



# **FLOODPLAIN DEVELOPMENT**

ORD 2023-1016

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**ARTICLE 1**  
**STATUTORY AUTHORIZATION, FINDINGS OF**  
**FACT, PURPOSE, AND OBJECTIVES**

The National Flood Insurance Program (NFIP) is managed by the Federal Emergency Management Agency (FEMA). Communities are not required to participate in the program by any law or regulation, but instead participate voluntarily in order to obtain access to NFIP flood insurance. Communities that choose to participate in the NFIP are required to adopt and enforce a floodplain development ordinance with land use and control measures that include effective enforcement provisions to regulate development in the floodplain resulting in reduced future flood losses.

FEMA has set forth in federal regulations the minimum standards required for participation in the NFIP; however, these standards have the force of law only because they are adopted and enforced by a state or local government; referred to as a NFIP community. Legal enforcement of the floodplain management standards is the responsibility of the participating NFIP community, which can elect to adopt higher standards as a means of mitigating flood risk. The City of Riverside agrees to adopt and enforce this Ordinance, which meets or exceeds the minimum standards of the Code of Federal Regulations Title 44 §60.3 in order to participate in the NFIP and have access to federal flood insurance and other federal assistance.

**SECTION A**                      **STATUTORY AUTHORIZATION**

The Legislature of the State of Alabama has in Title 11, Chapter 19, Sections 1-24; Chapter 45, Sections 1-11; Chapter 52, Sections 1-84; and Title 41, Chapter 9, Section 166 of the Code of Alabama, 1975, authorized local government units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the Mayor and Council of the City of Riverside, Alabama, does ordain as follows:

**SECTION B**                      **FINDINGS OF FACT**

- (1) The flood hazard areas of the City of Riverside, Alabama (the Federal Emergency Management Agency's [FEMA] designated Special Flood Hazard Areas (SFHAs) or other areas designated by Riverside as flood-prone areas) are subject to periodic inundation which may result in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood relief and protection, and impairment of the tax base, all of which adversely affect public health, safety, and general welfare.
- (2) These flood losses are caused most often by development, as defined in this Ordinance, in areas designated as FEMA SFHAs or other areas designated by the City of Riverside as vulnerable to flooding, including structures which are inadequately elevated or floodproofed (only non-residential structures) or are otherwise unprotected from flood damages; or by the cumulative effect of development in areas subject to flooding that cause increases in flood heights and velocities.

**SECTION C**                      **STATEMENT OF PURPOSE**

It is the purpose of this Ordinance 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) Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction.
- (2) Restrict or prohibit uses which are dangerous to health, safety, and property due to water or erosion hazards, or which increase flood heights, velocities, or erosion.
- (3) Control development (including filling, grading, paving, dredging, and all other development as defined in this Ordinance).
- (4) Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters, or which may increase flood hazards to other lands.
- (5) Control the alteration of natural floodplains, stream channels, and natural protective barriers which may influence the flow of water.

**SECTION D**                      **OBJECTIVES** The objectives of this Ordinance are to:

- (1) Protect human life and health;
- (2) Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in floodplains;
- (3) 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 flood blight areas;
- (4) Minimize expenditure of public money for costly flood control projects;
- (5) Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- (6) Minimize prolonged business interruptions; and
- (7) When asked for assistance regarding flood risk, ensure that potential home buyers are aware that a property is in an area subject to flooding.

**ARTICLE 2**  
**GENERAL PROVISIONS**

**SECTION A**            **LANDS TO WHICH THIS ORDINANCE APPLIES**

This Ordinance shall apply to all FEMA SFHAs and any additional areas designated by the City of Riverside as floodplains or areas subject to flooding within the jurisdiction of Riverside, Alabama.

**SECTION B**            **BASIS FOR SPECIAL FLOOD HAZARD AREAS**

The SFHAs identified by FEMA in St. Clair County’s Flood Insurance Study (FIS), dated August 17, 2016, with accompanying Flood Insurance Rate Maps (FIRMs) and other supporting data and any revision thereto, are adopted by reference and declared a part of this Ordinance. For those lands acquired by a municipality through annexation, the current effective FIS and data for St. Clair County, Alabama are hereby adopted by reference. Community Flood Hazard Areas may also be regulated as SFHAs. FEMA encourages communities to adopt areas prone to flooding to be added to the FIRMs. They may include those areas known to have flooded historically or that have been defined through standard engineering analysis by a professional engineer, licensed to practice in the State of Alabama; or by governmental agencies or private organizations that are not yet incorporated into the FIS or otherwise designated by the community.

