

## EXHIBIT A

### 3.7.3 – Flood Damage Prevention Regulations

#### A. Authorization and Purpose

1. Pursuant to state law and the municipal home rule provisions of the state constitution, the State of Oregon has delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry.
2. It is the purpose of these regulations to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in flood hazard areas to:
  - a. protect human life and health;
  - b. minimize expenditure of public funds and the necessity of costly flood control projects;
  - c. minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
  - d. minimize negative economic impacts of prolonged business interruptions;
  - e. minimize damage to public facilities and utilities (water, gas, power, phone, sewer, streets and bridges) in flood hazard areas;
  - f. maintain a stable tax base by ensuring sound use and development of flood hazard areas to minimize potential future blight areas;
  - g. ensure that potential buyers are notified that a property is located in an area of specific flood hazard;
  - h. ensure that property owners in said areas assume responsibility for appropriate development standards, and
  - i. manage the alteration of flood hazard areas, stream channels and shorelines to minimize the impact of development on the natural and beneficial functions of the floodplain.

#### B. Methods of Reducing Flood Losses

1. Restrict or prohibit uses which are dangerous to health, safety and property due to water erosion hazards, or which result in damaging increases in erosion, flood heights or velocities;
  2. Require that development that is vulnerable to floods, including structures and facilities necessary for the general health, safety and welfare of citizens, be protected against flood damage at the time of initial construction;
  3. Preserve and restore natural floodplains, stream channels, and natural protective barriers which carry and store flood waters;
  4. Control filling, grading, dredging and other development which may increase flood damage;
  5. Prevent or regulate construction of flood barriers which will unnaturally divert flood waters or increase flood hazards in other areas, and
  6. Coordinate and supplement the provisions of the State Building Specialty Codes (enforced by the City Building Official through the State of Oregon Building Codes Division) with local land use and development ordinances.
- C. **Definitions:** Unless specifically defined below, words or phrases used in these regulations shall be interpreted so as to give them the meaning they have in common usage, and to give these regulations it's most reasonable application.

**“ACCESSORY STRUCTURE”** - a structure on the same or adjacent parcel as a principal structure, the use of which is incidental and subordinate to the principal structure. A separate insurable building should not be classified as an accessory or appurtenant structure.

**“ALTERATION OF A WATERCOURSE”** - includes, but is not limited to, any dam, culvert, impoundment, channel relocation, change in channel alignment, channelization, or change in cross-sectional area or capacity, which may alter, impede, retard or change the direction and/or velocity of the riverine flow of water during conditions of the base flood

**“APPEAL”** - a request for review of the Floodplain Administrator's interpretation of any provision of these regulations or request for a variance.

**“AREA OF SHALLOW FLOODING”** - a designated AO or AH Zone on the Flood Insurance Rate Map (FIRM). The base flood depths range from one (1) to three (3) feet; a clearly defined flood channel does not exist; the path of flooding is unpredictable and indeterminable; and, velocity flow may be evident. AO is characterized as sheet flow. AH indicates ponding.

**“AREA OF SPECIAL FLOOD HAZARD”** - land in the floodplain subject to a one percent (1%) or greater, chance of being flooded in any given year, FIRM designation always includes the letters A or V.

**“BASE FLOOD”** - flood having a one percent (1%) or greater, chance of being equaled or exceeded in any given year. Also referred to as the “100-year flood”.

**“BASE FLOOD ELEVATION” (BFE)** - the water surface elevation of the base flood, usually in feet, in relation a specified datum the National Geodetic Vertical Datum of 1929 (NGVD); The North American Vertical Datum of 1988 (NAVD 88); or other datum as specified. The Base Flood Elevation (BFE) is depicted on the FIRM to the nearest foot and in the FIS to the nearest 0.1 foot.

**“BASEMENT”**- any area of the building having its floor sub grade (below ground level) on all sides.

**“BELOW-GRADE CRAWL SPACE”** - 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 crawl space to the top of the crawlspace foundation, does not exceed 4 feet at any point.

**“BREAKAWAY WALL”** - a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.

**“BUILDING”** - a building or structure subject to Building Specialty Codes.

**“BUILDING CODES”** - the combined specialty codes adopted by the State of Oregon.

**“CRITICAL FACILITY”** - a facility that is critical for the health and welfare of the population and is especially important following hazard events this is a facility for which even a slight chance of flooding might be too great. Critical facilities include, but are not limited to, special occupancy structures, essential facilities, schools, nursing homes, hospitals, police, fire and emergency response installations, transportation systems, lifeline utility systems, high potential loss facilities and installations which produce, use or store hazardous materials or hazardous waste. See “Essential Facility”.

**“DATUM”** - the vertical datum is a base measurement point (or set of points) from which all elevations are determined. Historically, that common set of points has been the National Geodetic Vertical Datum of 1929 (NAVD29). The vertical datum currently adopted by the federal government as a basis for measuring heights is the North American Vertical Datum of 1988 (NAVD88).

**“DEVELOPMENT”** - any man-made change to improved or unimproved real estate, including, but not limited to, building or other structures, mining, dredging, filling, grading

paving, excavation or drilling operations located within the area of special flood hazard. Work exempt from the Oregon Specialty codes requires a Floodplain Development Permit unless specifically exempted by definition in these regulations.

**“DIGITAL FIRM (DFIRM)”** - Digital Flood Insurance Rate Map. It depicts flood risk and zones and flood risk information. The DFIRM presents the flood risk information in a format suitable for electronic mapping applications.

**“ENCROACHMENT”** - the advancement or infringement of uses, fill, excavation, buildings, permanent structures or other development into a floodway which may impede or alter the flow capacity of a floodplain.

**“ELEVATED BUILDING”** - a non-basement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, post, piers, pilings, or columns.

**“ESSENTIAL FACILITY”** or **“CRITICAL FACILITY”** means:

- a. Hospitals and other medical facilities having surgery and emergency treatment areas;
- b. Fire and police stations;
- c. Tanks or other structures containing, housing or supporting water or fire-suppression materials or equipment required for the protection of essential or hazardous facilities or special occupancy structures;
- d. Emergency vehicle shelters and garages;
- e. Structures and equipment in emergency-preparedness centers;
- f. Standby power generating equipment for essential facilities; and
- g. Structures and equipment in government communication centers and other facilities required for emergency response.

**“EXISTING BUILDING OR STRUCTURE CONSTRUCTION”** means for the purposes of determining rates, structures for which the “start of construction” commenced before the effective date of the FIRM or before January 1, 1975, for FIRMs effective before that date. “Existing construction” may also be referred to as “existing structures.”[44 CFR 59.1] means a structure for which the “start of construction” commenced before January 2, 1981

**“FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)”** means the federal agency within the Department of Homeland Security with the overall responsibility for administering the National Flood Insurance Program.

**“EXISTING MANUFACTURED HOME PARK OR SUBDIVISION”** – a manufactured home park 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”** - 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”** – general, temporary condition of partial or complete inundation of normally dry land areas from:

- a. overflow of inland or tidal waters and/or
- b. unusual, rapid accumulation of runoff of surface waters from any source.

**“FLOOD INSURANCE RATE MAP” (FIRM)** - official Federal Insurance Administration map, delineating both areas of special flood hazards and risk premium zones applicable to the City.

**“FLOOD INSURANCE STUDY”** - official report provided by the Federal Insurance Administration evaluating flood hazards and containing including flood profiles, the Flood Boundary-Floodway Maps and water surface elevations of the base flood.

**“FLOODPLAIN DEVELOPMENT PERMIT”** - a permit that is required for any construction or development within any area of special flood hazard. This permit is separate from a building permit, and is required even if the development is exempt from a building permit.

**“FLOODWAY (Regulatory Floodway)”** - channel of a river or other watercourse and the adjacent land areas that must be reserved to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot.

**“HIGHEST ADJACENT GRADE (HAG)”** - the highest natural elevation of the ground surface prior to construction, adjacent to the proposed walls of a structure.

**“HISTORIC STRUCTURE”** - a structure that is:

- a. Listed individually in the National Register of Historic Places (a listing maintained by the U.S. Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
- b. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or to a district preliminarily determined by the Secretary to qualify as a registered historic district;

- c. Individually listed on a state inventory of historic places and determined as eligible by states with historic preservation programs which have been approved by the Secretary of the Interior, or;
- d. Individually listed on a local inventory of historic places and determined as eligible by communities with historic preservation programs that have been certified either:
  - i. By an approved state program as determined by the Secretary of the Interior, or;
  - ii. Directly by the Secretary of the Interior in states without approved programs.

**“LATERAL ADDITION”** - an addition that requires a foundation to be built outside of the foundation footprint of the existing building.

