

ORDINANCE NO. 22-2023

AN ORDINANCE OF WEST HAVEN CITY, UTAH, AMENDING THE CITY CODE REGARDING REPEALING AND REPLACING CHAPTER 154: FLOOD DAMAGE AND PREVENTION; MAKING CERTAIN AND NECESSARY LANGUAGE CHANGES TO THE CITY CODE TO EFFECT THOSE CHANGES; AND ESTABLISHING AN EFFECTIVE DATE FOR THOSE CHANGES.

Section 1. Recitals:

WHEREAS, West Haven City (herein “City”) is a municipal corporation duly organized and existing under the laws of the State of Utah; and,

WHEREAS, in conformance with UCA § 10-3-707, the governing body of the City may revise, codify and compile from time to time and to publish in book, pamphlet or loose leaf form all ordinances of the municipality of a general and permanent character and to make such changes, alterations, modifications, additions, and substitutions as it may deem best; and,

WHEREAS, West Haven City has adopted and promulgated City ordinances and rules regarding flood damage and prevention; and,

WHEREAS, the federal government, through FEMA, has made changes to requirements regarding flood plain mapping and flood prevention and damage, which make it necessary to make changes to Chapter 154: Flood Damage and Prevention of the City Code; and

WHEREAS, the City Council finds that certain changes to the City Code regarding flood damage and prevention should be made to conform with the FEMA requirements; and,

WHEREAS, the City Council finds that the public convenience and necessity, public safety, health and welfare is at issue in this matter and requires action by the City as noted above;

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF WEST HAVEN CITY, UTAH that:

The West Haven Code “**CHAPTER 154: FLOOD DAMAGE AND PREVENTION**” shall be repealed and shall be replaced with “**CHAPTER 154: FLOOD DAMAGE AND PREVENTION**”, the new language attached as “Exhibit A” to this Ordinance.

The foregoing Recitals are fully incorporated herein.

Section 2. Repealer of Conflicting Enactments:

All orders, ordinances, and resolutions regarding the changes herein enacted and adopted which have heretofore been adopted by the City, or parts thereof, which conflict with the provisions of this Ordinance, are, for such conflict, repealed, except this repeal shall not be construed to revive any act, order or resolution, or part thereof, heretofore repealed.

Section 3. Prior Ordinances and Resolutions:

The body and substance of any prior Ordinances and Resolutions, together with their specific provisions, where not otherwise in conflict with this Ordinance, are reaffirmed and readopted.

Section 4 - Savings Clause:

If any provision of this Ordinance shall be held or deemed to be or shall be invalid, inoperative or unenforceable for any reason, such reason shall not render any other provision or provisions invalid, inoperative or unenforceable to any extent whatever, this Ordinance being deemed to be the separate independent and severable act of the City Council of West Haven City.

Section 5 - Date of Effect:

BE IT FURTHER ORDAINED this Ordinance will become effective on the 1st day of November 2023 and after publication or posting as required by law.

DATED this 1st day of November 2023.

WEST HAVEN, a municipal corporation

by: _____
Mayor Rob Vanderwood

Attested and Recorded

Emily Green, City Recorder

Mayor Rob Vanderwood	Yes _____	No _____
Councilmember Carrie Call	Yes _____	No _____
Councilmember Kim Dixon	Yes _____	No _____
Councilmember Nina Morse	Yes _____	No _____
Councilmember Ryan Saunders	Yes _____	No _____
Councilmember Ryan Swapp	Yes _____	No _____

EXHIBIT A

CHAPTER 154: FLOOD DAMAGE AND PREVENTION

DRAFT

CHAPTER 154: FLOOD DAMAGE AND PREVENTION

Section

- 154.01 Purpose**
- 154.02 Definitions**
- 154.03 General provisions**
- 154.04 Administration**
- 154.05 Provisions for Flood Hazard Reduction**

§ 154.01 PURPOSE.

(A) Statutory Authorization. The Legislature of the State of Utah in Utah Code Ann. § 10-3-701 delegated the responsibility to local governmental units to adopt regulations designed to minimize flood losses. Therefore, the governing body of West Haven City, Utah, does ordain as follows:

(1) The City of West Haven elects to comply with the requirements of the National Flood Insurance Act of 1968 (P.L. 90-488, as amended). The National Flood Insurance Program (NFIP) is a voluntary program administered by the Federal Emergency Management Agency (FEMA). The National Flood Insurance Program, established in the aforesaid act, provides that areas of the City having a special flood hazard be identified by the Federal Emergency Management Agency and that floodplain management measures be applied in such flood hazard areas. The National Flood Insurance Program was broadened and modified with the passage of the Flood Disaster Protection Act of 1973 and other legislative measures. It was further modified by the National Flood Insurance Reform Act of 1994. The National Flood Insurance Program is administered by the Federal Emergency Management Agency, a component of the U.S. Department of Homeland Security.

(B) Findings of Fact.

- (1) The flood hazard areas located within the boundaries of the city, and as identified on applicable Federal Floodplain Maps, as currently adopted, are subject to periodic inundation which results in loss of life and property, health, and safety hazards, disruption of commerce and governmental services, and extraordinary public expenditures for flood protection and relief, all of which adversely affect the public health, safety, and general welfare.
- (2) These potential flood losses are caused by:
 - a. The cumulative effect of obstructions in floodplains that are known to cause increases in flood heights and velocities;
 - b. The occupancy of flood hazard areas by structures vulnerable to floods because they are inadequately elevated or otherwise unprotected from flood damages; and

- c. Uses deemed unsuitable for floodplain areas or that do not account for the increased flood risk.