When Preliminary Flood Insurance Studies and Flood Insurance Rate Maps have been provided by FEMA to the City of Riverside, Alabama:

- (1) Prior to the issuance of a Letter of Final Determination by FEMA, the use of the preliminary flood hazard data shall only be required where no BFEs and/or floodway areas exist or where the preliminary BFEs or floodway area exceed the BFEs and/or floodway widths in the effective flood hazard data provided by FEMA. Such preliminary data may be subject to revision through valid appeals.
- (2) Upon the issuance of a Letter of Final Determination (LFD) by FEMA, the revised flood hazard data shall be used and replace all previously effective flood hazard data provided by FEMA for the purposes of administrating these regulations.

Where adopted regulatory standards conflict, the more stringent BFE shall prevail. Preliminary FIS data may be subject to change by a valid appeal.

**SECTION C:**            **ESTABLISHMENT OF A FLOODPLAIN DEVELOPMENT PERMIT**

A Development Permit shall be required in conformance with the provisions of this Ordinance PRIOR to the commencement of any development, as defined in this Ordinance, in identified SFHAs and any additional identified Community Flood Hazard Areas within the community.

**SECTION D.**            **COMPLIANCE**

No structure or land shall hereafter be located, extended, converted or altered without full compliance with the terms of this Ordinance and other applicable regulations.

**SECTION E. ABROGATION AND GREATER RESTRICTIONS**

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

**SECTION F. 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.

**SECTION G. WARNING AND DISCLAIMER OF LIABILITY**

The degree of flood protection required by this Ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur; flood heights may be increased by man-made or natural causes. This Ordinance does not imply that land outside the SFHAs or other identified areas subject to flooding or uses permitted within such areas will be free from flooding or flood damages. This Ordinance shall not create liability on the part of the City of Riverside or by any officer or employee thereof for any flood damages that result from reliance on this Ordinance or any administrative decision lawfully made thereunder.

**SECTION H. PENALTIES FOR VIOLATION**

Violation of the provisions of this Ordinance or failure to comply with any of its requirements, including violation of conditions and safeguards established in connection with grants of variance or special exceptions shall constitute a misdemeanor. The Code of Alabama (1975), Title 11, Chapters 19 and 45 grant local governments in Alabama the authority to administer the enforcement provisions stated within this section of the Ordinance.

- (1) Stop Work Order. The community may issue a stop work order, which shall be served on the applicant or other responsible person.
  - (a) Upon notice from the Administrator, work on any building, structure or premises that is being performed contrary to the provisions of this Ordinance shall immediately cease.
  - (b) Such notice shall be in writing and shall be given to the owner of the property, or to his or her agent, or to the person doing the work, and shall state the conditions under which work may be resumed.

The stop work order shall remain in effect until the applicant or other responsible person has taken the remedial measures set forth in the notice of violation or has otherwise cured the violation or violations described therein. The stop work order must include a provision that it may be withdrawn or modified to enable the applicant or other responsible person to take the necessary remedial measures to cure such violation or violations.

- (2) Notice of Violation. If the community determines that an applicant or other responsible party for the development has failed to comply with the terms and conditions of a permit, or otherwise not in accordance with the provisions of this Ordinance, it shall issue a written Notice

of Violation, by certified return receipt mail, to such applicant or other responsible person. Where the person is engaged in activity covered by this Ordinance without having first secured a permit, the notice shall be served on the owner or the party in charge of the activity being conducted on the site. Therefore, any work undertaken prior to submission and approval of an official permit by the City of Riverside or otherwise not in accordance with this Ordinance shall constitute a violation of this Ordinance and be at the permit holder's risk. The notice of violation shall contain:

