC [15.20.150](#). [Ord. 885 §§ 4.030 – 4.038, 2010.]

15.20.150 Variance procedure.

1. Appeal Board.

a. The Planning Commission as established by the City of Harrisburg shall hear and decide appeals and requests for variances from the requirements of this chapter.

b. The Planning Commission shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the City of Harrisburg in the enforcement or administration of this chapter.

c. Those aggrieved by the decision of the Planning Commission, or any taxpayer, may appeal such decision to the City Council.

d. In passing upon such applications, the Planning Commission 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 flood plain 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 flood waters 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.

e. Upon consideration of the factors of subsection (1)(d) of this section and the purposes of this chapter, the Planning Commission may attach such conditions to the granting of variances as it deems necessary to further the purposes of this chapter.

f. The City Recorder shall maintain the records of all appeal actions and report any variances to the Federal Insurance Administration upon request.

2. Conditions for Variances.

- a. Generally, the only condition under which a variance from the elevation standard may be issued is for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing subsections (1)(d)(1) through (11) of this section have been fully considered. As the lot size increases, the technical justification required for issuing the variance increases.
- b. Variances may be issued for the reconstruction, rehabilitation, or restoration of structures listed on the National Register of Historic Places or the Statewide Inventory of Historic Properties, without regard to the procedures set forth in this section.
- c. Variances shall not be issued within a designated floodway if any increase in flood levels during the base flood discharge would result.
- d. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- e. Variances shall only be issued upon:
 - (1) A showing of good and sufficient cause;
 - (2) A determination that failure to grant the variance would result in exceptional hardship to the applicant;
 - (3) A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, or extraordinary public expense, create nuisances, cause fraud on or victimization of the public as identified in subsection (1)(d)(4) of this section, or conflict with existing local laws or ordinances.
- f. Variances as interpreted in the National Flood Insurance Program are based on the general zoning law principle that they pertain to a physical piece of property; they are not personal in nature and do not pertain to the structure, its inhabitants, economic or financial circumstances. They primarily address small lots in densely populated residential neighborhoods. As such, variances from the flood elevations should be quite rare.
- g. Variances may be issued for nonresidential buildings in very limited circumstances 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 except subsection (2)(a) of this section, and otherwise complies with HMC [15.20.160](#)(1) and (2).
- h. Any applicant to whom a variance is granted 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. 885 §§ 4.040 – 4.044, 2010.]

15.20.160 General standards.

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

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 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.)

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, air conditioning equipment, and other service facilities shall be designated 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 sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters; and

c. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding consistent with the rules of the Oregon Department of Environmental Quality.

4. Subdivision Proposals.

- a. All subdivision proposals shall be consistent with the need to minimize flood damage;
- b. All subdivision proposals shall have utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage;
- c. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage; and
- d. Where base flood elevation data has 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 five acres (whichever is less).

5. Review of Building Permits. Where elevation data is not available either through the flood insurance study, FIRM, or from another authoritative source (see HMC [15.20.140\(2\)](#)), 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. [Ord. 885 §§ 5.010 – 5.018, 2010.]

15.20.170 Specific standards.

In all areas of special flood hazard where base flood elevation data has been provided as set forth in HMC [15.20.060](#), Basis for establishing the areas of special flood hazard, or [15.20.140\(2\)](#), Use of Other Base Flood Data, the following provisions are required:

1. Residential Construction.

- a. New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated a minimum of one foot above the base flood elevation.
- b. 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 either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:
 - (1) A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.
 - (2) The bottom of all openings shall be no higher than one foot above grade.
 - (3) Openings may be equipped with screens, louvers, or other coverings or devices; provided, that they permit the automatic entry and exit of floodwaters.

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 to the level of the base flood elevation; or, together with attendant utility and sanitary facilities, shall:

- a. Be floodproofed 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 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 HMC [15.20.120\(5\)](#);
- d. Nonresidential structures that are elevated, not floodproofed, must meet the same standards for space below the lowest floor as described in subsection (1)(b) of this section;
- e. Applicants 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 base flood level will be rated as one foot below that level).

3. Manufactured Dwellings.

a. The ground area reserved for the placement of a manufactured dwelling shall be a minimum of 12 inches above the base flood elevation unless the foundation walls are designed to automatically equalize hydrostatic forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:

- (1) A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided;
- (2) The bottom of all openings shall be no higher than one foot above grade; and
- (3) Openings may be equipped with screens, louvers, or other coverings or devices; provided, that they permit the automatic entry and exit of floodwaters.

b. The bottom of the longitudinal chassis frame beam in A zones, and the bottom of the lowest horizontal structural member supporting the dwelling in V zones, shall be a minimum of 12 inches above the base flood elevation. (See the definition of "lowest floor" in the Manufactured

Dwelling Specialty Code.)

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).

d. Electrical crossover connections shall be a minimum of 12 inches above base flood elevation.

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

(1) Outside of a manufactured home park or subdivision;

(2) In a new manufactured home park or subdivision;

(3) In an expansion to an existing manufactured home park or subdivision; or

(4) In an existing manufactured home park or subdivision on which a manufactured home has incurred substantial damage as the result of a flood;

shall be elevated on a permanent foundation such that the finished floor of the manufactured home is to be elevated a minimum of 18 inches above the base flood elevation and be securely anchored to an adequately designed foundation system in accordance with the provisions of HMC [15.20.160\(1\)\(b\)](#).

f. Manufactured homes to be placed or substantially improved on sites in an existing manufactured home park or subdivision within Zones A1 through A30, AH, and AE on the community's FIRM that are not subject to the above manufactured home provisions be elevated so that either:

(1) The finished floor of the manufactured home is elevated to a minimum of 18 inches above the base flood elevation; or

(2) The manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade and be securely anchored to an adequately designed foundation system to resist flotation, collapse, and lateral movement.

4. Recreational Vehicles. All recreational vehicles placed on sites are required to either:

a. Be on the site for fewer than 180 consecutive days;

b. 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

c. Meet the requirements of subsection (3) of this section and the elevation and anchoring requirements for manufactured homes.

5. Below-Grade Crawlspace. Below-grade crawlspaces are allowed subject to the following standards as found in FEMA Technical Bulletin 11-01, Crawlspace Construction for Buildings Located in Special Flood Hazard Areas:

a. The building must be designed and adequately anchored to resist flotation, collapse, and lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy. Hydrostatic loads and the effects of buoyancy can usually be addressed through the required openings stated in subsection (5)(b) of this section. Because of hydrodynamic loads, crawlspace construction is not allowed in areas with flood velocities greater than five feet per second unless the design is reviewed by a qualified design professional, such as a registered architect or professional engineer. Other types of foundations are recommended for these areas.

b. The crawlspace is an enclosed area below the base flood elevation (BFE) and, as such, must have openings that equalize hydrostatic pressures by allowing the automatic entry and exit of floodwaters. The bottom of each flood vent opening can be no more than one foot above the lowest adjacent exterior grade.

c. Portions of the building below the BFE must be constructed with materials resistant to flood damage. This includes not only the foundation walls of the crawlspace used to elevate the building, but also any joists, insulation, or other materials that extend below the BFE. The recommended construction practice is to elevate the bottom of joists and all insulation above BFE.

d. Any building utility systems within the crawlspace must be elevated above BFE or designed so that floodwaters cannot enter or accumulate within the system components during flood conditions. Ductwork, in particular, must either be placed above the BFE or sealed from floodwaters.

e. The interior grade of a crawlspace below the BFE must not be more than two feet below the lowest adjacent exterior grade.

f. The height of the below-grade crawlspace, measured from the interior grade of the crawlspace to the top of the crawlspace foundation wall, must not exceed four feet at any point. The height limitation is the maximum allowable unsupported wall height according to the engineering analyses and building code requirements for flood hazard areas.

g. There must be an adequate drainage system that removes floodwaters from the interior

area of the crawlspace. The enclosed area should be drained within a reasonable time after a flood event. The type of drainage system will vary because of the site gradient and other drainage characteristics, such as soil types. Possible options include natural drainage through porous, well-drained soils and drainage systems such as perforated pipes, drainage tiles or gravel or crushed stone drainage by gravity or mechanical means.

h. The velocity of floodwaters at the site should not exceed five feet per second for any crawlspace. For velocities in excess of five feet per second, other foundation types should be used.

i. Below-grade crawlspaces will result in increased insurance costs.