**“LETTER OF MAP CHANGE (LOMC)”** - an official FEMA determination, by letter, to amend or revise effective Flood Insurance Rate Maps and Flood Insurance Studies. LOMCs are issued in the following categories:

**“LETTER OF MAP AMENDMENT (LOMA)”** - A revision based on technical data showing that a property was incorrectly included in a designated special flood hazard area. A LOMA amends the current effective Flood Insurance Rate Map and establishes that a specific property is not located in a special flood hazard area;

**“LETTER OF MAP REVISION (LOMAR)”** - A revision based on technical data showing that, usually due to manmade changes, shows changes to flood zones, flood elevations, floodplain and floodway delineations, and planimetric features. One common type of LOMR, a LOMR-F, is a determination that a structure of parcel has been elevated by fill above the Base Flood Elevation and is excluded from the special flood hazard area;

**“CONDITIONAL LETTER OF MAP REVISION (CLOMAR)”** - formal review and comment by FEMA as to whether a proposed project complies with the minimum National Flood Insurance Program floodplain management criteria. A CLOMR does NOT amend or revise effective Flood Insurance Rate Maps, Flood Boundary and Floodway Maps, or Flood Insurance Studies.

**“LOWEST FLOOR”** – the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure used solely for parking of vehicles, building access, or storage, in an area other than a basement, is not considered a structure's lowest floor provided that the enclosed area is built and maintained in accordance with the applicable design requirements of the state Building Specialty Codes and these regulations. The lowest floor of a manufactured dwelling shall be the bottom of the longitudinal chassis frame beam in A zones.

**“MANUFACTURED DWELLING or MANUFACTURED HOME”** - 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.”

**“MANUFACTURED HOME PARK OR SUBDIVISION”** - a parcel (or contiguous parcels) of land divided into two (2) or more manufactured home lots for rent or sale.

**“MEAN SEA LEVEL”**- means for purposes of the National Flood Insurance Program, the North American Vertical Datum of 1988 or other datum, to which Base Flood Elevations shown on a community’s FIRM are referenced.

**“NEW CONSTRUCTION”** – structure for which the “start of construction” commenced on or after the effective date of the ordinance adopting these regulations, and includes subsequent substantial improvements to the structure.

**“NEW MANUFACTURED HOME PARK OR SUBDIVISION”** – 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”** - 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.

**“SPECIALTY CODES”** are the combined specialty codes adopted under ORS 446.062, 446.185, 447.020 (2), 455.020 (2), 455.496, 455.610, 455.680, 460.085, 460.360, 479.730 (1) or 480.545, but does not include regulations adopted by the State Fire Marshal pursuant to ORS chapter 476 or ORS 479.015 to 479.200 and 479.210 to 479.220. The combined specialty codes are often referred to as building codes.

**“START OF CONSTRUCTION”** - includes substantial improvement, and means that date the building permit was issued, provided the actual 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 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.

**“STATE BUILDING CODE”** - the combined specialty codes adopted by the State of Oregon.

**“STRUCTURE”** - a walled, roofed building, a manufactured dwelling, a modular or temporary building, or a gas or liquid storage tank that is principally above ground.

**“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”** – 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 market value of the structure should be:

- a. The appraised real market value of the structure prior to the start of the initial repair or improvement, or
- b. In the case of damage, the appraised real market value of the structure prior to the damage occurring. The term does not include either:
  - i. A 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
  - ii. Alteration of a Historic Structure, provided that the alteration will not preclude the structure's continued designation as a Historic Structure.

**“VARIANCE”**- is a grant of relief by the governing body from a requirement of these regulations.

**“VERTICAL ADDITION”** means the addition of a room or rooms on top of an existing building.

**“VIOLATION”**- is 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 is presumed to be in violation until such time as that documentation is provided.

**“WATERCOURSE”** - is a lake, river, creek, stream, wash, arroyo, channel or other topographic feature in, on, through, or over which water flows at least periodically.

**“WATER DEPENDENT USE”** means a facility that cannot be used for its intended purpose unless it is located or carried out in close proximity to water, such as a docking or port facility necessary for the loading and unloading of cargo or passengers, shipbuilding, or ship repair facilities. The term does not include long-term storage, manufacture, sales, or service facilities.

**“WATER SURFACE ELEVATION”**- the height, in relation to a specific datum, of floods of various magnitudes and frequencies in the flood plains of coastal or riverine areas.

**D. General Provisions:**

1. **JURISDICTIONAL LANDS** - These regulations shall apply to all designated special flood hazard areas within the jurisdiction of the City of Phoenix. Nothing in these regulations is intended to allow uses or structures that are otherwise prohibited by the Chapter 2 – Land Use Districts or Building Specialty Codes.
2. **BASIS FOR ESTABLISHMENT OF SPECIAL FLOOD HAZARD AREAS** - The basis for the establishment of and regulation in Areas of Special Flood Hazard shall be the Federal Emergency Management Agency’s Flood Insurance Study (FIS) for Jackson County and Incorporated Areas, effective May 3, 2011, and accompanying Federal Emergency Management Agency Flood Insurance Rate Map (FIRM) or Digital Flood Insurance Rate Map (DFIRM) Numbers 41029C1987F, 41029C1989F, and 41029C1993F, effective May 3, 2011, and other FIRMs of same effective date as to areas of future annexation, and other supporting data are adopted by reference and declared a part of these regulations. The FIS and the FIRM are on file at the Phoenix Planning and Building Department, Phoenix, Oregon.
3. **COORDINATION WITH SPECIALTY CODES** - Pursuant to the requirement established in ORS Chapter 455, the City administers and enforces the State Specialty Codes. The City acknowledges that the Specialty Codes contain certain provisions that apply to the design and construction of buildings and structures located in areas of special flood hazard. Therefore, these regulations are intended to be administered and enforced in conjunction with the Specialty Codes.
4. **COMPLIANCE** - No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of these regulations and other applicable regulations.
5. **PENALTIES FOR NONCOMPLIANCE** - Violations of the provisions of these regulations by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions) shall constitute a misdemeanor. Any person who violates these regulations or fails to comply with any of its requirements shall upon conviction thereof be fined not more than five hundred dollars (\$500.00) for each violation. Any person, firm or corporation, whether as principal, agent, employee, or otherwise shall be deemed guilty of a separate offense for each and every day during any portion of which any violation of these regulations is

committed or continued, and in addition shall pay all costs and expenses involved in the case. Nothing herein contained shall prevent the City of Phoenix from taking such other lawful action as is necessary to prevent or remedy any violation.

6. **ABROGATION AND GREATER RESTRICTIONS** - These regulations are not intended to repeal, abrogate or impair any existing easements, covenants or deed restrictions. However, whenever these regulations conflict with another ordinance, easement, covenant or deed restriction, the more stringent requirements shall prevail.
7. **INTERPRETATION** - In the interpretation and application of these regulations, all provisions shall be:
  - a. Considered as minimum requirements;
  - b. Liberally construed in favor of the City; and
  - c. Deemed neither to limit or repeal any other powers granted under state statutes and rules including the state building codes.
8. **WARNING AND DISCLAIMER OF LIABILITY** - The degree of flood protection required by these regulations is considered reasonable for regulatory purposes and is based upon scientific and engineering considerations. Flooding events are unpredictable, and the effects of same may be increased by various man-made or natural causes. These regulations do not imply that lands or uses outside of areas of special flood hazards will be free of flood hazard. Nor shall these regulations create a liability on the part of the City, any officer or employee thereof, or the Federal Insurance Administration, for any flood damages resulting from any reliance on these regulations or any administrative decision lawfully made hereunder.

#### **E. ADMINISTRATION:**

1. **DEVELOPMENT PERMIT REQUIRED** - A Floodplain Development Permit shall be obtained before any development begins within any Areas of Special Flood Hazard. A permit application shall be made on forms provided by the City, and may include but not be limited to duplicate, scaled plans showing the nature, location, dimensions, elevations of the subject property, existing or proposed structures, fill material, storage of materials or equipment, and drainage facilities.

Any Floodplain Development Permit requiring engineering analysis, calculations or modeling to establish a base flood elevation or regulatory Floodway, or to demonstrate no increase in base flood elevation in an established regulatory Floodway shall be considered a land use action requiring a quasi-judicial land use hearing. [LUBA No. 2009-007 and ORS 197.76]
2. **Application for Development Permit** - An application for a Floodplain Development Permit shall be submitted to the Floodplain Administrator or designee on forms furnished by the Planning and Building Department prior to starting development.

**a. Application Stage:**

- i. Submit plans in triplicate drawn to scale with elevations of the project area and the nature, location, dimensions of existing and proposed structures, earthen fill placement, storage of materials or equipment and drainage facilities.
- ii. Show delineation of flood hazard areas, floodway boundaries including Base Flood Elevations, or flood depth in AO zones, where available.
- iii. For all proposed structures, show elevation in relation to the highest adjacent grade and the Base Flood Elevation, or flood depth in AO zones, of the:
  1. lowest enclosed area, including crawlspace or basement floor,
  2. top of the proposed garage slab, if any, and
  3. next highest floor.
- iv. Show locations and sizes of all flood openings in any proposed building.
- v. State the elevation to which any non-residential structure will be flood-proofed.
- vi. Submit certification from a registered professional engineer or architect that any proposed non-residential flood-proofed structure will meet the flood-proofing criteria of the National Flood Insurance Program and Specialty Codes.
- vii. Describe the extent to which any watercourse will be altered or relocated as a result of a proposed development.
- viii. Provide proof that application has been made for the necessary permits from other governmental agencies from which approval is required by Federal or state law.