- (a) The name and address of the owner or the applicant or the responsible party;
  - (b) The address or other description of the site upon which the violation is occurring;
  - (c) A statement specifying the nature of the violation (including failure to obtain a permit);
  - (d) A description of the remedial measures necessary to bring the action or inaction into compliance with the permit or this Ordinance and the date for the completion of such remedial action;
  - (e) A statement of the penalty or penalties that may be assessed against the person to whom the notice of violation is directed, and;
  - (f) A statement in the Notice of Violation shall be included that the determination of violation may be appealed to the community by filing a written Notice of Appeal within ten (10) working days after the Notice of Violation. Exceptions for the deadline for this Notice include: 1) in the event the violation constitutes a danger to public health or public safety, then a 24-hour notice shall be given; 2) if there's an imminent or immediate threat to life or property, then immediate action is required.
- (3) Civil penalties. Any person who violates this Ordinance or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than \$500.00 or imprisoned for not more than 30 days, or both, and in addition, shall pay all costs and expenses involved in the case: Each day such violation continues following receipt of the Notice of Violation shall be considered a separate offense. Nothing contained herein shall prevent the City of Riverside from taking such other lawful actions as is necessary to prevent or remedy any violation.
- (4) Additional Enforcement Actions. If the remedial measures described in the Notice of Violation have not been completed by the date set forth in the Notice of Violation, any one or more of the following enforcement actions may be enacted against the person to whom the Notice of Violation was directed.

Before taking any of the following enforcement actions or imposing any of the following penalties, the City of Riverside shall first notify the applicant or other responsible person in writing of its intended action the City of Riverside shall provide reasonable opportunity, of not less than ten days (except, in the event the violation constitutes a danger to public health or public safety, then a 24-hour notice shall be sufficient; if there's an imminent or immediate threat to the public health or public safety then immediate action is required) to cure such violation.

In the event the applicant or other responsible party fails to cure such violation after such notice and cure period, the City of Riverside may take or impose any one or more of the enforcement actions or penalties listed below.

- (a) Termination of water service and/or withhold or revoke Certificate of Occupancy. The community may terminate utility services to the property and/or refuse to issue and/or revoke a certificate of occupancy for the building or other improvements/repairs conducted on the site. The order shall remain in-place until the applicant or other responsible party has taken the remedial measures set forth in the Notice of Violation or has otherwise cured the violation or violations described therein.
- (b) Suspension, revocation, or modifications of permit. The community may suspend, revoke, or modify the permit that authorizes the development project. A suspended, revoked, or modified permit may be reinstated after the applicant or other responsible party has taken the remedial measures set forth in the Notice of Violation or has otherwise cured the violations described therein, provided such permit may be reinstated (upon such conditions as the community may deem necessary). That would enable the applicant or other responsible party to take the necessary remedial measures to cure such violations.
  - i. The Administrator may revoke a permit issued under the provisions of this Ordinance in case there has been any false statement or misrepresentation as to the material fact in the application or plans on which the permit or approval was based.
  - ii. The Administrator may revoke a permit upon determination that the construction, erection, alteration, repair, moving, demolition, installation, or replacement of the structure for which the permit was issued is in violation of, or not in conformity with, the provisions of this Ordinance.
- (c) Section 1316 Declaration. A Section 1316 declaration shall be used only when all other legal means included in this Ordinance to remedy a violation have been exhausted and the structure remains non-compliant. Once invoked, the property's flood insurance coverage will be terminated and no new or renewal policy can be issued, no NFIP insurance claim can be paid on any policy on the property, and federal disaster assistance will be denied for the property.

The declaration must be in writing (letter or citation), from the community to the property owner and to the FEMA Regional Office, and must contain the following items:

- i. The name(s) of the property owner(s) and address or legal description of the property sufficient to confirm its identity and location;
- ii. A clear and unequivocal declaration that the property is in violation of a cited State or local law, regulation or ordinance;
- iii. A clear statement that the public body making the declaration has authority to do so and a citation of that authority;
- iv. Evidence that the community has taken and exhausted all legal means to remedy the violation, including all Community enforcement actions, as specified in this Ordinance; and
- v. Notice of violation, and a statement regarding the prospective denial of insurance.

The structure will be considered a violation until such time the violation has been remedied. If a structure that has received a Section 1316 declaration is made compliant with the all the applicable provisions of this Ordinance, then the Section 1316 declaration can be rescinded by the community and flood insurance

eligibility restored.