(C) 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 to:

- (1) Protect human life and health;
- (2) Minimize the 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) Protect and safeguard the welfare and safety of first responders should an emergency response is needed;
- (5) Minimize prolonged business interruptions caused by flooding;
- (6) Minimize damage to public infrastructure and facilities including, but not limited to, utilities such as water mains, sanitary sewers, streets, and bridges, as well as natural gas, electric, and telephone lines, streets, and bridges susceptible to flooding;
- (7) Help maintain a stable tax base by providing for the sound use and development of flood-prone areas in such a manner as to minimize future flood blight areas; and
- (8) Ensure that potential buyers are notified that property is in a flood area.

(D) Methods of Reducing Flood Losses. To accomplish the purposes outlined in Section 154.01(C), this Chapter applies the following methods:

- (1) Restrict or prohibit uses that are dangerous to health, safety, or property in times of flood, or cause excessive increases in flood heights or velocities;
- (2) Require that uses vulnerable to floods, including facilities that serve such uses, be protected against flood damage at the time of initial construction;
- (3) Control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of flood waters;
- (4) Control filling, grading, dredging, and other development that may increase flood damage; and
- (5) Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters, or which may increase flood hazards to other lands.

§ 154.02 DEFINITIONS.

Unless specifically defined below, words or phrases used in this Chapter shall be interpreted to give them the meaning they have in common usage and cause the most reasonable application of the terms and requirements herein.

100-YEAR FLOOD. A flood having a recurrence interval that has a 1-percent chance of being equaled or exceeded during any given year (1-percent-annual-chance flood). The terms "100-hundred-year flood" and "1-percent-annual-chance flood" are synonymous. The term does not imply that the flood will necessarily happen once every 100 hundred years. Mandatory flood insurance requirements may apply.

500-YEAR FLOOD. A flood having a recurrence interval that has a 0.2-percent chance of being equaled or exceeded during any given year (0.2-percent-annual-chance flood). The term does not imply that the flood will necessarily happen once every 500 years and mandatory flood insurance requirement generally does not apply.

ACCESSORY STRUCTURE. A structure that is on the same parcel of property as a principal structure. Its use is incidental to the use of the principal structure; the ownership of the accessory structure is the same owner as of the principal structure. An accessory structure is a non-residential structure of low value that is used solely for the parking of vehicles and storage of tools, materials, or equipment. No human habitation is allowed within an accessory structure.

ADDITION. Any improvement that expands the enclosed footprint or increases the square footage of an existing structure. This includes lateral additions added to the side, front, or rear of a structure; vertical additions added on top of a structure; and enclosures added underneath a structure.

ALLUVIAL FAN FLOODING. Flooding occurring on the surface of an alluvial fan or similar landform which originates at the apex and is characterized by high-velocity flows; active processes of erosion, sediment transport, and deposition; and unpredictable flow paths.

APPURtenant STRUCTURE. See **ACCESSORY STRUCTURE**.

APEX. A point on an alluvial fan or similar landform below which the flow path of the major stream that formed the fan becomes unpredictable and alluvial fan flooding can occur.

AREA OF FUTURE-CONDITIONS FLOOD HAZARD. The land area that would be inundated by the 1-percent-annual-chance (100-year) flood, based on future-conditions hydrology.

AREA OF SHALLOW FLOODING. A designated AO, AH, AR/AO or AR/AH Zone on a community's Flood Insurance Rate Map (FIRM) with a 1-percent chance 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-RELATED EROSION HAZARD. The land within a community that is most likely to be subject to severe flood-related erosion losses. The area may be designated as Zone E on the Flood Hazard Boundary Map (FHB). After the detailed evaluation of the special flood-related erosion hazard area, in preparation for publication of the FIRM, Zone E may be further refined.

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. The area may be designated as Zone A on the Flood Hazard Boundary Map (FHB). After detailed ratemaking has been completed in preparation for publication of the FIRM, Zone A usually

is refined into Zones A, AO, A1-30, AE, AI-99, AR, AR/A1-30, AR/AE, AR/AO, AR/AH, AR/A or V130, VE, or V.

ASCE. The American Society of Civil Engineers.

BASE FLOOD. The flood having a 1-percent chance of being equaled or exceeded in any given year.

BASE FLOOD ELEVATION (BFE). The water surface elevation of the 1-percent-annual-chance flood event. It is the height in relation to mean sea level expected to be reached by the waters of the base flood at pertinent points in the floodplains of coastal and riverine areas. It is also the elevation shown on the FIRM and found in the accompanying Flood Insurance Study (FIS) for Zones A, AE, AH, A1-A30, AR, V1-V30, or VE that indicates the water surface elevation resulting from the flood that has a 1-percent chance of equaling or exceeding that level in any given year.

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

BEST AVAILABLE DATA. The existing flood hazard information adopted by a community and reflected on an effective FIRM, FBFM, and/or within an FIS report; or draft or preliminary flood hazard information supplied by FEMA or from another source. Other sources may include, but are not limited to, the state, other federal agencies, or local studies, the more restrictive of which would be reasonably used by the community.

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. Any walls below the lowest floor in a building in a V or VE Zone should give way under wind and water loads without causing collapse, displacement, or other damage to the elevated portion of the building or the supporting pilings or columns. Breakaway walls apply only to V or VE Zones.

BUILDING—SEE STRUCTURE.

CHANNELIZATION. The artificial creation, enlargement, realignment, or alteration of a stream channel's slope, shape, or alignment. Streambank restoration may be deemed as channelization.

CODE OF FEDERAL REGULATIONS (CFR). The codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the Federal Government.

CONDITIONAL LETTER OF MAP REVISION (CLOMR). FEMA's comment on a proposed project that would, upon construction, affect the hydrologic and/or hydraulic characteristics of a flooding source and thus result in the modification of the existing

regulatory floodway, the effective BFEs, and/or the SFHA. This letter does not revise an effective map; it indicates whether the project, if built as proposed, would be recognized by FEMA.