**b. Construction Stage**

- i. Provide copies of all necessary permits from other governmental agencies from which approval is required by Federal or state law must be provided prior to start of construction.
- ii. Development activities shall not begin without an approved Development Permit.
- iii. For all new construction and substantial improvements, the permit holder shall provide to the Floodplain Administrator an as-built certification of the floor elevation or flood-proofing level immediately after the lowest floor or flood-proofing is placed and prior to further vertical construction.
- iv. Any deficiencies identified by the Floodplain Administrator shall be corrected by the permit holder immediately and prior to work proceeding. Failure to submit certification or failure to make the corrections shall be cause for the Floodplain Administrator to issue a stop-work order for the project.

**c. Certificate of Occupancy**

- i. In addition to the requirements of the Specialty Codes pertaining to certificate of occupancy, prior to the final inspection the owner or authorized agent shall submit the following documentation that has been prepared and sealed by a registered surveyor or engineer:
    - a) For elevated buildings and structures in non-coastal Areas of Special Flood Hazard (A zones), the as-built elevation of the lowest floor, including basement or where no Base Flood Elevation is available the height above highest adjacent grade of the lowest floor
    - b) For buildings and structures in coastal Areas of Special Flood Hazard (V zones), the elevation of the bottom of the lowest horizontal structural member supporting the lowest floor; and
    - c) For buildings and structures that have been flood proofed, the elevation to which the building or structure was flood proofed.
  - ii. Failure to submit certification or failure to correct violations shall be cause for the Floodplain Administrator to withhold a certificate of occupancy until such deficiencies are corrected.
- d. **Expiration of Floodplain Development Permit** - A floodplain development permit shall become invalid unless the work authorized by such permit is commenced within 180 days after its issuance, or if the work authorized is suspended or abandoned for a period of 180 days after the work commences. Extensions for periods of not more than 180 days each shall be requested in writing.

3. **FLOODPLAIN ADMINISTRATOR** - The City Manager, or designee, shall administer and implement these regulations by granting or denying development permit applications, and implementing and enforcing these regulations.

4. **ADMINISTRATIVE DUTIES** - Duties of the Floodplain Administrator, or designee, shall include, but not be limited to:

**a. Permitting**

- i. Review all proposed development to determine whether it will be located in Areas of Special Flood Hazard or other flood-prone areas.
- ii. Review applications for new development or modifications of any existing development in Areas of Special Flood Hazard for compliance with the requirements of these regulations.

- iii. Review proposed development to ensure that necessary permits have been received from governmental agencies from which approval is required by federal or state law, including but not limited to Section 404 permits of the Clean Water Act, Endangered Species Act, and State of Oregon removal-fill permits. Copies of such permits shall be maintained on file.
- iv. Review all development permit applications to determine if proposed development will be located in the regulatory Floodway; and if so, ensure that the encroachment standards of Section 3.7.3.H.12 are met.
- v. Interpret flood hazard boundaries (for example where there appears to be a conflict between a mapped boundary and actual field conditions), provide available flood hazard information, and provide Base Flood Elevation data. The Floodplain Administrator shall obtain, review and reasonably utilize any Base Flood Elevation and floodway data available from Federal, state or other authoritative sources. Note: Oregon Residential Specialty Code R324.1.3 authorizes the building official to require the applicant to determine a Base Flood Elevation where none exists.
- vi. Where a determination is needed of the exact location of a boundary of an Area of Special Flood Hazard (for example, where there appears to be a conflict between a map Floodway mapped boundary and actual field conditions) including regulatory Floodway, the Floodplain Administrator shall make a determination. Any person contesting the location of the boundary shall be given a reasonable opportunity to appeal the determination. Such appeals shall be granted consistent with the standards of 44 CFR 60.6 Rules and Regulations of the National Flood Insurance Program.
- vii. Issue development permits when the provisions of this ordinance have been met, or deny in the event of noncompliance.
- viii. Coordinate with the Building Official to ensure that applications for building permits comply with the requirements of these regulations.
- ix. Obtain, verify and record the actual elevation in relation to the vertical datum used on the effective FIRM, or in relation to the highest adjacent grade where no Base Flood Elevation is available, of the lowest floor level, including basement, of all new construction or substantially improved buildings and structures, including manufactured dwellings.
- x. Obtain, verify and record the actual elevation of finished construction in relation to the vertical datum used on the effective FIRM, or highest adjacent grade where no Base Flood Elevation is available to which any new or substantially improved non-residential buildings or structures have been flood-proofed. When flood-proofing is utilized for a structure, the Floodplain

Administrator shall obtain certification of elevation to which the structure was flood-proofed from a registered professional engineer or architect.

- xi. Ensure that all records and certifications pertaining to the provisions of this ordinance are permanently maintained and available for public inspection in the Planning and Building Department.
- xii. Make periodic inspections of Areas of Special Flood Hazard to establish that development activities are being performed in compliance with this ordinance, and to verify that existing buildings and structures maintain compliance with this ordinance.
- xiii. Coordinate with the Building Official to inspect areas where buildings and structures in Areas of Special Flood Hazard have been damaged, regardless of the cause of damage, and notify owners that permits may be required prior to repair, rehabilitation, demolition, relocation, or reconstruction of the building or structure.
- xiv. Make substantial improvement and substantial damage determinations for all structures located in Areas of Special Flood Hazard.

**b. Use of Other Base Flood Data**

- i. When base flood elevation data has not been provided (A Zones), then the Floodplain Administrator shall obtain, review, and reasonably utilize any Base Flood Elevation and floodway data available from a federal, state or other authoritative source in order to administer the provisions of these regulations.
- ii. When base flood elevations or other engineering data are not available from an authoritative source, the Floodplain Administrator shall take into account the flood hazards, to the extent they are known, to determine whether a proposed building site or subdivision will be reasonably safe from flooding.
- iii. Oregon Residential Specialty Code R324.1.3 authorizes the Building Official to require the applicant to determine a Base Flood Elevation where none exists.

**c. Records Maintenance** - Maintain for public inspection all records pertaining to the provisions of these regulations.

**d. Watercourse Alterations**

- i. Development shall not diminish the flood carrying capacity of a water course. If any water course will be altered or relocated as a result of the proposed development the applicant must submit certification by a registered professional engineer that the flood carrying capacity of the water course will not be diminished.
  - ii. Applicant will be responsible for obtaining all necessary permits from governmental agencies from which approval is required by federal or state law, including but not limited to section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334; the Endangered Species Act of 1973, 16 U.S.C. 1531-1544; and State of Oregon Division of State Lands regulations.
  - iii. If the altered or relocated watercourse is part of an Area of Special Flood Hazard, the applicant shall notify adjacent communities and Oregon Department of Land Conservation and Development prior to any alteration or relocation of the watercourse. Evidence of notification must be submitted to the Floodplain Administrator and to the Federal Emergency Management Agency.
  - iv. The applicant shall be responsible for ensuring necessary maintenance for the altered or relocated portion of the water course is provided so that the flood carrying capacity will not be diminished.
  - v. The applicant shall meet the requirements to submit technical data in Section 3.7.3.E.4.e.
- e. **Requirement to Submit New Technical Data**
- i. Within six months of project completion, an applicant who obtains an approved Conditional Letter of Map Revision from FEMA, or whose development alters a watercourse, modifies floodplain boundaries or Base Flood Elevations shall obtain from FEMA a Letter of Map Revision reflecting the as-built changes to the FIRM.
  - ii. It is the responsibility of the applicant to have technical data prepared in a format required for a Conditional Letter of Map Revision or Letter of Map Revision and to submit such data to FEMA on the appropriate application forms. Submittal and processing fees for these map revisions shall be the responsibility of the applicant.

- iii. Applicants shall be responsible for all costs associated with obtaining a Conditional Letter of Map Amendment or Letter of Map Revision from FEMA.
- iv. The Floodplain Administrator shall be under no obligation to sign the Community Acknowledgement Form, which is part of the Conditional Letter of Map Revision or Letter of Map Revision application, until the applicant demonstrates that the project will or has met all applicable requirements of these regulations.
- f. **Non-Conversion of Enclosed Areas below the Lowest Floor** - To ensure that enclosed areas below the lowest floor continue to be used solely for parking vehicles, limited storage, or access to the building and not be finished for use as human habitation, the Floodplain Administrator shall:
  - i. Determine which applicants for new construction and/or substantial improvements have fully enclosed areas below the lowest floor that are 5 feet or higher;
  - ii. Enter into a "NON-CONVERSION DEED DECLARATION FOR CONSTRUCTION WITHIN FLOOD HAZARD AREAS" or equivalent with the applicant/owner. The deed declaration shall be recorded with the Jackson County Clerk's Office. The deed declaration shall be in a form acceptable to the City Attorney.