6. Before Regulatory Floodway. In areas where a regulatory floodway has not been designated, no new construction, substantial improvements, or other development (including fill) shall be permitted within Zones A1 through A30 and AE on the City's FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community. [Ord. 889, 2010; Ord. 885 §§ 5.020 – 5.028, 2010.]

15.20.180 Floodways.

Located within areas of special flood hazard established in HMC [15.20.060](#) are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles, and erosion potential, the following provisions apply:

1. Except as provided in subsection (3) of this section, prohibit encroachments, including fill, new construction, substantial improvements, and other development unless certification by a registered professional civil engineer is provided demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.

2. If subsection (1) of this section is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of HMC [15.20.160](#) through [15.20.200](#).

3. Projects for stream habitat restoration may be permitted in the floodway, provided:

a. The project qualifies for a Department of the Army, Portland District, Regional General Permit for Stream Habitat Restoration (NWP-2007- 1023); and

b. A qualified professional (a registered professional engineer, or staff of NRCS, the county, or fisheries, natural resources, or water resources agencies) has provided a feasibility analysis and certification that the project was designed to keep any rise in 100-year flood levels as close to zero as practically possible given the goals of the project; and

- c. No structures would be impacted by a potential rise in flood elevation; and
 - d. An agreement to monitor the project, correct problems, and ensure that flood carrying capacity remains unchanged is included as part of the local approval.
4. New installation of manufactured dwellings is prohibited (2010 Oregon Manufactured Dwelling Specialty Code). Manufactured dwellings may only be located in floodways according to one of the following conditions:
- a. If the manufactured dwelling already exists in the floodway, the placement was permitted at the time of the original installation, and the continued use is not a threat to life, health, property, or the general welfare of the public; or
 - b. A new manufactured dwelling is replacing an existing manufactured dwelling whose original placement was permitted at the time of installation and the replacement home will not be a threat to life, health, property, or the general welfare of the public and it meets the following criteria:
 - (1) As required by 44 CFR Chapter 1, Subpart 60.3(d)(3), it must be demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practices that the manufactured dwelling and any accessory buildings, accessory structures, or any property improvements (encroachments) will not result in any increase in flood levels during the occurrence of the base flood discharge;
 - (2) The replacement manufactured dwelling and any accessory buildings or accessory structures (encroachments) shall have the finished floor elevated a minimum of 12 inches above the base flood elevation, but not lower than 12 inches above all electrical crossover connections;
 - (3) The replacement manufactured dwelling is placed and secured to a foundation support system designed by an Oregon professional engineer or architect and approved by the authority having jurisdiction;
 - (4) The replacement manufactured dwelling, its foundation supports, and any accessory buildings, accessory structures, or property improvements (encroachments) do not displace water to the degree that it causes a rise in the water level or diverts water in a manner that causes erosion or damage to other properties;
 - (5) The location of a replacement manufactured dwelling is allowed by City ordinances. [Ord. 889, 2010; Ord. 885 § 5.030, 2010.]

15.20.190 Standards for shallow flooding areas.

Shallow flooding areas appear on FIRMs as AO zones with depth designations. The base flood

depths in these zones range from one to three feet above ground 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:

1. New construction and substantial improvements of residential structures and manufactured homes within AO zones shall have the lowest floor (including basement) elevated above the highest grade adjacent to the building, a minimum of one foot above the depth number specified on the FIRM (at least two feet if no depth number is specified).
2. New construction and substantial improvements of nonresidential structures within AO zones shall either:
 - a. 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
 - b. Together with attendant utility and sanitary facilities, be completely flood proofed 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 or architect as in HMC [15.20.170\(2\)\(c\)](#).
3. Require adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed structures.
4. Recreational vehicles placed on sites within AO Zones on the community's FIRM shall either:
 - a. Be on the site for fewer than 180 consecutive days; and
 - b. Be fully licensed and ready for highway use, on its wheels or jacking system, attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions; or
 - c. Meet the requirements of this section and the elevation and anchoring requirements for manufactured homes. [Ord. 885 § 5.040, 2010.]

15.20.200 Critical facility.

Construction of new critical facilities shall be, to the extent possible, located outside the limits of the special flood hazard area (SFHA) (100-year floodplain). Construction of new critical facilities shall be permissible within the SFHA if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor elevated three feet above BFE 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 toxic substances 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. [Ord. 885 § 5.050, 2010.]

15.20.210 Severability.

In case any one or more of the sections, subsections, clauses, or provisions of this chapter or the application of such sections, subsections, clauses, or provisions to any situations, circumstances, or person shall for any reason be held to be unconstitutional or invalid, such unconstitutionality or invalidity shall not affect any other sections or provision of this chapter or the application of such sections, subsections, clauses or provisions to any other situation, circumstance, or person, and it is intended that this chapter shall be construed and applied as if such section or provision so held unconstitutional or invalid had not been included in this chapter. [Ord. 885 § 7.010, 2010.]

State of Oregon Model Flood Hazard Management Ordinance

Current Version Effective: October 23, 2020

*(Minor typo and reference corrections effective: Nov. 27, 2019)
(Last version effective: Aug. 9, 2019)*

Introduction

The model flood hazard ordinance has been prepared by the State of Oregon Department of Land Conservation and Development (DLCD) and has been reviewed and approved by FEMA Region X. Adoption of the ordinance language provided will ensure compliance with the minimum standards for participation in the National Flood Insurance Program (NFIP).

The model flood hazard ordinance includes standards and provisions that encourage sound floodplain management. The language is based on the minimum requirements of the NFIP found in the [Code of Federal Regulations \(CFRs\)](#), [Oregon’s statewide land use planning Goal 7](#), and the [Oregon specialty codes](#).

Note Regarding the Appendices:

Summary of Changes from the 2014 version to the 2019 Version of the Oregon Model Flood Hazard Ordinance:

The 2019 version of the Oregon Model Flood Hazard Ordinance (to be referred to herein as the “2019 model ordinance”), varies from the previous version in its reorganization of some sections and subsections, as well as the modification of content to include new sections and revisions to existing sections.

In general, the content was revised to more closely match (verbatim) the language in the sections of Code of Federal Regulations (CFR), which contain the minimum requirements for the National Flood Insurance Program (NFIP). The content was also revised to incorporate relevant standards in the State of Oregon’s Specialty Codes, and updates to those standards that have changed in the last 5 – 10 years. A breakdown of the primary changes found in the 2019 model ordinance is provided below:

1. Some definitions have been added, removed, or reworded to match the CFR definitions verbatim, as required by FEMA. There are additional optional and recommended definitions provided in [Appendix A](#).
2. The 2019 model ordinance notes the requirement for coordination with State of Oregon Specialty Codes (section **3.3**) and incorporates relevant requirements (higher standards) from the Specialty Codes to ensure alignment between the model flood ordinance language and the building code language. For example, the 2019 model ordinance:
 - a. Directly addresses “Garages” (section **5.2.2**) and “Tanks” (section **5.1.5**) by incorporating the relevant NFIP and State of Oregon Specialty Code requirements into the ordinance language.