CONDITIONAL LETTER OF MAP REVISION BASED ON FILL (CLOMR-F). FEMA's comment on a proposed structure or property. The letter does not revise an effective map; it indicates whether the project, if built as proposed, would be removed from the floodplain.

CRAWLSPACE. An under-floor space that has its interior floor area (finished or not) no more than 4 feet from the bottom floor joist the next higher floor elevation, designed with proper openings that equalize hydrostatic pressures of flood water, and is not used for habitation.

CRITICAL FACILITY. A facility or building where even a slight chance of flooding is too great a threat. Typical critical facilities include hospitals, fire stations, police stations, schools, storage of critical records, assisted living and similar facilities.

CRITICAL FEATURE. An integral and readily identifiable part of a flood protection system, without which the flood protection provided by the entire system would be compromised.

DEED RESTRICTION. A clause in a deed that limits the future use of the property in some respect. Deed restrictions may impose a vast variety of limitations and conditions. For example, they may limit the density of buildings, dictate the types of structures that can be erected, or prevent buildings from being used for specific purposes or from being used at all.

DETACHED GARAGE. A building that is used solely for storage of materials or vehicle parking for up to four housing occupants. If a detached garage is designed or used for habitation or conducting business, or has multiple stories, then the building is not considered a detached garage under the NFIP.

DEVELOPMENT. Any human-made change in improved and unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation, or drilling operations, or temporary or permanent storage, equipment or materials or materials.

ELEVATED BUILDING. A non-basement building:

- (1) In the case of a building in Zone A1-30, AE, A, A99, AR, AO, AH, B, C, X and D, to have the top of the elevated floor above the ground level by means of pilings, columns (post and piers), or shear walls parallel to the flow of the water and adequately anchored so as not to impair the structural integrity of the building during a flood of up to the magnitude of the base flood.
- (2) In the case of a building in Zone A1-30, AE, A, A99, AR, AO, AH, B, C, X and D, an "elevated building" also includes a building elevated by means of fill or solid

foundation perimeter walls with openings sufficient to facilitate the unimpeded movement of flood waters.

ENCLOSURE. An enclosed walled-in area below the lowest floor of an elevated building. Enclosures below the BFE may only be used for building access, vehicle parking, and storage.

EROSION. The process of the gradual wearing away of land masses by wind, water, or other natural agents.

EXISTING CONSTRUCTION. 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**.

EXISTING 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 before the effective date of the floodplain management regulations adopted by a community.

EXISTING STRUCTURES. See **EXISTING CONSTRUCTION**.

EXPANSION TO AN EXISTING MANUFACTURED HOME PARK OR SUBDIVISION. 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).

FEMA. The Federal Emergency Management Agency.

FILL. The placement of materials, such as dirt, sand, or rock to elevate a structure, property, or portion of a property above the natural elevation of the site, regardless of where the material was obtained from. The common practice of removing unsuitable material and replacing with engineered material is not considered fill if the elevations are returned to the existing conditions. Any fill placed or used prior to the area being mapped as a flood hazard area is not deemed as fill.

FLOOD or FLOODING. Means:

- (1) A general and temporary condition of partial or complete inundation of normally dry land areas from:
 - a. The overflow of inland or tidal waters; or
 - b. The unusual and rapid accumulation or runoff of surface waters from any source.
- (2) Mudslides (i.e., mudflows) that are proximately caused by flooding as defined in this ordinance 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.

(3) 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 herein.

FLOOD INSURANCE RATE MAP (FIRM). An official map of a community, on which the Federal Emergency Management Agency has delineated both the areas of special flood hazard areas (SFHAs) and the risk premium zones applicable to the community.

FLOOD INSURANCE STUDY (FIS) or FLOOD ELEVATION STUDY. 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.

FLOODPLAIN DEVELOPMENT PERMIT. A community issued permit or document that is used for any development that occurs within an SFHA identified by FEMA or the community. It is used to address the proposed development to ensure compliance with the community's ordinance.

FLOOD OPENING. An opening in the wall of an enclosed structure that allows floodwaters to automatically enter and exit the enclosure. Refer to FEMA Technical Bulletin 1.

FLOOD PROTECTION SYSTEM. Physical structural works for which funds have been authorized, appropriated, and expended and which have been constructed specifically to modify flooding in order to reduce the extent of the areas within a community subject to a special flood hazard area (SFHZ) and to reduce the depths of associated flooding. Such a system typically includes hurricane tidal barriers, dams, reservoirs, levees, or dikes. These specialized flood-modifying works are constructed in conformance with sound engineering standards.

FLOODPLAIN or FLOOD-PRONE AREA. Any land area susceptible to being inundated by water from any source (see definition of **FLOODING**).

FLOODPLAIN MANAGEMENT. The operation of an overall program of corrective and preventive measures for reducing flood damage, including, but not limited to, emergency preparedness plans, flood control works, and floodplain management regulations.

FLOODPLAIN MANAGEMENT REGULATIONS. Zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as a floodplain ordinance, grading ordinance, and erosion-control ordinance) and other applications of police power. The term describes such state or local regulations, in any

combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

FLOODPROOFING. Any combination of structural and non-structural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures, and their contents. Floodproofing can either be accomplished in the form of dry floodproofing in which the structure is watertight below the levels that need flood protection, or wet floodproofing in permanent or contingent measures applied to a structure that prevent or provide resistance to damage from flooding, while allowing floodwaters to enter the structure or area.

FLOODWAY. See **REGULATORY FLOODWAY**.

FLOODWAY ENCROACHMENT. The lines marking the limits of floodways on federal, state, and local flood plain maps.