## F. VARIANCE PROCEDURES AND CRITERIA

### 1. Variance

- a. An application for a variance must be submitted to the City of Phoenix on the form provided by the city and include at a minimum the same information required for a development permit and an explanation for the basis for the variance request.
- b. The burden to show that the variance is warranted and meets the criteria set out herein is on the applicant.
- c. The Floodplain Administrator is responsible for making a decision on an application for a variance. Upon consideration of Section 3.7.3.F.2 **Criteria for Variances** and the purposes of these regulations, the city may attach such conditions to the granting of a variance as it deems necessary to further the purposes of these regulations.
- d. The Floodplain Administrator shall maintain a permanent record of all variances and report any variances to the Federal Emergency Management Agency upon request.

## 2. Criteria for Variances

- a. Variances shall not be issued within a designated regulatory Floodway if any increase in flood levels during the base flood discharge would result.
- b. 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 justification for Section 3.7.3.F.h.i through k. As the lot size increases the technical justification required for issuing the variance increases.
- c. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- d. Variances shall only be issued upon a:
  - i. showing of good and sufficient cause
  - ii. determination that failure to grant the variance would result in exceptional hardship to the applicant, and
  - iii. determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public or conflict with existing local laws or ordinances.
- e. Variances may be issued for a water dependent use provided that the:
  - i. criteria of paragraphs (a)(1) through (a)(4) of these regulations are met, and
  - ii. structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.
- f. Variances may be issued for the reconstruction, rehabilitation, or restoration of Historic Properties, without regard to the procedures set forth in these regulations.
- g. Variances as interpreted in the National Flood Insurance Program are based on the general zoning law principle that they pertain to a physical piece or 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.

- h. In deciding upon a variance application, the Floodplain Administrator shall consider all technical evaluations, all relevant factors, standards specified in other sections of these regulations, and whether:
- i. there is danger that materials may be swept onto other lands to the injury of others;
  - ii. there is danger to life and property due to flooding or erosion damage;
  - iii. there might be susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
  - iv. the proposed development would provide important services to the community;
  - v. the facility is water dependent or water related;
  - vi. there are available, alternative locations for the proposed use which are not subject to flooding or erosion damage;
  - vii. the variance would be compatible with existing and anticipated development;
  - viii. the variance would conform to the comprehensive plan and flood plain management program for that area;
  - ix. there is safe access to the property in times of flood for ordinary and emergency vehicles;
  - x. expected heights, velocity, duration, rate of rise, and sediment transport of the flood waters and the effects of wave action, if applicable, would be expected at the site; and
  - xi. there would be potential 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 that would outweigh the variance.

3.  
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## Variance Decision

- a. The decision to either grant or deny a variance shall be in writing and shall set forth the reasons for such approval and denial. If the variance is granted, the property owner shall be put on notice along with the written decision that if the variance is for a permitted building, the lowest floor below the Base Flood Elevation and that the cost of flood insurance likely will be commensurate with the increased flood damage risk.
- b. Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on National or State Historical Registers, without regard to the

procedures set forth in the remainder of these regulations.

- c. Variances shall not be issued within any designated floodway if any increase in flood levels during the basic flood discharge would result.
- d. Variances shall only be issued upon determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- e. Variances shall only be issued upon:
  - i. showing of good and sufficient cause
  - ii. determination that failure to grant the variance would result in exceptional hardship to the applicant, and
  - iii. 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 or victimization of the public or conflict with existing local laws and ordinances.

#### **G. Appeal Board**

1. The Planning Commission shall be the City's appellate body, and shall hear and render decision upon appeals and variance requests.
2. The Planning Commission is hereby designated as the City's Appeal Board for all matters related to these regulations, and shall hear and render decision upon allegation of an error in any requirement, decision or determination made by the Floodplain Administrator, or designee, in the enforcement or administration of these regulations. Initiation of such appeal must be filed with the City, in writing, within 21 days of notice to applicant of Floodplain Administrator's decision or determination on a development permit request, and shall be accompanied by the applicable filing fee.
3. Those aggrieved by any decision of the Planning Commission, or any taxpayer, may appeal such decision to the Phoenix City Council within 21 days of the Commission's decision. Said appeal shall be in writing, accompanied by the applicable fee.
4. In consideration of such appeals, the Planning Commission and/or City Council shall consider all technical evaluations, relevant factors, standards specified in other sections of these regulations, and:
  - a. danger that materials may be swept onto other lands, to the injury of others;
  - b. danger to life and property due to flood/erosion damage;
  - c. susceptibility of the proposed facility and its contents to flood damage and the effect of such damage upon the individual owner;

- d. community importance of services provided by the proposed facility;
- e. facility's necessity of a waterfront location, where applicable;
- f. availability of alternate locations, not as susceptible to flood/erosion;
- g. compatibility of the proposed site with existing/anticipated development;
- h. relationship of the proposed use to the Comprehensive Plan and Flood Plain Management Program for the site;
- i. emergency vehicle property access safety during flooding;
- j. expected heights, velocity, duration, rise rate and sediment transport of flood waters and effects of wave action, if applicable, as expected at the site; and
- k. cost of providing governmental services during/after flood events, including maintenance/repair of public utilities and facilities (sewer, gas, electric and water systems, streets and bridges).

**H. Provisions For Flood Hazard Reduction -** In all areas of special flood hazards these standards apply:

**1. Site Improvements and Subdivisions**

- a. All plans and permits for proposed new site improvements, subdivisions, and manufactured home parks shall be consistent with the need to minimize flood damage and ensure that building sites will be reasonably safe from flooding<sup>1</sup>. The test of reasonableness is a local judgment and includes historical data, high water marks, photographs of past flooding, etc.
- b. Building lots shall have adequate buildable area outside of regulatory floodways.
- c. Where base flood elevation data has not been provided or is not available from another authorized source, it shall be generated for subdivision proposals and other proposed developments which contain at least 50 lots or 5 acres, whichever is less.
- d. Site improvements, subdivisions, and manufactured home parks shall have public utilities and facilities such as sewer, gas, electric and water systems located and constructed to minimize or eliminate damage and infiltration of floodwaters. Replacement public utilities and facilities such as sewer, gas, electric and water systems, likewise shall be sited and designed to minimize or eliminate damage and infiltration of floodwaters.

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<sup>1</sup> 44 CFR Part 65.2 defines "reasonably safe from flooding" as base flood waters will not inundate the land or damage structures ... and that any subsurface waters related to the base flood will not damage existing or proposed buildings.

- e. New and replacement on-site waste disposal systems and sanitary sewerage systems shall be located and constructed to avoid functional impairment, or discharges from them, during flooding.
  - f. Subdivisions and manufactured home parks shall have adequate drainage provided to reduce exposure to flood hazards.
2. **Permit Review** - In the absence of approved flood data (refer to Section 3.7.3.E.4.b), building permit applications shall be reviewed to assure that proposed construction will be reasonably safe from flooding. "Reasonable safety" shall be considered a local judgment which may include, but not be limited to, use of historical data, high water marks, photographs of past flooding, etc. Failure to properly elevate to an approved height above grade in these zones may result in higher insurance rates.
3. **Building Design and Construction Standards**
- a. New construction and substantial improvements shall be constructed with flood-resistant materials and utility equipment resistant to flood damage, using methods and practices designed to minimize flood damage.
  - b. New construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure.
  - c. All mechanical and electrical equipment and other service facilities shall be designed and/or otherwise elevated or located so as to prevent water from entering or accumulating within the components during flooding.
4. **Utilities**
- a. New/replacement water supply systems shall be designed to minimize or eliminate infiltration of waters into the system.
  - b. New/replacement sanitary sewer systems shall be designed to minimize or eliminate infiltration of waters into the system and discharge from the systems into flood waters.
  - c. On-site waste disposal systems shall be located to avoid impairment to them, or contamination from them, during flooding.
5. **Specific Building Design and Construction Standards for Non-coastal Residential Construction (A Zones)** - In addition to Section 3.7.3.H.3:
- a. New construction and substantial improvement of residential structures located in non-coastal flood zones shall have the lowest floor, including basement, elevated a minimum of one foot above the Base Flood Elevation or three feet above highest adjacent grade where no BFE is defined, and