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- b. Incorporates the Specialty Codes additional standards for flood openings in residential structures that require a building permit (section 5.2.1).
- 3. The floodplain development permit and permit review requirements have been expanded in the 2019 model ordinance (sections 4.3.2 and 4.2.1) to more accurately capture all of the information a community Floodplain Administrator is required to obtain and review to ensure a floodplain development proposal complies with the standards of the 2019 model ordinance (minimum NFIP and state standards).
- 4. The 2019 model ordinance expands the requirements for “Information to be Obtained and Maintained” (section 4.2.2). To reflect the NFIP minimum requirements and Oregon Specialty Code Requirements.
- 5. The 2019 model ordinance also has a new section, 4.2.3.1, “Community Boundary Alterations”, that reflects the NFIP minimum requirement for communities to notify FEMA when their boundaries change (i.e. when annexations occur).
- 6. The 2019 model ordinance clearly indicates that floodplain managers have a duty to conduct Substantial Improvement (SI) assessments and Substantial Damage (SD) determinations in a new section 4.2.4. Both SI and SD are defined in section 2.0. SI review is required for all structural development proposals and other development activities associated with or attached to a structure. This section is designed to help ensure that each floodplain development file includes SI calculations whenever appropriate, as well as the floodplain administrator’s determination of whether the proposed development activity qualifies as SI. SD review is required whenever structures have been damaged due to natural or other events (i.e. house fire). Please refer FEMA Publication 758: *Substantial Improvement/Substantial Damage Desk Reference*, available for download at: <https://www.fema.gov/media-library/assets/documents/18562> for additional details regarding SI and SD.
- 7. There is a change to the “Variance Conditions” section in the 2019 model ordinance. Per FEMA guidance, the variance condition related to historic structures has been removed. For more details, including an explanation of the reasons for this change, please see the note in [Appendix B, for section 4.4.1](#).
- 8. In the 2019 model ordinance, subdivisions and other development proposals (including manufactured dwelling parks and subdivisions) have been addressed directly in the new section 5.1.6, and the language reflects the requirements minimum NFIP requirements in 44 CFR 60.3(a)(4), and 60.3(b)(3).
- 9. Section 5.1.7, “Use of Other Base Flood Data” has been moved out of the administration section and the language has been updated to reflect the minimum state and NFIP standards.
- 10. Section 5.1.8, “Structures Located in Multiple or Partial Flood Zones”, has been added to reflect how the NFIP and State of Oregon Specialty Codes address structures that fall within multiple flood zones or are partially within one or more flood zones.

- 11. Section 5.2, which addresses the specific standards for riverine flood zones has been re-organized slightly, but it is still broken down by the type of FEMA Flood Insurance Rate Map (FIRM) flood zone and the level of detail or information available. It has also been amended to add the following sections at the beginning:
 - a. Section 5.2.1, “Flood Openings,” which covers the NFIP minimum requirements and additional Oregon Specialty Code requirements for residential structures requiring a building permit.
 - b. Section 5.2.2, “Garages,” addresses the specific requirements for attached and detached garages under the NFIP minimum standards and Oregon Specialty Code requirements.

Summary of Changes Made Under October 2020 Revisions to the Model Ordinance Language:

- 1. Removal of optional language from Appendix B that reflected the FEMA Region X Fish Enhancement Policy that was rescinded in 2020.
- 2. Addition of the word “and” after the first bullet in Section 5.2.3.5, the standards for recreational vehicles based on FEMA interpretation of the regulatory language for this standard in 44 CFR 60.3 as having an implied “and”.
- 3. Addition of the words “conversion to” into the residential and non-residential development standards Sections 5.2.3.2 and 5.2.3.3. This language was added to ensure that structures that are converted to different uses within the Special Flood Hazard Area are brought into compliance with residential standards for life, safety, and property damage prevention purposes.
- 4. Addition of “replacement” to the language in Section 5.2.3.4 standards for manufactured dwellings to ensure that the standards in this section are applied to replacement manufactured homes as well as new and substantially improved manufactured dwellings.

5.0.1.1

Oregon Model Flood Ordinance Regulatory Crosswalk

Section	Code of Federal Regulations (CFR) and Technical Bulletin Citation(s)	State of Oregon Citation(s) (Goal 7, Specialty Codes*, ORS)
1.1 Statutory Authorization	59.22(a)(2)	Goal 7; ORS 203.035 (Counties), ORS 197.175 (Cities)
1.2 Findings of Fact	59.22(a)(1)	Goal 7
1.3 Statement of Purpose	59.2; 59.22(a)(1) and (8); 60.22	Goal 7
1.4 Methods of Reducing Flood Losses	60.22	Goal 7
2.0 Definitions	59.1	Goal 7
3.1 Lands to Which this Ordinance Applies	59.22(a)	Goal 7
3.2 Basis for Establishing the Special Flood Hazard Areas	59.22(a)(6); 60.2(h)	Goal 7
3.3 Coordination with Specialty Codes Adopted by the State of Oregon Building Codes Division		ORS 455
3.4.1 Compliance	60.1(b) – (d)	Goal 7
3.4.2 Penalties for Noncompliance	60.1(b) – (d)	Goal 7
3.5.1 Abrogation	60.1(b) – (d)	Goal 7
3.5.2 Severability		
3.6 Interpretation	60.1(b) – (d)	Goal 7
3.7.1 Warning		
3.7.2 Disclaimer of Liability		
4.1 Designation of the Floodplain Administrator	59.22(b)(1)	Goal 7
4.2.1 Permit Review	60.3(a)(1) – (3); 60.3(c)(10)	Goal 7
4.2.2 Information to be Obtained and Maintained	59.22(a)(9)(iii); 60.3(b)(5)(i) and (iii); 60.3(c)(4); 60.3(b)(3); 60.6(a)(6)	Goal 7; I05.9; I10.33; R106.1.4; R109.1.3; R109.1.6.1; R322.1.10; R322.3.6
4.2.3.1 Community Boundary Alterations	59.22(a)(9)(v)	Goal 7
4.2.3.2 Watercourse Alterations	60.3(b)(6) – (7), 65.6(12 - 13)	Goal 7
4.2.3.3 Requirement to Submit New Technical Data	65.3, 65.6, 65.7, 65.12	Goal 7

4.2.4 Substantial Improvement and Substantial Damage Assessments and Determinations	59.1;60.3(a)(3); 60.3(b)(2); 60.3(b)(5)(i); 60.3(c)(1),(2),(3),(5) – (8),(10), (12); 60.3(d)(3); 60.3(e)(4),(5),(8)	Goal 7
4.3.1 Floodplain Development Permit Required	60.3(a)(1)	Goal 7
4.3.2 Application for Development Permit	60.3(a)(1); 60.3(b)(3); 60.3(c)(4)	Goal 7; R106.1.4; R322.3.6
4.4 Variance Procedure	60.6(a)	Goal 7
4.4.1 Conditions for Variances	60.6(a)	Goal 7
4.4.2 Variance Notification	60.6(a)(5)	Goal 7
5.1.1 Alteration of Watercourses	60.3(b)(6) and (7)	Goal 7
5.1.2 Anchoring	60.3(a)(3); 60.3(b)(1),(2), and (8)	Goal 7; R322.1.2
5.1.3 Construction Materials and Methods	60.3(a)(3), TB 2; TB 11	Goal 7; R322.1.3; R322.1.3
5.1.4.1 Water Supply, Sanitary Sewer, and On-Site Waste Disposal Systems	60.3(a)(5) and (6)	Goal 7; R322.1.7
5.1.4.2 Electrical, Mechanical, Plumbing, and Other Equipment	60.3(a)(3)	Goal 7; R322.1.6;
5.1.5 Tanks		R322.2.4; R322.3.7
5.1.6 Subdivision Proposals	60.3(a)(4)(i) – (iii); 60.3(b)(3)	Goal 7
5.1.7 Use of Other Base Flood Data	60.3(a)(3); 60.3(b)(4); 60.3(b)(3); TB 10-01	Goal 7; R322.3.2
5.1.8 Structures Located in Multiple or Partial Flood Zones		R322.1
5.2.1 Flood Openings	60.3(c)(5); TB 1; TB 11	Goal 7; R322.2.2; R322.2.2.1
5.2.2 Garages	TB 7-93	R309
5.2.3.1 Before Regulatory Floodway	60.3(c)(10)	Goal 7
5.2.3.2 Residential Construction	60.3(c)(2)	Goal 7
5.2.3.3 Non-residential Construction	60.3(c)(3) – (5); TB 3	Goal 7; R322.2.2; R322.2.2.1
5.2.3.4 Manufactured Dwellings	60.3(b)(8); 60.3(c)(6)(iv); 60.3(c)(12)(ii)	Goal 7; State of OR Manufactured Dwelling Installation Specialty Code (MDISC) and associated statewide Code Interpretation dated 1/1/2011
5.2.3.5 Recreational Vehicles	60.3(c)(14)(i) – (iii)	Goal 7