- (5) Administrative appeal; judicial review. Any person receiving a Notice of Violation may appeal the determination of the community, including but not limited to the issuance of a stop work order, the assessment of an administratively-imposed monetary penalty, the suspension, revocation, modification, or grant with condition of a permit by the community upon finding that the holder is in violation of permit conditions, or that the holder is in violation of any applicable ordinance or any of the community's rules and regulations, or the issuance of a notice of bond forfeiture.

The Notice of Appeal must be in writing to the Floodplain Administrator and must be received within ten (10) days from the date of the Notice of Violation. A hearing on the appeal shall take place within thirty (30) days from the date of receipt of the Notice of Appeal.

- (6) All appeals shall be heard and decided by the community's designated appeals board, which shall be \_\_\_\_\_, or their designees. The appeals board shall have the power to affirm, modify, or reject the original penalty, including the right to increase or decrease the amount of any monetary penalty and the right to add or delete remedial actions required for correction of the violation and compliance with the community's floodplain development ordinance, and any other applicable local, state, or federal requirements. Appeals cannot be in opposition to the provisions of this Ordinance. The decision of the appeal board shall be final.
- (7) A judicial review can be requested by any person aggrieved by a decision or order of the community, after exhausting his/her administrative remedies. They shall have the right to appeal de novo to the Riverside Municipal Court.

## **SECTION I. SAVINGS CLAUSE**

If any section, subsection, sentence, clause, phrase, or word of this Ordinance is for any reason held to be noncompliant with 44 Code of Federal Regulation 59-78, such decision shall not affect the validity of the remaining portions of this Ordinance.

## **SECTION J. REPEALER**

Ordinance 2020-0201-02 of the the City of Riverside, Alabama is hereby repealed. This Repealer shall not, however, effect, terminate, or preclude any rights, duties, requirements or terms which arose or existed while said Ordinance was in effect, all of which are specifically preserved.



**ARTICLE 3**  
**ADMINISTRATION**

**SECTION A            DESIGNATION OF FLOODPLAIN ADMINISTRATOR**

The Inspections Department is hereby appointed to administer and implement the provisions of this Ordinance. **The Inspections Department shall hereto after be referred to as the Municipal Floodplain Administrator in this Ordinance.**

**SECTION B            PERMIT PROCEDURES**

Application for a Floodplain Development Permit shall be made to the Municipal Floodplain Administrator on forms furnished by the community **PRIOR** to any development (**any man-made change to improved or unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation, drilling operations, or storage of equipment or materials**) in the SFHAs of the community, and may include, but not be limited to, the following: plans in duplicate drawn to scale showing the elevations of the area of development and the nature, location, and dimensions of existing or proposed development.

Specifically, the following procedures and information are required for all projects in the SFHA or other designated floodplains within the jurisdiction of the City of Riverside:

**(1)    Application Stage**

Plot plans are to include:

- (a) The BFEs where provided as set forth in Article 4, Section B and C;
- (b) Boundary of the Special Flood Hazard Area and floodway(s) as delineated on the FIRM or other flood map as determined in Article 2, Section B;
- (c) Flood zone designation of the proposed development area as determined on the FIRM or other flood map as set forth in Article 2, Section B;
- (d) Elevation in relation to mean sea level (or highest adjacent grade) of the regulatory lowest floor elevation, including basement, of all proposed structures;
- (e) Elevation in relation to mean sea level to which any non-residential structure will be flood-proofed;
- (f) Design certification from a professional engineer, who is licensed to practice in the State of Alabama, or a licensed architect, who is registered to practice in the State of Alabama, that any proposed non-residential flood-proofed structure will meet the flood-proofing criteria of Article 4, Sections B(2) and E(2);
- (g) A Foundation Plan, drawn to scale, that shall include details of the proposed foundation system to ensure all provisions of this Ordinance are met. These details include, but are not limited to, the proposed method of elevation (i.e., fill, solid foundation perimeter wall, solid backfilled foundation, open foundation on columns/posts/piers/piles/shear walls) and description of any flood openings required in accordance with Article 4, Sections B(1) and B(3) when solid foundation perimeter walls are used.
- (h) Usage details of any enclosed areas below the lowest floor shall be described.
- (i) Plans and/or details for the protection of public utilities and facilities such as sewer, gas, electrical, and water systems to be located and constructed to minimize flood damage.