Lights for  
outdoor vents

- no hard surface

- lighting

- no piling w/ lights

1 Foot Caisson

ORS

- b. Fully enclosed areas below the lowest floor that are subject to flooding shall be prohibited, or shall be designed to automatically equalize hydrostatic pressure on exterior walls by allowing for the entry and exit of floodwater: meeting this requirement must be either certified by a registered engineer or architect or must meet or exceed the following minimum:
- 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;
  - The bottom of all openings shall be no higher than one foot above grade; and
  - Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters. Exception: openings with engineering design.
6. **Specific Building Design and Construction Standards for Non-coastal, Non-residential Construction** - In addition to Section 3.7.3.H.3, new construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated according to Table 2-1 of the American Society of Civil Engineers, Flood Resistant Design and Construction Standard (ASCE 24); or, together with attendant utility and sanitary facilities, shall:
- Be flood proofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water.
  - Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy
  - 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 Floodplain Administrator.
  - Meet residential standards described in Section 3.7.3.H.5 for nonresidential structures that are elevated and not flood proofed.
  - Be notified by applicants flood proofing nonresidential buildings that flood insurance premiums will be based on rates that are one foot below the flood proofed level (e.g. a building flood proofed to the base flood level will be rated as one foot below).
7. **Below-grade Crawl Spaces** - 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 as stated in Section 3.7.3.H.7.b. 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.
- 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 (1) 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 (2) 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 (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.
- 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 (5) feet per second for any crawlspace. For velocities in excess of five (5) feet per second, other foundation types should be used.
- i. For more detailed information refer to FEMA Technical Bulletin 11-01.

Phoenix residents should be aware of increased insurance cost associated with below-grade crawlspaces. There is a charge added to the basic policy premium for a below-grade crawlspace.

8. **Specific Building Design and Construction Standards for Manufactured Dwellings**  
In addition to Sections 3.7.3.H.3 and 3.7.3.H.5, new, replacement, and substantially improved manufactured dwellings are subject to the following standards:

- a. If the manufactured dwelling is supported on solid foundation walls, the ground area reserved for the placement of a manufactured dwelling shall be a minimum of one foot above BFE unless the foundation walls are designed to automatically equalize hydrostatic forces 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 meet or exceed the following minimum criteria:
  - i. A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.
  - ii. The bottom of all openings shall be no higher than one foot above grade.
  - iii. Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters. *[Manufactured Dwelling Installation Specialty Code, Definitions and Section 4-3.1(5) and NFIP 60.3(c)(5)]*
- b. The bottom of the longitudinal chassis (I-beam) in A zones shall be at or above the BFE. *[see January 1, 2011 effective date of Building Codes Division, Oregon State Department of Consumer and Business Services **Statewide Code Interpretation**, Section 2-1.3 and 3-2.4 of the Oregon Manufactured Dwelling Installation 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) *[44 CFR 60.3(c)(6)]*, and
- d. Electrical crossover connections shall be a minimum of 12 inches above BFE. *[Manufactured Dwelling Installation Specialty Code 6-4.2(1)]*

- e. Under-floor crossover ducts are not required to be elevated above BFE. [see January 1, 2011 effective date of Building Codes Division, Oregon State Department of Consumer and Business Services **Statewide Code Interpretation**, Section 2-1.3 and 3-2.4 of the Oregon Manufactured Dwelling Installation Specialty Code]
9. **Recreational Vehicles** - In all areas of Special Flood Hazard, Recreational Vehicles that are an allowed use or structure under the Phoenix Land Development Code either must:
- 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 all of the requirements of Section 3.7.3.H.8, including the elevation and anchoring requirements.

**10. Zones with Base Flood Elevations but No Regulatory Floodway**

- a. In areas within Zones A1-30 and AE on the community's FIRM with a Base Flood Elevation but where no regulatory Floodway has been designated, new construction, substantial improvements, or other development (including fill) shall be prohibited, 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. Applicants of proposed projects that increase the Base Flood Elevation more than one foot shall obtain from FEMA a Conditional Letter of Map Revision (CLOMR) before the project may be permitted. As soon as possible, but no later than 6 months after project completion, an application for a Letter of Map Revision (LOMR) shall be submitted by the applicant to FEMA. The applicant is responsible for paying any costs associated with the CLOMR and LOMR process.

**11. Areas of Special Flood Hazard Without Base Flood Elevations**

- a. When Areas of Special Flood Hazard have been provided but Base Flood Elevation or floodway data have not been identified by FEMA in a Flood Insurance Study and /or Flood Insurance Rate Maps, the Floodplain Administrator shall obtain, review, and reasonably utilize scientific or historic Base Flood Elevation and regulatory Floodway data available from a federal, state, or other source, in order to administer these regulations. If Base Flood Elevations are not available, subsection (3) shall apply.

- b. In Areas of Special Flood Hazard without Base Flood Elevation data:
  - i. No encroachments, including structures or fill, shall be located in an Area of Special Flood Hazard within an area equal to the width of the stream or fifty feet, whichever is greater, measured from the ordinary high water mark, unless a Base Flood Elevation is developed by a licensed professional engineer; or
  - ii. The lowest floor of any building or structure, including manufactured dwellings, shall be elevated a minimum of three (3) feet above highest adjacent grade. Below grade crawlspaces are prohibited.

**12. Development in Regulatory Floodways** - Located within the City are areas of special flood hazard designated Zone AE which contain regulatory floodways. The floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles, and erosion potential.

- a. Except as provided in paragraph Sections 3.7.3.H.12.d-e, encroachments, including fill, new construction, substantial improvements, and other development are prohibited 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.
- b. Any fill permitted to be placed in the regulatory Floodway shall be designed to be stable under conditions of flooding, including rapid rise and rapid drawdown of floodwaters, prolonged inundation, and flood-related erosion and scour.
- c. Applicants shall obtain a Conditional Letter of Map Revision (CLOMR) from FEMA before an encroachment, including fill, new construction, substantial improvement, fences, or other development, in the regulatory Floodway is permitted that will cause any increase in the Base Flood Elevation unless the development causes a temporary encroachment and the conditions in Section 3.7.3.H.8.d are satisfied.

**EXCEPTIONS:**

- d. Temporary encroachments in the regulatory Floodway for the purposes of capital improvement projects (including bridges) <sup>2</sup> may be allowed even if the

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<sup>2</sup> The permit should stipulate the days and dates the structure or other development will be on site. If a longer period is required, a new permit should be issued.

A flood warning system for the project should be in place to allow equipment to be evacuated from the site and placed outside the floodplain.

encroachment results in an increase in flood levels during the occurrence of the base flood discharge, and without obtaining a CLOMR<sup>3</sup>, when:

- i. the project is limited as to duration with the days and dates that the structure or other development will be in the regulatory Floodway specified in the development permit;
- ii. accessory structures (i.e. construction trailers) are restricted from the regulatory Floodway;
- iii. the project limits placement of equipment and material in the regulatory Floodway to that which is absolutely necessary for the purposes of the project;
- iv. the project includes a flood warning system sufficient to allow equipment to be evacuated from the regulatory Floodway and placed outside the area of special flood hazard in the event of imminent flood;
- v. the project applicant identifies any insurable structures affected by temporary changes to the area of special flood hazard or base flood elevation and notifies owners of any increased risk of flooding;
- vi. the project applicant is provided with written notification that they may be liable for any flood damages resulting from the temporary encroachment.

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

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Placement of equipment in the floodway should be restricted to only that equipment which is absolutely necessary for the purposes of the project. All other accessory equipment and temporary structures (i.e. construction trailers) should be restricted from the floodway. Structures should be placed on site so that flood damages are minimized. The community may want to consider such things as anchoring construction trailers in case evacuation isn't practical.

The following conditions should be included in the permit:

- Identification of the temporary changes to the floodplain under a 1% chance flood event (100-year flood)
- Identification of all insurable structures affected by any increase in BFE during a 1% chance flood event (100-year flood)
- Written notification to the applicant that they may be liable for any flood damages resulting from the temporary structure
- The length of time the structure or encroachment will be allowed.

<sup>3</sup> No CLOMR/LOMR will be required because there is no need to modify the FIRM due to the temporary condition of the encroachment, but the community should disclose to all owners of insurable structures and all applicants for permits in the affected area that there is an increased risk of flooding for the duration of the temporary encroachment.

- i. The project qualifies for a Department of the Army, Portland District Regional General Permit for Stream Habitat Restoration (NWP-2007-1023); and,
- ii. 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,
- iii. No structures would be impacted by a potential rise in flood elevation; and,
- iv. An agreement to monitor the project, correct problems, and ensure that flood carrying capacity remains unchanged is included as part of the local approval.

**13. Essential Facilities** - Construction of new essential facilities in Phoenix shall be, to the extent possible, located outside the limits of an AE zone. Construction of new critical facilities shall be permissible within the AE if no feasible alternative site is available. Critical facilities constructed within the AE 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. Flood proofing 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.