FREEBOARD. A factor of safety usually expressed in feet above a flood level for purposes of flood plain management. "Freeboard" tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings, and the hydrological effect of urbanization of the watershed. The State of Utah adopted the most recent IBC and ASCE 24 standard "Flood Resistant Design and Construction" which established a freeboard standard of one(1) foot and the City thereby adopts.

FUNCTIONALLY-DEPENDENT USE. A use that 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 ship building and ship repair facilities, but does not include long-term storage or related manufacturing facilities.

HIGHEST ADJACENT GRADE. The highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure. In AO Zones, the highest adjacent grade is utilized by comparing the lowest floor elevation to that of the highest adjacent grade and the depth of the AO Zone. Reference: ARTICLE V, SECTION D. STANDARDS FOR AREAS OF SHALLOW FLOODING (AO/AH Zones).

HISTORIC STRUCTURE. Any structure that is:

- (1) Listed individually in the National Register of Historic Places (a listing maintained by the Department of the 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 the 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.

IBC. International Building Code, most recent edition.

LETTER OF MAP AMENDMENT (LOMA). An official amendment, by letter, to an effective FIRM. A LOMA establishes a property's location in relation to the SFHA. It is usually issued because a property or structure has been inadvertently mapped as being in the floodplain when the property or structure is actually on natural high ground above the BFE.

LETTER OF MAP REVISION (LOMR). FEMA's modification or revision to an entire or portion of the effective FIRM, or Flood Boundary and Floodway Map, 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 BFEs, or the SFHA.

LETTER OF MAP REVISION BASED ON FILL (LOMR-F). FEMA's amendment, by letter, to an effective FIRM where fill was brought in or used to elevate a property, portion of property or structure above the BFE.

LEVEE. A man-made structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water so as to provide protection from temporary flooding.

LEVEE SYSTEM. A flood protection system that consists of a levee, or levees, and associated structures, such as closure and drainage devices, which are constructed and operated in accordance with sound engineering practices.

LOWEST ADJACENT GRADE (LAG). The lowest natural elevation of the ground surface prior to construction next to the proposed walls of a structure. For an existing structure, it means the lowest point where the structure and ground touch, including but not limited to attached garages, decks, stairs, and basement windows.

LOWEST FLOOR. The lowest floor of the lowest enclosed area (including basement). An unfinished or flood-resistant enclosure, usable solely for the 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 requirement of § 60.3 of the National Flood Insurance Program regulations, being 44 C.F.R. § 60.3.

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 connected to the required utilities. The term MANUFACTURED HOME does not include a recreational vehicle; however, a manufactured home may be used for both residential and non-residential use.

MANUFACTURED HOME PARK OR SUBDIVISION. A parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

MAP. The FHBM or the FIRM for a community issued by FEMA.

MEAN SEA LEVEL. For purposes of the National Flood Insurance Program (NFIP), the National Geodetic Vertical Datum (NGVD) of 1929, North American Vertical Datum of 1988 (NAVD 88), or other datum, to which base flood elevations shown on a community's Flood Insurance Rate Map (FIRM) are referenced.

NEW CONSTRUCTION. Structures for which the start of construction commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such structures. For the purposes of determining insurance rates, structures for the start of construction commenced on or after the effective date of an initial FIRM or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures.

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 floodplain management regulations adopted by a community.

NO-RISE CERTIFICATIONS. Formal certifications signed and stamped by a professional engineer licensed to practice in the state, demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that a proposed development will not result in any increase (0.00 feet) in flood levels within the community during the occurrence of a base flood event.

PHYSICAL MAP REVISION (PMR). FEMA's action whereby one or more map panels are physically revised and republished.

RECREATIONAL VEHICLE. A vehicle which is:

- (1) Built on a single chassis;
- (2) Four hundred (400) square feet or less when measured at the largest horizontal projections;
- (3) Designed to be self-propelled or permanently towable by a light-duty truck; and
- (4) Designed primarily, not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel, or seasonal use.

REGULATORY 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.

RIVERINE. Relating to, formed by, or resembling a river (including tributaries), stream, brook, creek, etc., which can be intermittent or perennial.

SECTION 1316. The section of the National Flood Insurance Act of 1968, as amended, which provides for the denial of flood insurance coverage for any property that the Administrator finds has been declared by a duly constituted State or local authority to be in violation of State or local floodplain management regulations. Section 1316 is issued for a property, not a property owner, and remains with the property even after a change of ownership.

SPECIAL FLOOD HAZARD AREA (SFHA). — see **AREA OF SPECIAL FLOOD HAZARD.**

START OF CONSTRUCTION (for other than new construction or substantial improvements under the Coastal Barrier Resources Act, being 16 U.S.C. §§ 3501 et seq.). 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 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 slabs 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 basements, 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 culvert, bridge, dam, or a gas or liquid storage tank, that is principally aboveground, as well as a manufactured home.

STRUCTURE. For insurance purposes:

- (1) A building with two or more outside rigid walls and a fully secured roof, which is affixed to a permanent site;
- (2) A manufactured home ("a manufactured home," also known as a mobile home, is a structure built on a permanent chassis, transported to its site in one or more sections, and affixed to a permanent foundation); or

- (3) A travel trailer without wheels built on a chassis and affixed to a permanent foundation, that is regulated under the community's floodplain management and building ordinances or laws.

For insurance purposes, "structure" does not mean a recreational vehicle or a park trailer or other similar vehicle, except as described in paragraph (3) of this definition, or a gas or liquid storage tank.

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 fifty percent (50%) 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 fifty percent (50%) of the market value of the structure before start of construction of the improvement. This includes structures that have incurred substantial damage, regardless of the actual repair work performed. The term does not, however, include either:

- (1) 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
- (2) Any alteration of a historic structure provided that the alteration will not preclude the structure's continued designation as a historic structure.