5.2.3.6 Appurtenant (Accessory) Structures	60.3(c)(5); TB 1; TB 7-93	SI05.2; R105.2
5.2.4 Floodways	60.3(d); FEMA Region X Fish Enhancement Memo (Mark Riebau)	Goal 7
5.2.5 Standards for Shallow Flooding Areas	60.3(c)(7),(8),(11), and (14)	Goal 7
5.3 Specific Standards for Coastal High Hazard Flood Zones, and 5.3.1 Development Standards	60.3(e); TB 5; TB 8; TB 9	Goal 7; R322.3.1; R322.3.2; R322.3.3; R322.3.4; R322.3.5
5.3.1.1 Manufactured Dwelling Standards for Coastal High Hazard Zones	60.3(e)(8)(i) – (iii)	Goal 7; RR322.3.2; State of OR Manufactured Dwelling Installation Specialty Code (MDISC) and associated statewide Code Interpretation dated 1/1/2011
5.3.1.2 Recreational Vehicle Standards for Coastal High Hazard Zones	60.3(e)(9)(i)- (iii)	Goal 7
5.3.1.3 Tank Standards for Coastal High Hazard Zones		R322.2.4; R322.3.7

*[Link to Oregon Specialty Codes](#)

18.55.070 FLOOD HAZARD MANAGEMENT

STATUTORY AUTHORITY, FINDINGS OF FACT, PURPOSE, AND METHODS

A. STATUTORY AUTHORIZATION

The State of Oregon has in ORS 197.175 delegated the responsibility to local governmental units to adopt floodplain management regulations designed to promote the public health, safety, and general welfare of its citizenry.

Therefore, the City of Harrisburg does ordain as follows:

B. FINDINGS OF FACT

- 1. The flood hazard areas of the City of Harrisburg are subject to periodic inundation which may result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.
- 2. These flood losses may be caused by the cumulative effect of obstructions in special flood hazard areas which increase flood heights and velocities, and when inadequately anchored, cause damage in other areas. Uses that are inadequately floodproofed, elevated, or otherwise protected from flood damage also contribute to flood loss.

C. STATEMENT OF PURPOSE

It is the purpose of this ordinance to promote public health, safety, and general welfare, and to minimize public and private losses due to flooding in flood hazard areas by provisions designed to:

- 1. Protect human life and health;
- 2. Minimize expenditure of public money for 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; and streets and bridges located in special flood hazard areas
- 6. Help maintain a stable tax base by providing for the sound use and development of flood hazard areas so as to minimize blight areas caused by flooding;
- 7. Notify potential buyers that the property is in a special flood hazard area
- 8. Notify those who occupy special flood hazard areas that they assume responsibility for their actions
- 9. Participate in and maintain eligibility for flood insurance and disaster relief.

D. METHODS OF REDUCING FLOOD LOSSES

In order to accomplish its purposes, this ordinance includes methods and provisions for:

- 1. Restricting or prohibiting development which is dangerous to health, safety, and

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Property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;

- 2. Requiring that development 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 flood waters;
- 4. Controlling filling, grading, dredging, and other development which may increase flood damage;
- 5. Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or may increase flood hazards in other areas.

E. DEFINITIONS

Unless specifically defined below, words or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage.

Appeal: A request for a review of the interpretation of any provision of this ordinance or a request for a variance.

Area of shallow flooding: A designated Zone AO, AH, AR/AO or AR/AH on a community’s Flood Insurance Rate Map (FIRM) with a one percent or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

Area of special flood hazard: The land in the floodplain within a community subject to a 1 percent or greater chance of flooding in any given year. It is shown on the Flood Insurance Rate Map (FIRM) as Zone A, AO, AH, AI-30, AE, A99, AR. “Special flood hazard area” is synonymous in meaning and definition with the phrase “area of special flood hazard”.

Base flood: The flood having a one percent chance of being equaled or exceeded in any given year.

Base flood elevation (BFE): The elevation to which floodwater is anticipated to rise during the base flood.

Basement: Any area of the building having its floor subgrade (below ground level) on all sides.

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.

Building: See "Structure."

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.

Development: Any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.

Elevated building: Means for insurance purposes, a non-basement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, post, piers, pilings, or columns.

Flood or Flooding:

- (a) A general and temporary condition of partial or complete inundation of normally dry land areas from:
 - 1. The overflow of inland or tidal waters.
 - 2. The unusual and rapid accumulation or runoff of surface waters from any source.
 - 3. Mudslides (i.e., mudflows) which are proximately caused by flooding as defined in paragraph (a)(2) of this definition and are akin to a river of liquid and flowing mud on the surfaces of normally dry land areas, as when earth is carried by a current of water and deposited along the path of the current.
- (b) The collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined in paragraph (a)(1) of this definition.

Flood elevation study: See "Flood Insurance Study".

Flood Insurance Rate Map (FIRM): The official map of a community, on which the Federal Insurance Administrator has delineated both the special hazard areas and the risk premium zones applicable to the community. A FIRM that has been made available digitally is called a Digital Flood Insurance Rate Map (DFIRM).

Flood Insurance Study (FIS): An examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation and determination of mudslide (i.e., mudflow) and/or flood-related erosion hazards.

Flood proofing: Any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate risk of flood damage to real estate or improved real property, water and sanitary facilities, structures, and their contents.

Floodplain or flood prone area: Any land area susceptible to being inundated by water from any source. See "Flood or flooding."

Floodway: 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 a designated height. Also referred to as "Regulatory Floodway."

Functionally dependent use: A use which cannot perform its intended purpose unless it is located

or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and shipbuilding and ship repair facilities, and does not include long term storage or related manufacturing facilities.

Hazardous material: The Oregon Department of Environmental Quality defines hazardous materials to include any of the following:

- (a) Hazardous waste as defined in ORS 466.005;
- (b) Radioactive waste as defined in ORS 469.300, radioactive material identified by the Energy Facility Siting Council under ORS 469.605 and radioactive substances defined in ORS 453.005
- (c) Communicable disease agents as regulated by the Health Division under ORS Chapter 431 and 433.010 to 433.045 and 433.106 to 433.990;
- (d) Hazardous substances designated by the United States Environmental Protection Agency (EPA) under section 311 of the Federal Water Pollution Control Act, P.L. 92-500, as amended;
- (e) Substances listed by the United States EPA in section 40 of the Code of Federal Regulations, Part 302 – Table 302.4 (list of Hazardous Substances and Reportable Quantities) and amendments;
- (f) Material regulated as a Chemical Agent under ORS 465.550;
- (g) Material used as a weapon of mass destruction, or biological weapon;
- (h) Pesticide residue;
- (i) Dry cleaning solvent as defined by ORS 465.200(9).

Highest adjacent grade: The highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

Historic structure: Any structure that is:

1. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
2. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
3. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of Interior; or
4. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:
 - a. By an approved state program as determined by the Secretary of the Interior or
 - b. Directly by the Secretary of the Interior in states without approved programs.