**14. Other Development, including Accessory Structures, in Non-Coastal High Hazard Areas** - All development in non-coastal high hazard areas (all A zones) for which provisions are not specified in these regulations or building codes, shall:

- a. Be located and constructed to minimize flood damage.
- b. Be designed so as not to impede flow of flood waters under base flood conditions.
- c. If located in a regulatory Floodway, meet the limitations of Section 3.7.3.H.12.
- d. Be anchored to prevent flotation, collapse, or lateral movement resulting from hydrostatic loads, including the effects of buoyancy, during conditions of the design flood.
- e. Be constructed of flood damage-resistant materials.
- f. Have electric service and or mechanical equipment elevated above the Base Flood Elevation (or depth number in AO zones), except for minimum electric service required to address life safety and electric code requirements.

- g. Relief from elevation or dry flood-proofing standards may be granted for new and replaced, or substantially improved accessory structures containing no more than 200 square feet. Such a structure must meet Section 3.7.3.H.14.a through f, and the following standards:
  - i. It shall not be used for human habitation and may be used solely for parking of vehicles or storage of items having low damage potential when submerged.
  - ii. Toxic material, oil, or gasoline, or any priority persistent pollutant identified by the Oregon Department of Environmental Quality shall not be stored below BFE; or where not BFE is available, lower than three feet above grade unless confined in a tank installed in compliance with these regulations.
  - iii. It shall be designed to equalize hydrostatic flood forces on exterior walls by allowing for the automatic entry and exit of floodwater. Designs for complying with this requirement must be certified by a licensed professional engineer or architect or:
    - (aa) provide a minimum of two openings with a total net area of not less than one square inch for every square foot of enclosed area subject to flooding; and
    - (bb) the bottom of all openings shall be no higher than one foot above the higher of the exterior or interior grade or floor immediately below the opening; and
    - (cc) openings may be equipped with screens, louvers, valves or other coverings or devices provided they permit the automatic flow of floodwater in both directions without manual.

#### 15. Temporary Structures and Temporary Storage

- a. Temporary structures placed in flood fringe: Relief from dry flood-proofing standards may be granted for non-residential structures erected during the dry season (June – October) or for a period of less than 90 days. Temporary structures shall be anchored to prevent flotation, collapse or lateral movement resulting from hydrostatic loads, including the effects of buoyancy, during conditions of the base flood. A plan for the evacuating the temporary structure and disconnecting all utilities shall be provided if the structure is allowed to be placed during the wet season (November – May).
- b. Temporary storage in the flood fringe. Temporary storage of goods and materials is allowed during the dry season (June – October) or for a period of less than 90 days. Stored materials shall not include hazardous materials. A plan for removing the stored materials shall be provided if the material is allowed to be placed during the wet season (November – May).

- c. The placement of any temporary structures within the regulatory floodway shall be limited to the dry season (June – October) and require an approved special use permit.

#### 16. Tanks

- a. New and replacement tanks in flood hazard areas either shall be elevated above the Base Flood Elevation on a supporting structure designed to prevent flotation, collapse or lateral movement during conditions of the base flood, or be anchored to prevent flotation, collapse or lateral movement resulting from hydrostatic loads, including the effects of buoyancy assuming the tank is empty, during conditions of the design flood. *[From ASCE 24]*
- b. New and replacement tank inlets, fill openings, outlets and vents shall be placed a minimum of 2 feet above Base Flood Elevation or fitted with covers designed to prevent the inflow of floodwater or outflow of the contents of the tank during conditions of the design flood. *[From ASCE 24]*
- c. Toxic material, oil, or gasoline, or any priority persistent pollutant identified by the Oregon Department of Environmental Quality shall not be stored below BFE; or where no BFE is available, lower than three feet above grade unless confined in a tank installed in compliance with these regulations.

17. **Fences** – A new or replacement fence or wall located in an area of special flood hazard requires a floodplain development permit unless the Floodplain Administrator or designee determines that it is small enough or insubstantial to be exempt. New and replacement fencing shall be designed to collapse under conditions of the base flood, or to allow the passage of water by having flaps or openings in the areas at or below the Base Flood Elevation sufficient to allow flood water and associated debris to pass freely. Refer to Table 1 for guidance.

**Table 1: Guidance Concerning Fencing and Walls in Areas of Special Flood Hazard**

Fence or Wall Type	Fencing Or Wall Allowed?			Coastal Velocity Zones
	Floodway Fringe (Riverine)	Regulatory Floodway (Riverine)	Shallow/Sheet Flow/Ponding Zones	
A	Yes			
B	Yes	Yes, with limited cross channel fencing	Yes	Yes
C	Design Review Required <sup>1</sup>			
D	Yes, if open at base to BFE	No <sup>2</sup>	Yes, if open at base to BFE	Yes, if installed parallel to shore, otherwise Design Review required.
E	Yes, if open at base to BFE	No <sup>2</sup>	Yes, if open at base to BFE	Yes, if installed parallel to shore, otherwise Design Review required.
F	Yes, if adequate openings at base to BFE	No <sup>2</sup>	Yes, if adequate openings at base to BFE	Design Review required <sup>3</sup>
G	Yes, if adequate openings at base to BFE	No <sup>2</sup>	Yes, if adequate openings at base to BFE	Design Review required <sup>3</sup>
H	Yes, if adequate openings at base to BFE	No <sup>2</sup>	Yes, if adequate openings at base to BFE	No

<sup>1</sup> Ensure fence will collapse under anticipated base flood conditions. Debris impacts must be considered.

<sup>2</sup> Unless shown, using FEMA-approved engineering/modeling standards, to cause no-rise in BFE

<sup>3</sup> Fences and walls in V zone must be analyzed for their effects on flood conditions, including ramping effects on adjacent buildings and effects of debris during flood events (TB 5)

**Fence/Wall Types:**

- A Open barb or barless wire. Open means no more than one horizontal strand per foot of height

- B Open pipe or rail fencing (e.g. corrals). Open means rails occupy less than 10% of the fence area and posts are spaced no closer than 8 feet apart.
- C Collapsible fencing
- D Other wire, pipe, or rail fencing (e.g. field fence, chicken wire, etc.) which does not meet open requirements above.
- E Chain link fencing
- F Continuous wood fencing
- G Masonry walls
- H Retaining walls, bulkheads

**EXHIBIT B**

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**CITY OF PHOENIX**

**Comprehensive Land Use Plan**

**NATURAL DISASTERS & HAZARDS**

**August 20, 1984**

As Amended  
~~August 20, 1984~~ \_\_\_\_\_, 2011 (Ordinance No. 576 xxx)  
Approved by DLCD August 17, 1984

SECTION VII.  
NATURAL DISASTERS & HAZARDS

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NATURAL DISASTERS & HAZARDS

stating planning goal #.7 under #3 of

Introduction

Statewide planning goal #7 (Areas Subject to Natural Hazards) is:

"To protect life, people and property from natural disasters and hazards."

The State planning also guidelines #3 under IMPLEMENTATION also states:

"Adopt or amend, as necessary, based on the evaluation of risk, plan policies and implementing measures consistent with the following principles:

a. avoiding development in hazard areas where the risk to people and property cannot be mitigated; and

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b. prohibiting the siting of essential facilities, major structures, hazardous facilities and special occupancy structures, as defined in the state building code (ORS 455.447(1))

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"Development subject to damage or that could result in loss of life shall not be planned nor located in known areas of natural disasters and hazards without appropriate safeguards. Plans shall be based on an inventory of known areas of natural disasters and hazards."

Areas of Natural Disaster and Hazards are defined as:

"Areas that are subject to natural events that are known to result in death or endanger the works of man, such as stream flooding, ocean flooding, ground water, erosion and deposition, landslides, earthquakes, weak foundation soils and other hazards unique to local or regional areas."

The only significant type of potential hazards in the Phoenix areas is flooding along Bear Creek and its tributaries. To a lesser extent, there are hillside areas in the Phoenix area that may have hazards associated with steep slopes. Flood and slope hazards are emphasized in this section of the Plan, and the Plan will be updated later to include other hazards or potential natural disasters, if any are identified.

Flood Hazards

The primary area of potential flooding is the flood plain of Bear Creek. To a lesser extent, the flood plains of Coleman Creek and Anderson Creek have flooding potential, as may other smaller tributaries of Bear Creek. The Department of Housing and Urban Development (HUD) Homeland Security, Federal Emergency Management Agency (FEMA) has delineated the flood plain areas of Bear, Coleman and Anderson Creeks and has identified the various hazard zones with respect to flooding potential (identified as Areas of Special Flood Hazard on Flood Insurance Rate Maps that are effective May 3, 2011). Some of the Areas of Special Flood Hazard shown on the maps include base flood elevations. These maps are available at City Hall in the Planning and Building Department and are used during the site plan review process, and for general planning purposes, and administering Floodplain Development Permit applications that are required in Section 3.7.3 of the Phoenix Land Development Code. These maps also are available in seamless, digital format from FEMA's Map Service Center. Related to the maps is a FEMA "Flood Insurance Study for Jackson County, Oregon and Incorporated Areas," effective May 3, 2011.