VARIANCE. A grant of relief by the community from the requirements 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 with the National Flood Insurance Program regulations in 44 C.F.R. § 60.3(b)(5), (c)(4), (c)(10), (d)(3), (e)(2), (e)(4), or (e)(5) is presumed to be in violation until such time as that documentation is provided.

WATER SURFACE ELEVATION. The height, in relation to the North American Vertical Datum of 1988 (NAVD 88), of floods of various magnitudes and frequencies, such as the 1-percent-annual-chance flood event, in the floodplains of coastal or riverine areas.

WATERCOURSE. The channel and banks of an identifiable water in a creek, brook, stream, river, ditch, or other similar feature.

§ 154.03 GENERAL PROVISIONS.

(A) Lands to Which This Ordinance Applies. This chapter shall apply to all areas of special flood hazard (SFHAs) identified by FEMA and areas of identified and documented flood risk supported using Best Available Data within the jurisdiction of the City.

(B) Basis for Establishing the Areas of Special Flood Hazard.

- (1) The areas of special flood hazard identified by the Federal Emergency Management Agency in a scientific and engineering report entitled "The Flood Insurance Study for West Haven City, Weber County, State of Utah," with accompanying Flood Insurance Rate Maps and Flood Boundary Floodway Maps (FIRM and FBFM), dated November 30, 2023, and any revisions thereto are hereby adopted by reference and declared to be a part of this chapter.
- (2) Where Base Level Engineering is available, Base Level Engineering data shall be reviewed and reasonably used in FEMA-identified Special Flood Hazard Areas where base flood elevation and floodway data have not been identified and in areas where FEMA has not identified Special Flood Hazard Areas.
 - (a) Base flood elevations, floodway, and floodplain boundaries delineated by Base Level Engineering shall take precedence over base flood elevations, floodway, and floodplain boundaries delineated by effective FIRMs and in Flood Insurance Studies (FIS) if the Base Level Engineering shows increased floodplain or floodway boundaries and/or higher base flood elevations.
 - (b) Base flood elevations and designated floodway boundaries on effective FIRMs and in Flood Insurance Studies shall take precedence over base flood elevation and floodway boundaries delineated by Base Level Engineering if the FIRMs and/or Flood Insurance Studies show reduced floodway width and/or lower base flood elevations.

(C) Establishment of Development Permit. A development permit shall be required to ensure conformance with the provisions of this chapter.

(D) 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, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

(E) Interpretation. In the interpretation and application of this ordinance, 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.

(F) Warning and Disclaimer or Liability. The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. On rare occasions, greater floods can and will occur and flood heights may be increased by human-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 damage. This ordinance shall not create liability on the part of the community or any official or employee thereof for any flood damages that result from reliance on this ordinance, or any administrative decision lawfully made thereunder.

(G) **Severability.** If any section, provision, or portion of this ordinance is adjudged unconstitutional or invalid by a court, the remainder of the ordinance shall not be affected.

(H) **Compliance.** No structures or developments including buildings, recreation vehicles, or manufactured homes or land shall hereafter be located, altered, or have its use changed without full compliance with the terms of this ordinance and other applicable regulations. Nothing herein shall prevent the community or governing body from taking such lawful action as is necessary to prevent or remedy any violations.

(I) **Stop Work Order.**

- (1) **Authority.** Whenever the floodplain administrator or other community official discovers any work or activity regulated by this ordinance being performed in a manner contrary to the provision of this ordinance, the floodplain administrator is authorized to issue a stop work order.
- (2) **Issuance.** The stop work order shall be in writing and shall be given to the owner of the property involved, or to the owner's agent, or to the person doing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order, and the conditions under which the cited work will be permitted to resume.
- (3) **Unlawful Continuance.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to penalties as prescribed by local or state law including but not limited to the penalties outlined in Section 154.03(J).

(J) **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. Violation 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 Class B misdemeanor. Any person who violates this ordinance or fails to comply with any of its requirements shall upon conviction thereof be fined not more than \$1000.00 or imprisoned for not more than six months, or both, for each violation assessed daily, and in addition shall pay all costs and expenses involved in the case. Nothing herein contained shall prevent the City from taking such other lawful action as is necessary to prevent or remedy any violation.

§ 154.04 ADMINISTRATION.

(A) **Designation of the Floodplain Administrator.** The City Engineer for the City is hereby appointed the Floodplain Administrator to administer and implement the provisions of this chapter and other appropriate sections of 44 C.F.R. (National Flood Insurance Program regulations) pertaining to floodplain management.

(B) **Duties and Responsibilities of the Floodplain Administrator.** Duties and responsibilities of the Floodplain Administrator shall include, but not be limited to, the following:

- (1) Uphold the goals of the community and the NFIP to reduce risk when possible and increase the community's resistance to future disasters.
- (2) Maintain and hold open for public inspection all records pertaining to the provisions of this ordinance, including the actual elevation of the lowest floor (including basement or crawlspace) of all new or substantially improved structures and any floodproofing certificates, including the data supporting such certificates.
- (3) Maintain and hold open for public inspection maps that identify and locate the boundaries of the SFHAs to which this ordinance applies, including, but not limited to, the FIRM.
- (4) Review permit applications to determine whether the proposed building site, including the placement of manufactured homes, will be reasonably safe from flooding.
- (5) Review, approve, or deny all applications for development permits required by adoption of this chapter.
- (6) Ensure that all necessary permits have been obtained from those federal, state, or local governmental agencies (including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334 and the Endangered Species Act of 1973) from which prior approval is required.
- (7) Assure that the flood carrying capacity within the altered or relocated portion of any watercourse is maintained. The applicant shall be responsible for providing the necessary maintenance for the altered or relocated portion of the water course so that the flood carrying capacity will not be diminished.
- (8) Notify, in riverine situations, adjacent communities and the State Coordinating Agency which is prior to any alteration or relocation of a watercourse and submit evidence of such notification to FEMA.
- (9) Where interpretation is needed as to the exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions), the Floodplain Administrator shall make the necessary interpretation.
- (10) When BFE data has not been provided by FEMA, the Floodplain Administrator shall obtain, review, and reasonably utilize any BFE data and floodway data available from a federal, state, or other source including data provided by the applicant, in order to administer the provisions of this ordinance.
- (11) When a regulatory floodway has not been designated, no new construction, substantial improvements, or other development (including fill) shall be permitted within Zones A1-30, AE, and AH on the community'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 1.00 feet at any point within the community.