Letter of Map Change (LOMC): Means an official FEMA determination, by letter, to amend or revise

effective Flood Insurance Rate Maps and Flood Insurance Studies. The following are categories of LOMCs:

- (a) **Conditional Letter of Map Amendment (CLOMA):** A CLOMA is FEMA’s comment on a proposed structure or group of structures that would, upon construction, be located on existing natural ground above the base (1-percent-annual-chance) flood elevation on a portion of a legally defined parcel of land that is partially inundated by the base flood.
- (b) **Conditional Letter of Map Revision (CLOMR):** A CLOMR is FEMA’s comment on a proposed project that would, upon construction, affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective base flood elevations, or the special flood hazard area.
- (c) **Conditional Letter of Map Revision based on Fill (CLOMR-F):** A CLOMR-F is FEMA’s comment on a proposed project that would, upon construction, result in a modification of the special flood hazard area through the placement of fill outside the existing regulatory floodway.
- (d) **Letter of Map Amendment (LOMA):** An official amendment, by letter, to the Flood Insurance Rate Maps (FIRMs) based on technical data showing that an existing structure, parcel of land or portion of a parcel of land that is naturally high ground, (i.e., has not been elevated by fill) above the base flood, that was inadvertently included in the special flood hazard area.
- (e) **Letter of Map Revision (LOMR):** A LOMR is FEMA’s modification to an effective Flood Insurance Rate Map (FIRM), or Flood Boundary and Floodway Map (FBFM), or both. LOMRs are generally based on the implementation of physical measures that affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective base flood elevations, or the SFHA. The LOMR officially revises the FIRM or FBFM, and sometimes the Flood Insurance Study (FIS) report, and, when appropriate, includes a description of the modifications. The LOMR is generally accompanied by an annotated copy of the affected portions of the FIRM, FBFM, or FIS report.
- (f) **Letter of Map Revision based on Fill (LOMR-F):** A LOMR-F is FEMA’s modification of the special flood hazard area shown on the Flood Insurance Rate Map (FIRM) based on the placement of fill outside the existing regulatory floodway.
- (g) **PMR:** A PMR is FEMA’s physical revision and republication of an effective Flood Insurance Rate Map (FIRM) or Flood Insurance Study (FIS) report. PMRs are generally based on physical measures that affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective base flood elevations, or the special flood hazard area.

Lowest floor: 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 non-elevation design requirements of this ordinance.

Manufactured dwelling: A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required

utilities. The term "manufactured dwelling" does not include a "recreational vehicle" and is synonymous with "manufactured home".

Manufactured dwelling park or subdivision: A parcel (or contiguous parcels) of land divided into two or more manufactured dwelling lots for rent or sale.

Mean sea level: For purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which Base Flood Elevations shown on a community's Flood Insurance Rate Map are referenced.

New construction: For floodplain management purposes, "new construction" means structures for which the "start of construction" commenced on or after the effective date of a floodplain management regulation adopted by the City of Harrisburg and includes any subsequent improvements to such structures.

Recreational vehicle: 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.

Special flood hazard area: See "Area of special flood hazard" for this definition.

Start of construction: Includes substantial improvement and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement was within 180 days from the date of the permit. 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 dwelling on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

Structure: For floodplain management purposes, a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured dwelling.

Substantial damage: Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

Substantial improvement: Any reconstruction, rehabilitation, addition, or other improvement of a

structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or

Variance: A grant of relief by the City of Harrisburg from the terms of a flood plain management regulation.

Violation: The failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in this ordinance is presumed to be in violation until such time as that documentation is provided.

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 intrinsic nature of its operations.

Water surface elevation: The height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929, or other datum, of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

F. GENERAL PROVISIONS

G. LANDS TO WHICH THIS ORDINANCE APPLIES

This ordinance shall apply to all special flood hazard areas within the jurisdiction of the City of Harrisburg.

H. BASIS FOR ESTABLISHING THE SPECIAL FLOOD HAZARD AREAS

The special flood hazard areas identified by the Federal Insurance Administrator in a scientific and engineering report entitled "The Flood Insurance Study (FIS) for Linn County, Oregon and Incorporated Areas, dated July 31, 2019, with accompanying Flood Insurance Rate Maps (FIRMs) 40143C1116G, 40143C1119G, and 41043C1118G are hereby adopted by reference and declared to be a part of this ordinance. The FIS and FIRM panels are on file at City Hall, located at 120 Smith St.

I. COORDINATION WITH STATE OF OREGON SPECIALTY CODES

Pursuant to the requirement established in ORS 455 that the City of Harrisburg administers and enforces the State of Oregon Specialty Codes, the City of Harrisburg does hereby acknowledge that the Oregon Specialty Codes contain certain provisions that apply to the design and construction of buildings and structures located in special flood hazard areas. Therefore, this ordinance is intended to be administered and enforced in conjunction with the Oregon Specialty Codes.

J. COMPLIANCE AND PENALTIES FOR NONCOMPLIANCE

I. COMPLIANCE

All development within special flood hazard areas is subject to the terms of this ordinance and required to comply with its provisions and all other applicable regulations.

2. PENALTIES FOR NONCOMPLIANCE

No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this ordinance and other applicable regulations. Violations of the provisions of this ordinance by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions) shall constitute a violation of the Harrisburg Municipal Code, punishable by a fine not to exceed \$500 per offense. Continuing violations are assessed for each day during which the violation occurs after notice of violation has been served upon the violator. Nothing contained herein shall prevent the City of Harrisburg from taking such other lawful action as is necessary to prevent or remedy any violation.

K. ABROGATION AND SEVERABILITY

1. ABROGATION

This ordinance is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance and another ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

2. SEVERABILITY

This ordinance and the various parts thereof are hereby declared to be severable. If any section, clause, sentence, or phrase of the Ordinance is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holding shall in no way effect the validity of the remaining portions of this Ordinance.

L. INTERPRETATION

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

- a.) Considered as minimum requirements;
- b.) Liberally construed in favor of the governing body; and
- c.) Deemed neither to limit nor repeal any other powers granted under state statutes.

M. WARNING AND DISCLAIMER OF LIABILITY

1. WARNING

The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This ordinance does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages.

2. DISCLAIMER OF LIABILITY

This ordinance shall not create liability on the part of the City of Harrisburg, any officer or employee thereof, or the Federal Insurance Administrator for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made hereunder.

N. ADMINISTRATION

O. DESIGNATION OF THE FLOODPLAIN ADMINISTRATOR

The City Administrator, and his/her designee, is hereby appointed to administer, implement, and enforce

this ordinance by granting or denying development permits in accordance with its provisions. The Floodplain Administrator may delegate authority to implement these provisions.

P. DUTIES AND RESPONSIBILITIES OF THE FLOODPLAIN ADMINISTRATOR

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

I. PERMIT REVIEW

Review all development permits to determine that:

- a. The permit requirements of this ordinance have been satisfied;
- b. All other required local, state, and federal permits have been obtained and approved.
- c. Review all development permits to determine if the proposed development is located in a floodway. If located in the floodway assure that the floodway provisions of this ordinance in section **18.55.070(U)** are met; and
- d. Review all development permits to determine if the proposed development is located in an area where Base Flood Elevation (BFE) data is available either through the Flood Insurance Study (FIS) or from another authoritative source. If BFE data is not available then ensure compliance with the provisions of sections **18.55.070(T)(7)**; and
- e. Provide to building officials the Base Flood Elevation (BFE) applicable to any building requiring a development permit.
- f. Review all development permit applications to determine if the proposed development qualifies as a substantial improvement as defined in section **18.55.070(E)**.
- g. Review all development permits to determine if the proposed development activity is a watercourse alteration. If a watercourse alteration is proposed, ensure compliance with the provisions in section **18.55.070(T)(1)**.
- h. Review all development permits to determine if the proposed development activity includes the placement of fill or excavation.

2. INFORMATION TO BE OBTAINED AND MAINTAINED

The following information shall be obtained and maintained and shall be made available for public inspection as needed:

- a. Obtain, record, and maintain the actual elevation (in relation to mean sea level) of the lowest floor (including basements) and all attendant utilities of all new or substantially improved structures where Base Flood Elevation (BFE) data is provided through the Flood Insurance Study (FIS), Flood Insurance Rate Map (FIRM), or obtained in accordance with section **18.55.070(T)(7)**.
- b. Obtain and record the elevation (in relation to mean sea level) of the natural grade of the building site for a structure prior to the start of construction and the placement of any fill and ensure that the requirements of sections **18.55.070(U)(4)**, and **18.55.070(P)(1)(b)** are adhered to.
- c. Upon placement of the lowest floor of a structure (including basement) but prior to further vertical construction, obtain documentation, prepared and sealed by a professional licensed surveyor or engineer, certifying the elevation (in relation to mean sea level) of the lowest floor (including basement).
- d. Where base flood elevation data are utilized, obtain As-built certification of the elevation (in relation to mean sea level) of the lowest floor (including basement) prepared and sealed by a professional licensed surveyor or engineer, prior to the final inspection.
- e. Maintain all Elevation Certificates (EC) submitted to the community;
- f. Obtain, record, and maintain the elevation (in relation to mean sea level) to which the structure and

all attendant utilities were floodproofed for all new or substantially improved floodproofed structures where allowed under this ordinance and where Base Flood Elevation (BFE) data is provided through the FIS, FIRM, or obtained in accordance with section 18.55.070(T)(7).