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Flood plain areas are to be used in a manner which is consistent with the guidelines of the National HUD Flood Insurance Program. Any property which is developed within the identified flood plain areas of these creeks must comply with the Flood Insurance Program's requirements through City regulations in Section

3.7.3 of the Phoenix Land Development Code. Furthermore, the City site plan, building permit, and Floodplain Development Permit reviews of the City helps to ensure that any development in the vicinity of other small creeks or drainages is are designed and located to be safe from any potential flooding of those tributaries streams, and will not exacerbate flooding.

When a project-development is identified as being within a flood plain in the City of Phoenix, there is careful coordination between the City's engineer, planner, and building official in its review, and a determination is made as to whether or not the property is actually within the flood plain. If the property is found to be within the flood plain, mitigation measures must be provided to protect the structure(s) or other development and to meet the requirements of the Flood Insurance Program and the City's flood hazard prevention regulations contained in Phoenix Land Development Code Section 3.7.3 of Chapter 3.7 entitled **Environmental Constraints.**

The channel of Bear Creek itself is considered a floodway. No encroachment into this floodway area can be made by structures, fill, barriers, or any other obstacles that might restrict the flow of water through the channel. This potential problem has been minimized by the Bear Creek Greenway program which has brought about the public acquisition of nearly all several parcels of lands that lie within the Bear Creek environmental corridor; including and flood plains. Jackson County adopted a master plan for the Bear Creek Greenway in 1982 which provides for a variety of future uses, including recreation, open space, and natural preservation of the environment. Although the greenway is almost entirely in public ownership and not likely to experience any pressure for development, the City has included the Greenway area in a separate zoning-land use district to provide additional protection and local control. The Bear Creek Greenway (BCG)-zoning-land use district is consistent with the County's recreational and preservation plans for the area and will allow limited use of the area in accordance with the Greenway master plan.

## **Slope Hazards**

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There are two areas within the Phoenix Urban Growth Boundary that contain slopes that are extensive enough to be included a potential hazards. One area, a portion of which is already within the City, is at the south end of the planning area. The majority of the north side of this hill has already been developed as a low-density residential neighborhood within the City limits. The remainder of the hill is very similar in its slope and geology and is planned for similar development. With proper engineering and construction, there should be no slope hazard in this area of any significance.

The other slope area is on the hillsides east of the freeway in the southeastern portion of the Urban Growth Boundary. This area is mostly undeveloped, consists of grasses, rock outcroppings, and is partially wooded. Two large single-family homes are located at the top.

The primary soil of type of these hillsides is Brader-Debenger Loam, which is shallow to sedimentary rock. According to Jackson County soil scientist Dave Mauer, these areas could be developed without too much hazard concern, provided the engineering is done properly, cut and fill is kept to a minimum, and roadways follow the contours of the hillsides as much as possible. These slopes are considered to be stable and not subject to slide, slump, undue residential land uses are proposed on these hillside areas and such development will occur at densities somewhat lower than normally found on flatter terrain. Larger lots or "planned unit developments" should be considered for the more severe slope areas and the property should be developed consistent with the environmental limitations found in these areas.

There are no known soils within the planning area of Phoenix that cannot be safely used for urban development. Clay soils exist in some locations and will require special consideration to meet foundation and construction requirements. The City's building official should require an engineered foundation when he feels the clay soils may have an adverse impact on the structure, or when they are encountered on hillsides. In nearly all cases, clay soils are not found on the hillsides in significant amounts and they are not expected to pose any obstacles to development.

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~~The Refer to Comprehensive Plan mMap dated March 2, 1998 for slope hazard areas shown as Residential Hillside. on~~ The following ~~three figures page~~ are reduced copies of Flood Insurance Rate Maps effective May 3, 2011 that currently cover the city limits of Phoenix. ~~provides a general indication of areas having potential flooding or slope hazards.~~