(12) Under the provisions of 44 CFR Chapter 1, Section 65.12 of the NFIP Regulations, a community may approve certain development in Zones A1-30, AE, and AH on the community's FIRM, which increases the water surface elevation of the base flood by more than 1.00 foot, provided that the community first meets the requirements of Section 65.12 for a conditional FIRM revision through FEMA's CLOMR process.

(C) Requirement to Submit New Technical Data.

- (1) The property owner or developer shall notify FEMA by submittal of a LOMR within six (6) months of project completion when an applicant has obtained a CLOMR from FEMA or when development altered a watercourse, modified floodplain boundaries, or modified BFE.
- (2) The property owner or developer shall be responsible for preparing technical data to support the CLOMR or LOMR application and paying any processing or application fees to FEMA. The property owner or developer is responsible for submitting the CLOMR and LOMR to FEMA and shall provide all necessary data to FEMA if requested during the review process to ensure the CLOMR or LOMR is issued.
- (3) 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 ordinance and all applicable state, federal, and local laws.

(D) Permit Procedures. Application for a development permit shall be presented to the Floodplain Administrator on forms furnished by him or her and may include, but not be limited to:

- (1) Duplicated plans drawn to scale showing the location, dimensions, and elevation of proposed landscape alterations.
- (2) Duplicated plans drawn to scale showing the location, dimensions, and elevation of existing and proposed structures, including the placement of manufactured homes.
- (3) Location of the foregoing in relation to SFHAs.
- (4) Elevation (in relation to mean sea level), of the lowest floor (including basement and crawlspace) of all new and substantially improved structures, if applicable;
- (5) Elevation (in relation to mean sea level), to which any nonresidential structure (if applicable) shall be floodproofed.
- (6) A certificate from a registered professional engineer or architect that the nonresidential floodproofed structure (if applicable) shall meet the floodproofing criteria of this ordinance and the NFIP Regulations.
- (7) Description of the extent to which any watercourse or natural drainage will be altered or relocated because of proposed development, if applicable.
- (8) At the community's discretion, the community may charge a fee for issuance of floodplain development permits.
- (9) Copies of all floodplain development permits and the associated documents shall become property of the community and a permanent record.

(E) Approval, Denial of Permit. Approval or denial of a development permit by the Floodplain Administrator shall be based on all of the provisions of this chapter and the following relevant factors:

- (1) The danger to life and property due to flooding or erosion damage;
- (2) The susceptibility of the proposed facility and its contents to flood damage, and the effect of such damage on the individual owner;
- (3) The danger that materials may be swept onto other lands to the injury of others;
- (4) The compatibility of the proposed use with existing and anticipated development;
- (5) The safety of access to the property in times of flood for ordinary and emergency vehicles;
- (6) The costs of providing governmental services during and after flood conditions, including maintenance and repair of streets and bridges, and public utilities and facilities such as sewer, gas, electrical, and water systems;
- (7) The expected heights, velocity, duration, rate of rise, and sediment transport of the floodwaters, and the effects of wave action, if applicable, expected at the site;
- (8) The necessity to the facility of a waterfront location, where applicable;
- (9) The availability of alternative locations not subject to flooding or erosion damage, for the proposed use; and
- (10) The relationship of the proposed use to the comprehensive plan for that area.

(F) Variance Procedures.

- (1) The Appeal Board or Variance Board, as established by the community, shall hear and render judgment on requests for variances from the requirements of this ordinance after a floodplain development permit has been denied.
- (2) The Appeal Board shall hear and render judgment on an appeal only when it is alleged there is an error in any requirement, decision, or determination made by the Floodplain Administrator in the enforcement or administration of this Chapter.
- (3) Any person or persons aggrieved by the decision of the Appeal Board may appeal such decision in the courts of competent jurisdiction.
- (4) The Floodplain Administrator shall maintain a record of all actions involving an appeal and shall report variances to the Federal Emergency Management Agency upon request.
- (5) 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 elevation, providing the relevant factors in this Section 154.04(F) have been fully considered. As the lot size increases beyond the one-half acre, the technical justification required for issuing the variance increases.
- (6) Variances may be issued for the reconstruction, rehabilitation, or restoration of structures listed on the National Register of Historic Places or the State Inventory of Historic Places, without regard to the procedures set forth in the remainder of this chapter.
- (7) Upon consideration of the factors noted above and the intent of this chapter, the Appeal Board may attach such conditions to the granting of variances as it deems necessary to further the purpose and objectives of this chapter.

- (8) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
- (9) Variances may be issued for the 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. The term 'substantial improvement' does not include any alteration of a structure or facility listed on the National Register of Historic Places or a State Inventory of Historic Places.
- (10) Prerequisites for granting variances are:
 - (a) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief;
 - (b) Variances shall only be issued upon:
 1. Showing a good and sufficient cause;
 2. A determination that failure to grant the variance would result in exceptional hardship to the applicant; and
 3. 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, conflict with existing local laws or ordinances, considers the need of ingress and egress during times of floods, and does not jeopardize first responders' health and welfare.
 - (c) Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with the lowest floor elevation below the base flood elevation (BFE), and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.
- (11) 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:
 - (a) The criteria outlined in Section 154.04(F) - Variance Procedures above are met; and
 - (b) 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.