- g. Maintain all floodproofing certificates required under this ordinance;
- h. Record and maintain all variance actions, including justification for their issuance;
- i. Obtain and maintain all hydrologic and hydraulic analyses performed as required under section 18.55.070(U)(4).
- j. Record and maintain all Substantial Improvement and Substantial Damage calculations and determinations as required under section 18.55.070(P)(4).
- k. Maintain for public inspection all records pertaining to the provisions of this ordinance.

3. REQUIREMENT TO NOTIFY OTHER ENTITIES AND SUBMIT NEW TECHNICAL DATA

a. COMMUNITY BOUNDARY ALTERATIONS

The Floodplain Administrator shall notify the Federal Insurance Administrator in writing whenever the boundaries of the community have been modified by annexation or the community has otherwise assumed authority or no longer has authority to adopt and enforce floodplain management regulations for a particular area, to ensure that all Flood Hazard Boundary Maps (FHBM) and Flood Insurance Rate Maps (FIRM) accurately represent the community’s boundaries. Include within such notification a copy of a map of the community suitable for reproduction, clearly delineating the new corporate limits or new area for which the community has assumed or relinquished floodplain management regulatory authority.

b. WATERCOURSE ALTERATIONS

Notify adjacent communities, the Department of Land Conservation and Development, and other appropriate state and federal agencies, prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration. This notification shall be provided by the applicant to the Federal Insurance Administration as a Letter of Map Revision (LOMR) along with either:

- i. A proposed maintenance plan to assure the flood carrying capacity within the altered or relocated portion of the watercourse is maintained; or
- ii. Certification by a registered professional engineer that the project has been designed to retain its flood carrying capacity without periodic maintenance.

The applicant shall be required to submit a Conditional Letter of Map Revision (CLOMR) when required under section 18.55.070(Q)(3)(c). Ensure compliance with all applicable requirements in sections 18.55.070(Q)(3)(c) and 18.55.070(T)(1).

c. REQUIREMENT TO SUBMIT NEW TECHNICAL DATA

A community’s base flood elevations may increase or decrease resulting from physical changes affecting flooding conditions. As soon as practicable, but not later than six months after the date such information becomes available, a community shall notify the Federal Insurance Administrator of the changes by submitting technical or scientific data in accordance with Title 44 of the Code of Federal Regulations (CFR), Section 65.3. The community may require the applicant to submit such data and review fees required for compliance with this section through the applicable FEMA Letter of Map Change (LOMC) process.

The Floodplain Administrator shall require a Conditional Letter of Map Revision prior to the issuance of a floodplain development permit for:

- i. Proposed floodway encroachments that increase the base flood elevation; and
- ii. Proposed development which increases the base flood elevation by more than one foot in areas where FEMA has provided base flood elevations but no floodway.

An applicant shall notify FEMA within six (6) months of project completion when an applicant has obtained a Conditional Letter of Map Revision (CLOMR) from FEMA. This notification to FEMA shall be provided as a Letter of Map Revision (LOMR).

The applicant shall be responsible for preparing all technical data to support CLOMR/LOMR applications and paying any processing or application fees associated with the CLOMR/LOMR.

The Floodplain Administrator shall be under no obligation to sign the Community Acknowledgement Form, which is part of the CLOMR/LOMR application, until the applicant demonstrates that the project will or has met the requirements of this code and all applicable state and federal permits.

4. SUBSTANTIAL IMPROVEMENT AND SUBSTANTIAL DAMAGE ASSESSMENTS AND DETERMINATIONS

Conduct Substantial Improvement (SI) (as defined in section 2.0) reviews for all structural development proposal applications and maintain a record of SI calculations within permit files in accordance with section **18.55.070(P)(2)**. Conduct Substantial Damage (SD) (as defined in section 2.0) assessments when structures are damaged due to a natural hazard event or other causes. Make SD determinations whenever structures within the special flood hazard area (as established in section **18.55.070(H)**) are damaged to the extent that 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.

Q. ESTABLISHMENT OF DEVELOPMENT PERMIT

1. FLOODPLAIN DEVELOPMENT PERMIT REQUIRED

A development permit shall be obtained before construction or development begins within any area horizontally within the special flood hazard area established in section **18.55.070(H)**. The development permit shall be required for all structures, including manufactured dwellings, and for all other development, as defined in section **18.55.070(E)**, including fill and other development activities.

2. APPLICATION FOR DEVELOPMENT PERMIT

Application for a development permit may be made on forms furnished by the Floodplain Administrator and may include, but not be limited to, plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question; existing or proposed structures, fill, storage of materials, drainage facilities, and the location of the foregoing. Specifically the following information is required:

- a. In riverine flood zones, the proposed elevation (in relation to mean sea level), of the lowest floor (including basement) and all attendant utilities of all new and substantially improved structures; in accordance with the requirements of section **18.55.070(P)(2)**.
- b. Proposed elevation in relation to mean sea level to which any non-residential structure will be

- floodproofed.
- c. Certification by a registered professional engineer or architect licensed in the State of Oregon that the floodproofing methods proposed for any non-residential structure meet the floodproofing criteria for non-residential structures in section **18.55.070(U)(3)(c)**.
- d. Description of the extent to which any watercourse will be altered or relocated.
- e. Base Flood Elevation data for subdivision proposals or other development when required per sections **18.55.070(P)(1)** and **18.55.070(T)(6)**.
- f. Substantial improvement calculation for any improvement, addition, reconstruction, renovation, or rehabilitation of an existing structure.
- g. The amount and location of any fill or excavation activities proposed.

R. VARIANCE PROCEDURE

The issuance of a variance is for floodplain management purposes only. Flood insurance premium rates are determined by federal statute according to actuarial risk and will not be modified by the granting of a variance.

I. CONDITIONS FOR VARIANCES

- a. Generally, variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, in conformance with the provisions of sections **18.55.070(R)(1)(c)** and **(E)**, and **18.55.070(R)(1)(b-e)**. As the lot size increases beyond one-half acre, the technical justification required for issuing a variance increases.
- b. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- c. Variances shall not be issued within any floodway if any increase in flood levels during the base flood discharge would result.
- d. Variances shall only be issued upon:
 - i. A showing of good and sufficient cause;
 - ii. A determination that failure to grant the variance would result in exceptional hardship to the applicant;
 - iii. 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 laws or ordinances.
- e. Variances may be issued for the repair or rehabilitation of historic structures upon a determination that the proposed repair or rehabilitation of historic structures upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.
- f. Variances may be issued by a community for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use provided that the criteria of section **18.55.070(R)(1) (b) – (e)** are met, and the structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.

2. VARIANCE NOTIFICATION

Any applicant to whom a variance is granted shall be given written notice that the issuance of a variance

to construct a structure below the Base Flood Elevation will result in increased premium rates for flood insurance and that such construction below the base flood elevation increases risks to life and property. Such notification and a record of all variance actions, including justification for their issuance shall be maintained in accordance with section **18.55.070(P)(2)**.

S. PROVISIONS FOR FLOOD HAZARD REDUCTION

T. GENERAL STANDARDS

In all special flood hazard areas, the following standards shall be adhered to:

I. ALTERATION OF WATERCOURSES

Require that the flood carrying capacity within the altered or relocated portion of said watercourse is maintained. Require that maintenance is provided within the altered or relocated portion of said watercourse to ensure that the flood carrying capacity is not diminished. Require compliance with sections **18.55.070(Q)(3)(b)** and **18.55.070(U)(3)(d)**.

2. ANCHORING

- a. All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
- b. All manufactured dwellings shall be anchored per section **18.55.070(U)(3)(d)**.

3. 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.