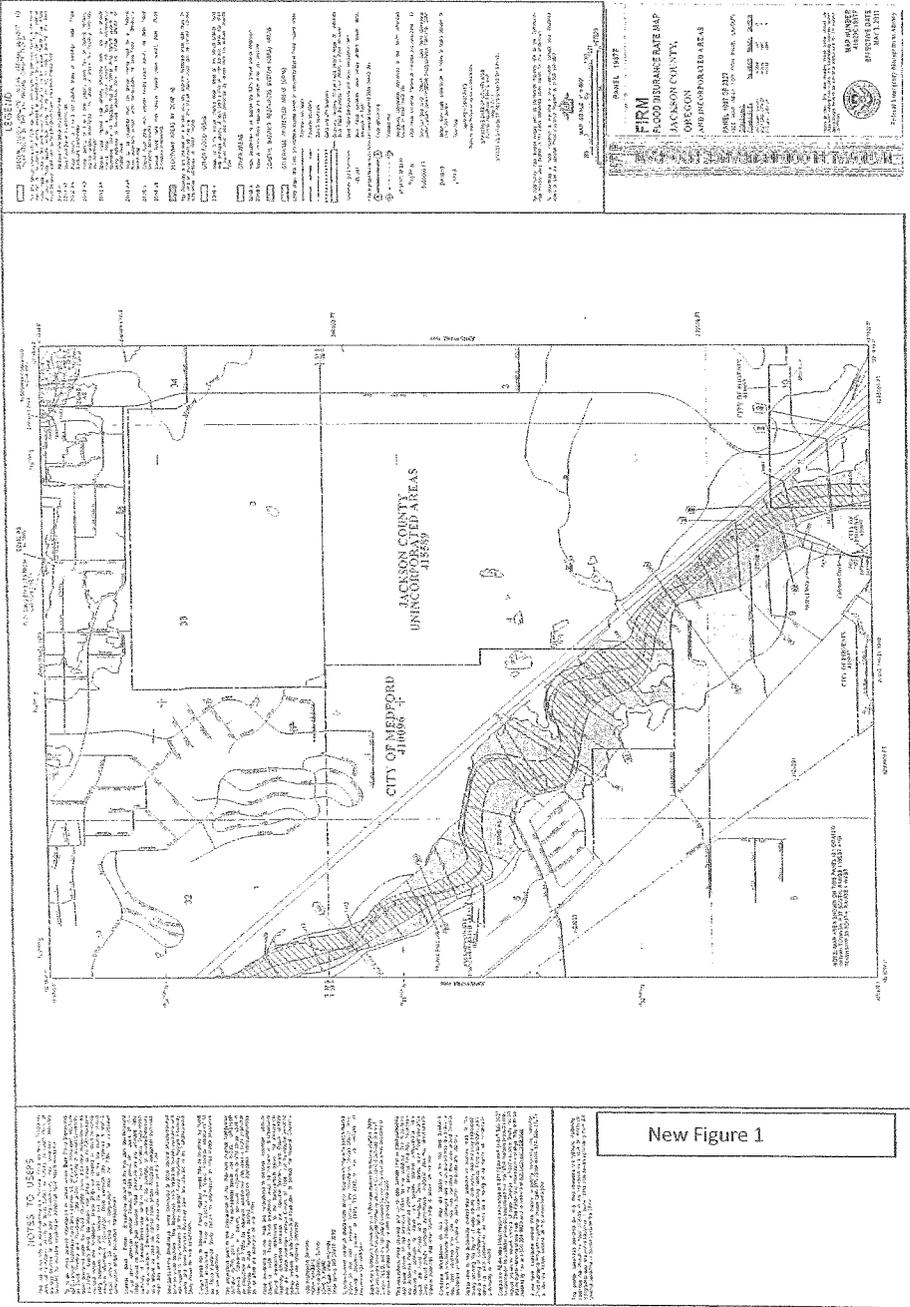
### **Hazard reduction policies**

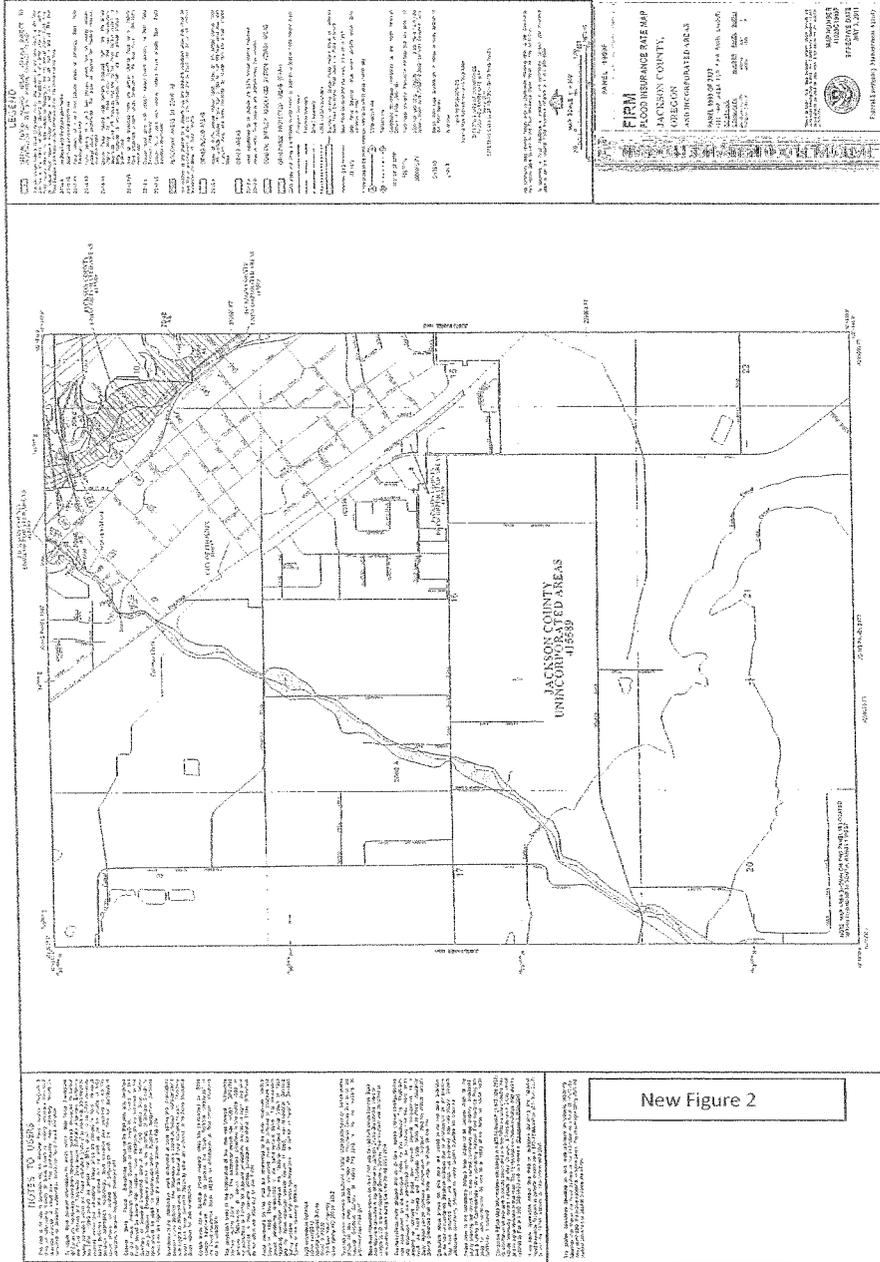
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The following policies are directed primarily toward the identified “potential” hazards of flooding and steep slopes within the Phoenix Urban Growth Boundary:

1. The City shall refer to the National Flood Insurance maps when evaluating any proposed development or land use that may be within a 100 year flood plain, or other area having flooding potential.
2. The City shall encourage land uses within the Bear Creek Greenway that are compatible with the floodplain and natural environment, and that are consistent with the intent of the Greenway program, as outlined in the County’s master plan for the Greenway and are in accordance with the City’s BCG zoning-Bear Creek Greenway Land Use dDistrict regulations.
3. ~~Where development is allowed within the flood plain,~~ The City shall encourage land uses in flood-prone areas that do not include major structures or other developments that will not require protection through the use of dams, dikes, levies, or other artificial means.
4. The City shall encourage and require, when necessary, the preservation of trees and natural vegetation along Coleman Creek, Anderson Creek and the smaller drainages in efforts to minimize erosion and sedimentation, ~~to maintain~~ preserve animal and bird wildlife habitats, and to enhance the beauty and aesthetic quality of the community.
5. The City will continue to comply with the requirements of ~~and participate in~~ the Federal National Flood Insurance Program by implementing the flood hazard prevention regulations contained in Phoenix Land Development Code Section 3.7.3 and related City ordinances.
6. The City shall ~~encourage~~ control any development on hilly terrain to take special care in the retention of natural vegetation, ~~to minimize~~ grading, ~~to follow~~ the contours of the land, and ~~to take~~ any other precautions that will ensure soil stability, maintain water quality by controlling runoff, and minimize erosion hazards.
7. The City shall require a drainage plan for all hillside development to ensure adequate drainage with minimum hazard to downhill properties.
8. The City will continue to monitor community safety and periodically update this section of the Plan as new information is made available.







**LEGEND**

**BOUNDARY**  
 1. UNINCORPORATED AREA BOUNDARY  
 2. CITY BOUNDARY  
 3. COUNTY BOUNDARY

**UNINCORPORATED AREAS**  
 1. UNINCORPORATED AREAS (Hatched pattern)  
 2. UNINCORPORATED AREAS (Dotted pattern)  
 3. UNINCORPORATED AREAS (Cross-hatched pattern)

**WATERWAYS**  
 1. RIVER  
 2. CREEK  
 3. STREAM  
 4. CANAL  
 5. DRAINAGE CANAL

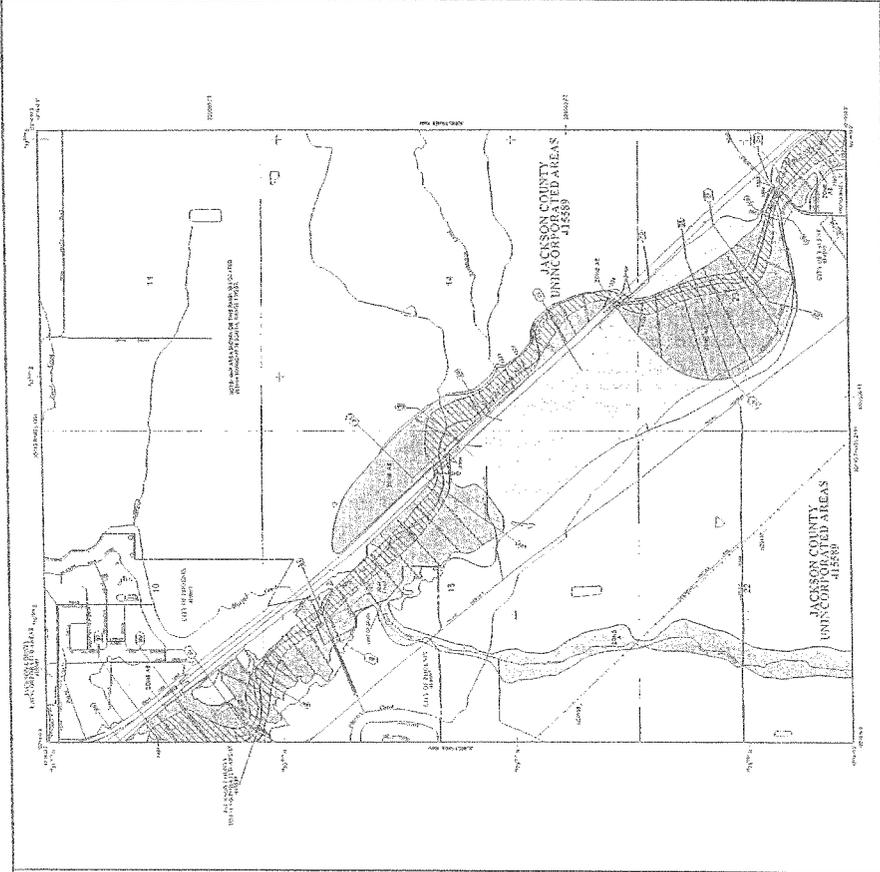
**ROADS**  
 1. STATE ROAD  
 2. COUNTY ROAD  
 3. LOCAL ROAD

**UTILITIES**  
 1. HIGH VOLTAGE TRANSMISSION LINE  
 2. LOW VOLTAGE TRANSMISSION LINE  
 3. GAS LINE  
 4. WATER MAIN  
 5. SEWER MAIN

**LAND USE**  
 1. AGRICULTURE  
 2. FOREST  
 3. PASTURE  
 4. WOODLAND  
 5. OPEN SPACE

**OTHER FEATURES**  
 1. DAM  
 2. BRIDGE  
 3. FLOOD WALL  
 4. FLOOD GATE  
 5. FLOOD CONTROL STRUCTURE

**NOTES:**  
 1. THIS MAP IS A GENERALIZATION OF THE DATA PROVIDED AND DOES NOT REPRESENT A GUARANTEE OF ACCURACY.  
 2. THE BOUNDARIES SHOWN ON THIS MAP ARE BASED ON THE BEST AVAILABLE DATA AND MAY BE SUBJECT TO CHANGE.  
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**NOTES TO USERS**

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New Figure 3

**FIRM**  
 FLOOD-INSURANCE RATE MAP  
 JACKSON COUNTY,  
 OREGON  
 UNINCORPORATED AREAS

DATE: 1981  
 SCALE: 1:50,000  
 SHEET: 1 OF 1

Prepared by: [Firm Name]  
 Date: [Date]