§ 154.05 PROVISIONS FOR FLOOD HAZARD REDUCTION.

- (A) **General Standards.** In all areas of special flood hazards, the following provisions are required for all new construction and substantial improvements:
 - (1) **Design.** All new construction or substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;
 - (2) **Minimize Flood Damage.** All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damage;

- (3) Resistant to Flood Damage. All new construction or substantial improvements shall be constructed with materials resistant to flood damage;
- (4) Service Facilities. All new construction or substantial improvements shall be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding;
- (5) Water Supply Systems. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system;
- (6) Infiltration of Floodwaters. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharge from the systems into floodwaters; and
- (7) Waste Disposal Systems. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

(B) Substantial Improvement. Any combination of repair, reconstruction, rehabilitation, addition, or improvement of a building or structure, if the cumulative cost of the entire project equals or exceeds fifty percent (50%), unless a higher standard option is selected below, of the market value of the structure only (not of the structure and land value combined) before the improvement or repair is started then the work shall be considered as substantial improvement. If the structure has sustained substantial damage, any repairs are considered substantial improvements regardless of the actual repair work performed. For Substantial Damage, refer to Section 154.05(C). The term does not, however, include either:

- (1) Any project for improvement of a building required to correct existing health, sanitary, or safety code violations identified by the building official and that are the minimum necessary to assure safe living conditions; or
- (2) Any alteration of a historic structure provided that the alteration will not preclude the structure's continued designation as a historic structure.

(C) Substantial Damage. Substantial damage means damage of any origin sustained by a structure whereby the cost of restoring the structure to its pre-damaged condition would equal or exceed fifty (50) percent of the market value of the structure only, unless a higher standard option is selected, before the damage occurred. This term also applies to structures which have incurred any damage that equals or exceeds fifty percent (50%) of the structure's market value regardless of the actual repair work performed. When a structure or building has been determined as substantially damaged, any work or repair on said structure or building will be considered as substantial improvement and will be required to meet the development requirements set forth within this ordinance for substantial improvement.

(D) Substantial Improvement and Substantial Damage Determination. For applications for building permits to improve buildings and structures, including alterations, movement, enlargement, replacement, repair, change of occupancy, additions, rehabilitations, renovations, and any other improvement of or work on such

buildings and structures, the Floodplain Administrator, in coordination with the applicable community officials and staff, shall:

- (1) Estimate the market value or require the applicant to obtain an appraisal of the market value prepared by a qualified independent appraiser, of the building or structure only, not of land and building, before the start of construction of the proposed work. In the case of repair, the market value of the building or structure shall be the market value before the damage occurred and before any repairs are made.
- (2) Compare the cost to perform the improvement, the cost to repair a damaged building to its pre-damaged condition, or the combined costs of improvements and repairs, if applicable, to the market value of the building or structure.
- (3) Determine and document whether the proposed work constitutes substantial improvement or repair of substantial damage; the determination requires evaluation of previous permits issued for improvements and repairs as specified in Section 154.05(B).
- (4) If elected, utilize FEMA's Substantial Improvement/Substantial Desk Reference when making any determination on Substantial Improvement and/or Substantial Damage.
- (5) The substantial improvement regulations apply to all of the work that is proposed as the improvement, even if multiple permits are issued. Therefore, the determination of the cost of the improvement should consider all costs of all phases of the work before issuance of the first permit.
- (6) Notify the applicant that if it is determined that the work constitutes substantial improvement or repair of substantial damage and that compliance with the flood, this ordinance is required.

(E) **Specific Standards.** In all areas of special flood hazards where base flood elevation data has been provided as set forth in this Chapter, the following provisions are required:

- (1) **Residential Construction.** New construction and substantial improvement of any residential structure shall have the lowest floor (including basement) elevated to one foot above the base flood elevation. A registered professional engineer, architect, or land surveyor shall submit a certification to the Floodplain Administrator that the standards of this Chapter are satisfied.
- (2) **Non-Residential Construction.** New construction and substantial improvements of any commercial, industrial, or other non-residential structure shall either have the lowest floor (including basement) elevated to one foot above the base flood elevation, or, together with attendant utility and sanitary facilities, be designed so that below the base flood level, the structure 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. A registered professional engineer or architect shall develop and/or review structural design, specifications, and plans for the construction, and shall certify that the design and methods of construction are in accordance with accepted standards of practice as outlined in this section. A record of such certification that includes the specific elevation (in relation to mean sea level) to

which such structures are floodproofed shall be maintained by the Floodplain Administrator. If the use or occupancy of the building changes in the future to residential, then the dry floodproofing of the structure cannot be used when determining compliance of the structure to the residential construction of this ordinance, Section 154.05 (E)(1). As such, the building will not be grandfathered into compliance and will be required to be brought into compliance with the residential construction requirements of this chapter.

(3) **Enclosures.** New construction and substantial improvements, with fully enclosed areas below the lowest floor that are to be used solely for parking of vehicles, building access, or storage in an area other than a basement, and are subject to flooding 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:

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

The development and construction of the structure must conform with the provision in FEMA/Federal Insurance Administration (FIA)-Technical Bulletins 1 and 2. Certification and documentation from a professional, licensed engineer or architect is required if the structure's lowest floor is built below the BFE.

(4) **Crawlspace.** New construction and substantial improvements built on a crawlspace or sub-grade (below grade) crawlspace may be permitted if the development is designed and meets or exceeds the standards found in FEMA's Technical Bulletins 1, 2, and 11, which include but are not limited to the following:

- (a) The structure must be affixed to a permanent foundation, 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. 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.
- (b) The crawlspace is an enclosed area below the 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 LAG.
- (c) The crawlspace enclosure must have proper openings that allow equalization of hydrostatic pressure by allowing automatic entry and exit of floodwaters. To achieve this, a minimum of 1 square inch of flood opening is required per 1 square foot of the enclosed area subject to flooding.