4. UTILITIES AND EQUIPMENT

a. WATER SUPPLY, SANITARY SEWER, AND ON-SITE WASTE DISPOSAL SYSTEMS

- i. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.
- ii. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters.
- iii. 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.

b. ELECTRICAL, MECHANICAL, PLUMBING, AND OTHER EQUIPMENT

Electrical, heating, ventilating, air-conditioning, plumbing, duct systems, and other equipment and service facilities shall be elevated at or above the base flood level or shall be designed and installed to prevent water from entering or accumulating within the components and to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during conditions of flooding. In addition, electrical, heating, ventilating, air-conditioning, plumbing, duct systems, and other equipment

and service facilities shall:

- i. If replaced as part of a substantial improvement shall meet all therequirements of this section.

5. TANKS

- a. Underground tanks shall be anchored to prevent flotation, collapse and lateral movement under conditions of the base flood.
- b. Above-ground tanks shall be installed at or above the base flood level or shall be anchored to prevent flotation, collapse, and lateral movement under conditions of the base flood.

6. SUBDIVISION PROPOSALS & OTHER PROPOSED DEVELOPMENTS

- a. All new subdivision proposals and other proposed new developments (including proposals for manufactured dwelling parks and subdivisions) greater than 50 lots or 5 acres, whichever is the lesser, shall include within such proposals, Base Flood Elevation data.
- b. All new subdivision proposals and other proposed new developments (including proposals for manufactured dwelling parks and subdivisions) shall:
 - i. Be consistent with the need to minimize flood damage.
 - ii. Have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize or eliminate flood damage.
 - iii. Have adequate drainage provided to reduce exposure to flood hazards.

7. USE OF OTHER BASE FLOOD ELEVATION DATA

When Base Flood Elevation data has not been provided in accordance with section **18.55.070(H)** the local floodplain administrator shall obtain, review, and reasonably utilize any Base Flood Elevation data available from a federal, state, or other source, in order to administer section **18.55.070(I)**. All new subdivision proposals and other proposed new developments (including proposals for manufactured dwelling parks and subdivisions) must meet the requirements of section **18.55.070(T)(6)**.

Base Flood Elevations shall be determined for development proposals that are 5 acres or more in size or are 50 lots or more, whichever is lesser in any A zone that does not have an established base flood elevation. Development proposals located within a riverine unnumbered A Zone shall be reasonably safe from flooding; the test of reasonableness includes use of historical data, high water marks, FEMA provided Base Level Engineering data, and photographs of past flooding, etc... wherever available. All residential structures and non-residential structures that are not dry floodproofed need to be a minimum of 2 feet above the highest adjacent grade.

Failure to elevate at least two feet above grade in these zones may result in higher insurance rates.

8. STRUCTURES LOCATED IN MULTIPLE OR PARTIAL FLOOD ZONES

In coordination with the State of Oregon Specialty Codes:

- a. When a structure is located in multiple flood zones on the community's Flood Insurance Rate Maps (FIRM) the provisions for the more restrictive flood zones shall apply.
- b. When a structure is partially located in a special flood hazard area, the entire structure shall meet the requirements for new construction and substantial improvements.

9. CRITICAL FACILITIES LOCATED IN MULTIPLE OR PARTIAL FLOOD ZONES

Construction of new critical facilities shall be, to the extent possible, located outside the limits of the special flood hazard area. Construction of new critical facilities shall be permissible within the SFHA only if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor elevated three (3) feet above the Base Flood Elevation (BFE) or to the height of the 500-year flood, whichever is higher. Access to and from the critical facility shall also be protected to the height utilized above. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters.

U. SPECIFIC STANDARDS FOR RIVERINE (INCLUDING ALL NON-COASTAL) FLOOD ZONES

These specific standards shall apply to all new construction and substantial improvements in addition to the General Standards contained in section 18.55.070(T)(1) of this ordinance.

I. FLOOD OPENINGS

All new construction and substantial improvements with fully enclosed areas below the lowest floor (excluding basements) are subject to the following requirements. Enclosed areas below the Base Flood Elevation, including crawl spaces shall:

- a. Be designed to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters;
- b. Be used solely for parking, storage, or building access;
- c. Be certified by a registered professional engineer or architect or meet or exceed all of the following minimum criteria:
 - i. A minimum of two openings,
 - ii. The total net area of non-engineered openings shall be not less than one square inch for each square foot of enclosed area, where the enclosed area is measured on the exterior of the enclosure walls,
 - iii. The bottom of all openings shall be no higher than one foot above grade.
 - iv. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they shall allow the automatic flow of floodwater into and out of the enclosed areas and shall be accounted for in the determination of the net open area.
 - v. All additional higher standards for flood openings in the State of Oregon Residential Specialty Codes Section R322.2.2 shall be complied with when applicable.

2. GARAGES

- a. Attached garages may be constructed with the garage floor slab below the Base Flood Elevation (BFE) in riverine flood zones, if the following requirements are met:
 - i. If located within a floodway the proposed garage must comply with the requirements of section 18.55.070(U)(4).
 - ii. The floors are at or above grade on not less than one side;
 - iii. The garage is used solely for parking, building access, and/or storage;
 - iv. The garage is constructed with flood openings in compliance with section 18.55.070(U)(1) to equalize hydrostatic flood forces on exterior walls by allowing for the automatic entry and exit of floodwater.
 - v. The portions of the garage constructed below the BFE are constructed with materials resistant to flood damage;
 - vi. The garage is constructed in compliance with the standards in section

18.55.070(T); and

- vii. The garage is 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.
- b. Detached garages must be constructed in compliance with the standards for appurtenant structures in section **18.55.070(U)(3)(d)** or non-residential structures in section 18.55.070(U)(3)(c) depending on the square footage of the garage.

3. FOR RIVERINE (NON-COASTAL) SPECIAL FLOOD HAZARD AREAS WITH BASE FLOOD ELEVATIONS

In addition to the general standards listed in section **18.55.070(T)** the following specific standards shall apply in Riverine (non-coastal) special flood hazard areas with Base Flood Elevations (BFE): Zones A1-A30, AH, and AE.

a. BEFORE REGULATORY FLOODWAY

In areas where a regulatory floodway has not been designated, no new construction, substantial improvement, or other development (including fill) shall be permitted within Zones A1-30 and AE on the community's Flood Insurance Rate Map (FIRM), unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.

b. RESIDENTIAL CONSTRUCTION

- i. New construction, conversion to, and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated at least 1 ft above the Base Flood Elevation (BFE)
- ii. Enclosed areas below the lowest floor shall comply with the flood opening requirements in section **18.55.070(U)(1)**.

Commented [ME1]: We can require from 1' to 3' of height above the BFE. Insurance savings and protection from flood events is significant for homes that are elevated one (1) foot or more above the BFE.

c. NON-RESIDENTIAL CONSTRUCTION

- i. New construction, conversion to, and substantial improvement of any commercial, industrial, or other non-residential structure shall
 - a.) Have the lowest floor, including basement elevated at 1 ft or more above the Base Flood Elevation (BFE);
 - l. Or, together with attendant utility and sanitary facilities:
 1. Be floodproofed so that below 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 or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this section based on their development and/or review of the structural design, specifications and plans. Such certifications shall

Commented [ME2]: Just like above, we can require from 1 ft to 3' above the base flood level.

be provided to the Floodplain Administrator as set forth section **18.55.070(P)(2)**.

- b.) Non-residential structures that are elevated, not floodproofed, shall comply with the standards for enclosed areas below the lowest floor in section **18.55.070(U)(1)**.
- c.) Applicants floodproofing non-residential buildings shall be notified that flood insurance premiums will be based on rates that are one (1) foot below the floodproofed level (e.g. a building floodproofed to the base flood level will be rated as one (1) foot below.
- d.) Applicants shall supply a maintenance plan for the entire structure to include but not limited to: exterior envelop 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
- e.) 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.