- (d) 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, piers, or other materials that extend below the BFE. Ductwork, in particular, must either be placed above the BFE or sealed from floodwaters.
- (e) Any building utility systems within the crawlspace must be elevated above the BFE or designed so that floodwaters cannot enter or accumulate within the system components during flood conditions.
- (f) The interior grade of a crawlspace below the BFE must not be more than two (2) feet below the LAG.
- (g) The height of the below-grade crawlspace, measured from the lowest interior grade of the crawlspace floor to the bottom of the floor joist of the next higher floor cannot exceed four (4) feet at any point.
- (h) 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.
- (i) Buildings with below-grade crawlspaces will have higher flood insurance premiums than buildings that have the preferred crawlspace construction, with the interior elevation at or above the LAG.

(5) Manufactured homes. All manufactured homes shall conform to the following requirements:

- (a) Require that all manufactured homes to be placed within Zone A on a community's FHBM or FIRM shall be installed using methods and practices which minimize flood damage. For the purposes of this requirement, manufactured homes must be elevated and anchored to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces.
- (b) Require that manufactured homes that are placed or substantially improved within Zones A1-30, AH, and AE on the community's FIRM on sites:
 - i. Outside of a manufactured home park or subdivision;
 - ii. On a new manufactured home park or subdivision;
 - iii. In an expansion to an existing manufactured home park or subdivision; or
 - iv. In an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as a result of a flood, be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated to or above the BFE, unless a higher standard option was selected, and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.
- (c) A-1-30, AH, AO, and AE Zones, require that manufactured homes to be placed or substantially improved in an existing manufactured home park to be elevated so that:
 - i. the lowest floor is at or above the BFE plus freeboard of one (1) foot;

- ii. or the chassis is supported by reinforced piers no less than thirty-six (36) inches in height above grade and securely anchored.

(6) Recreational Vehicles. In all Areas of Special Flood Hazard, recreational vehicles, must either:

- (a) Be on the site for fewer than one hundred and eighty (180) consecutive days;
- (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 structures or addition; or
- (c) The recreational vehicle must meet all the requirements for Section 154.04(D) Permit Procedures, including the anchoring and elevation requirements of "manufactured homes" of this chapter.

(F) Standards for Subdivision Proposals.

- (1) Development Permit Requirements. All proposals for the development of subdivisions, including the placement of manufactured home parks and subdivisions, shall meet development permit requirements of this Chapter to minimize flood damage.
- (2) All subdivision preliminary plats/development plans shall include the mapped flood hazard zones from the effective FIRM.
- (3) Base Flood Elevation. Base flood elevation data shall be generated for subdivision proposals and other proposed developments, including the placement of manufactured home parks and subdivisions, which is greater than fifty (50) lots or five (5) acres, whichever is lesser.
- (4) Adequate Drainage. All subdivision proposals, including the placement of manufactured home parks and subdivisions, shall have adequate drainage provided to reduce exposure to flood hazards.
- (5) Public Utilities and Facilities. All subdivision proposals, including the placement of manufactured home parks and subdivisions, shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize or eliminate flood damage.

(G) Standards for Areas of Shallow Flooding (AO/AH Zones). Located within the SFHAs established in Section 154.03 et seq. are areas designated as shallow flooding. These areas have special flood hazards associated with base flood depths of one (1) to three (3) feet where a clearly defined channel does not exist and where the path of flooding is unpredictable, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow. Therefore, the following provisions apply:

- (1) All new construction and substantial improvements of residential structures have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number specified in feet on the community's FIRM (at least 2 feet if no depth number is specified) plus the freeboard height of one (1) foot.
- (2) All new construction and substantial improvements of non-residential structures:
 - (a) Have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number specified in feet on

the community's FIRM (at least 2 feet if no depth number is specified). plus the freeboard height of one (1) foot; or

(b) Together with attendant utility and sanitary facilities be designed so that below the base flood elevation the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads of effects of buoyancy.

(3) A registered professional engineer or architect shall submit a certification to the Floodplain Administrator that the standards of this Section.

(4) Require within Zones AH or AO adequate drainage paths around structures on slopes, to guide flood waters around and away from proposed structures.

(H) Floodways. Floodways located within SFHAs are extremely hazardous areas due to the velocity of flood waters that carry debris, potential projectiles, and erosion potential, the following provisions shall apply:

(1) Designate a regulatory floodway that will not increase the base flood elevation more than one (1) foot.

(2) Encroachments are prohibited, including fill, new construction, substantial improvements, and other development within the adopted regulatory floodway unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase greater than 0.00 feet, unless higher standard option is selected, in flood levels within the community during the occurrence of the base flood discharge.

(3) All new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of this Chapter.

(4) Under the provisions of 44 CFR Chapter 1, Section 65.12, of the NFIP Regulations, a community may permit encroachments within the adopted regulatory floodway that would result in an increase in BFEs, provided that the community first applies for a conditional FIRM and floodway revision through FEMA.

(I) Past Severe Flooding.

(1) General. It is hereby found and declared by the City that severe flooding has occurred in the past within its jurisdiction and will certainly occur within the future; that flooding is likely to result in infliction of serious personal injury or death, and is likely to result in substantial injury or destruction of property within its jurisdiction; and, in order to effectively comply with minimum standards for coverage under the National Flood Insurance Program, and in order to effectively remedy the situation described herein, it is necessary that this chapter become effective immediately.

(2) Emergency. Therefore, an emergency is hereby declared to exist, and this Chapter, being necessary for the immediate preservation of the public peace, health, and safety, shall be in full force and effect from and after its passage and approval.