Commented [ME3]: D & E are not required per FEMA/DLCD. However, flood insurance companies are now requiring both Maintenance Plans, and Emergency Action Plans. It seems to be becoming a norm.

d. MANUFACTURED DWELLINGS

- i. Manufactured dwellings to be placed (new or replacement) or substantially improved that are supported on solid foundation walls shall be constructed with flood openings that comply with section **18.55.070(U)(1)**;
- ii. The bottom of the longitudinal chassis frame beam shall be at or above Base Flood Elevation;
- iii. Manufactured dwellings to be placed (new or replacement) or substantially improved 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;
- iv. Electrical crossover connections shall be a minimum of twelve (12) inches above Base Flood Elevation (BFE).

e. RECREATIONAL VEHICLES

Recreational vehicles placed on sites are required to:

- i. Be on the site for fewer than 180 consecutive days, and
- ii. 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
- iii. Meet the requirements of section **18.55.070(U)(3)(d)**, including the anchoring and elevation requirements for manufactured dwellings.

f. APPURTENANT (ACCESSORY) STRUCTURES

Relief from elevation or floodproofing requirements for residential and non-residential structures in Riverine (Non-Coastal) flood zones may be granted for appurtenant structures that meet the following requirements:

- i. Appurtenant structures located partially or entirely within the floodway must comply with requirements for development within a floodway found in section **18.55.070(U)(4)**.
- ii. Appurtenant structures must only be used for parking, access, and/or storage and shall not

- be used for human habitation;
- iii. In compliance with State of Oregon Specialty Codes, appurtenant structures on properties that are zoned residential are limited to one-story structures less than 200 square feet, or 400 square feet if the property is greater than two (2) acres in area and the proposed appurtenant structure will be located a minimum of 20 feet from all property lines. Appurtenant structures on properties that are zoned as non-residential are limited in size to 120 square feet.
- iv. The portions of the appurtenant structure located below the Base Flood Elevation must be built using flood resistant materials;
- v. The appurtenant structure must be adequately anchored to prevent flotation, collapse, and lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, during conditions of the base flood.
- vi. The appurtenant structure must be designed and constructed to equalize hydrostatic flood forces on exterior walls and comply with the requirements for flood openings in section **18.55.070(U)(1)**;
- vii. Appurtenant structures shall be located and constructed to have low damage potential;
- viii. Appurtenant structures shall not be used to store 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 section **18.55.070(T)(5)**.
- ix. Appurtenant structures shall be constructed with electrical, mechanical, 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.

g. BELOW-GRADE CRAWL SPACES

Below Grade Crawl Spaces are common in Oregon but are highly discouraged for any flood hazard areas in the City of Harrisburg. For Below-Grade Crawl Spaces to be allowed, the following guidelines are required.

- i. The building must be designed and adequately anchored to resist flotation, collapse, and lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy. Hydrostatic loads and the effects of buoyancy can usually be addressed through the required flood openings stated in Section **18.55.070(U)(1)**. Because of hydrodynamic loads, crawlspace construction is not allowed in areas with flood velocities greater than five (5) feet per second unless the design is reviewed by a qualified design professional, such as a registered architect or professional engineer. Other types of foundations are recommended for these areas.
- ii. The crawlspace is an enclosed area below the Base Flood Elevation (BFE) and, as such, must have openings that equalize hydrostatic pressures by allowing the automatic entry and exit of floodwaters. The bottom of each flood vent opening can be no more than one (1) foot above the lowest adjacent exterior grade.
- iii. Portions of the building below the BFE must be constructed with materials resistant to flood damage. This includes not only the foundation walls of the crawlspace used to elevate the building, but also any joists, insulation, or other materials that extend below the BFE. The recommended construction practice is to elevate the bottom of joists and all insulation above BFE.
- iv. Any building utility systems within the crawlspace must be elevated above BFE or designed so that floodwaters cannot enter or accumulate within the system components during flood conditions. Ductwork, in particular, must either be placed above the BFE or sealed from floodwaters.
- v. The interior grade of a crawlspace below the BFE must not be more than two (2) feet below the lowest

Commented [ME4]: The Planning Commission could decide to remove the Below-Grade Crawl Spaces. I wanted to give the homeowner the option to have them if they really, really, wanted to follow these guidelines.

- adjacent exterior grade.
- vi. The height of the below-grade crawlspace, measured from the interior grade of the crawlspace to the top of the crawlspace foundation wall must not exceed four (4) feet at any point. The height limitation is the maximum allowable unsupported wall height according to the engineering analyses and building code requirements for flood hazard areas.
- vii. There must be an adequate drainage system that removes floodwaters from the interior area of the crawlspace. The enclosed area should be drained within a reasonable time after a flood event. The type of drainage system will vary because of the site gradient and other drainage characteristics, such as soil types. Possible options include natural drainage through porous, well-drained soils and drainage systems such as perforated pipes, drainage tiles or gravel or crushed stone drainage by gravity or mechanical means.
- viii. The velocity of floodwaters at the site shall not exceed five (5) feet per second for any crawlspace. For velocities in excess of five (5) feet per second, other foundation types should be used.

4. FLOODWAYS

Located within the special flood hazard areas established in section **18.55.070(H)** are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of the 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 within the adopted regulatory floodway unless:
 - i. Certification by a registered professional civil engineer is provided demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment shall not result in any increase in flood levels within the community during the occurrence of the base flood discharge;
 - Or,
 - ii. A community may permit encroachments within the adopted regulatory floodway that would result in an increase in base flood elevations, provided that a Conditional Letter of Map Revision (CLOMR) is applied for and approved by the Federal Insurance Administrator, and the requirements for such revision as established under Volume 44 of the Code of Federal Regulations, section 65.12 are fulfilled.
- b. If the requirements of section **18.55.070(U)(4)(a)** are satisfied, all new construction, substantial improvements, and other development shall comply with all other applicable flood hazard reduction provisions of section **18.55.070(S)**.

5. STANDARDS FOR SHALLOW FLOODING AREAS

Shallow flooding areas appear on FIRMs as AO zones with depth designations or as AH zones with Base Flood Elevations. For AO zones the base flood depths range from one (1) to three (3) feet above ground 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. For both AO and AH zones, adequate drainage paths are required around structures on slopes to guide floodwaters around and away from proposed structures.

a. STANDARDS FOR AH ZONES

Development within AH Zones must comply with the standards in sections **18.55.070(T)**, **18.55.070(U)** and **(U)(5)**.

b. STANDARDS FOR AO ZONES

In AO zones, the following provisions apply in addition to the requirements in sections **18.55.070(T)** and **18.55.070(U)(5)**:

- a. New construction, conversion to, and substantial improvement of residential structures and manufactured dwellings within AO zones shall have the lowest floor, including basement, elevated above the highest grade adjacent to the building, at minimum to or above the depth number specified on the Flood Insurance Rate Maps (FIRM) (at least two (2) feet if no depth number is specified). For manufactured dwellings the lowest floor is considered to be the bottom of the longitudinal chassis frame beam.
- b. New construction, conversion to, and substantial improvements of non-residential structures within AO zones shall either:
 - a.) Have the lowest floor (including basement) elevated above the highest adjacent grade of the building site, at minimum to or above the depth number specified on the Flood Insurance Rate Maps (FIRMS) (at least two (2) feet if no depth number is specified); or
 - b.) Together with attendant utility and sanitary facilities, be completely floodproofed to or above the depth number specified on the FIRM or a minimum of two (2) feet above the highest adjacent grade if no depth number is specified, so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy. If this method is used, compliance shall be certified by a registered professional engineer or architect as stated in section **18.55.070(U)(3)(c)(3)**.
- c. Recreational vehicles placed on sites within AO Zones on the community's Flood Insurance Rate Maps (FIRM) shall either:
 - i. Be on the site for fewer than 180 consecutive days, and
 - ii. 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
 - iii. Meet the elevation requirements of section **18.55.070(U)(5)(b)** and the anchoring and other requirements for manufactured dwellings of section **18.55.070(U)(3)(d)**.
- d. In AO zones, new and substantially improved appurtenant structures must comply with the standards in section **18.55.070(U)(3)(f)**.
- e. In AO zones, enclosed areas beneath elevated structures shall comply with the requirements in section **18.55.070(T)**.