- (j) Description of the extent to which any watercourse will be altered or relocated as a result of a proposed development including current and proposed locations of the watercourse. An engineering report shall be prepared by a professional engineer, who is licensed to practice in the State of Alabama, on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located both upstream and downstream. The affected properties shall be depicted on a map or on the plot plan.
- (k) Certification of the plot plan by a professional engineer or surveyor, who is licensed to practice in the State of Alabama, is required.
- (l) In any lot or lots/areas that will be or have been removed from the special flood hazard area utilizing a Letter of Map Revision Based on Fill (LOMR-F), the top of fill elevation must meet the community's freeboard elevation at that location. If the top of fill elevation is below the freeboard elevation, all new structures, additions to existing buildings or substantial improvements must meet the required community freeboard elevation.

(2) **Construction Stage**

For all new construction and substantial improvements, the permit holder shall provide to the Municipal Floodplain Administrator an as-built certification of the regulatory floor elevation or flood-proofing level using appropriate FEMA elevation or floodproofing certificate immediately after the lowest floor or flood-proofing is completed. In addition:

- (a) When flood-proofing is utilized for non-residential structures, said certification shall be prepared by professional engineer, who is licensed to practice in the State of Alabama, or architect, who is registered to practice in the State of Alabama.
- (b) Any work undertaken prior to submission of these certifications shall be at the permit holder's risk.
- (c) The Municipal Floodplain Administrator shall review the above referenced certification data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further work being allowed. Failure to submit certification or failure to make the required corrections, shall be cause to issue a Notice of Violation and/or Stop-Work Order for the project.
- (d) The Municipal Floodplain Administrator shall make **periodic inspections** of projects during construction throughout the SFHAs within the jurisdiction of the community to ensure that the work is being done according to the provisions of this Ordinance and the terms of the permit. Members of the inspections/engineering department shall have a right, upon presentation of proper credentials, to enter on any premises within the territorial jurisdiction of the City of Riverside during normal business hours of the community for the purposes of inspection or other enforcement action.
- (e) The Municipal Floodplain Administrator may revoke and require the return of the floodplain development permit by notifying the permit holder in writing stating the reason(s) for the revocation. Permits shall be revoked for any departure from the approved application, plans, and specifications; for refusal or failure to comply with the requirements of State or local laws; or for false statements or misrepresentations made in securing the permit. Any floodplain development permit mistakenly issued in violation of an applicable State or local law may also be revoked.

(3) **Finished Construction**

Upon completion of construction, a FEMA elevation certificate (FEMA Form 81-31 or equivalent), which depicts all finished construction elevations, must be submitted to the Municipal Floodplain Administrator prior to issuance of a Certificate of Occupancy.

- (a) If the project includes a floodproofing measure, a FEMA floodproofing certificate must be submitted by the permit holder to the Municipal Floodplain Administrator.
- (b) The Municipal Floodplain Administrator shall review the certificate(s) and the data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to Certificate of Compliance/Occupancy issuance.
- (c) In some instances, another certification may be required to certify corrected as-built construction. Failure to submit the certification or failure to make required corrections shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy.
- (d) Documentation regarding completion of and compliance with the requirements stated in the permit application and with Article 3, Section B(1) of this Ordinance shall be provided to the local Municipal Floodplain Administrator at the completion of construction or records shall be maintained throughout the Construction Stage by inspectors for the Municipal Floodplain Administrator. Failure to provide the required documentation shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy.
- (e) All records that pertain to the administration of this Ordinance shall be maintained in perpetuity and made available for public inspection, recognizing that such information may be subject to the Privacy Act of 1974, as amended.

**SECTION C                    DUTIES AND RESPONSIBILITIES OF THE MUNICIPAL FLOODPLAIN ADMINISTRATOR**

The Municipal Floodplain Administrator and his/her designated staff is hereby authorized and directed to enforce the provisions of this Ordinance. The Municipal Floodplain Administrator is further authorized to render interpretations of this Ordinance, which are consistent with its spirit and purpose. Duties of the Municipal Floodplain Administrator shall include, but shall not be limited to:

- (1) Require permits for all proposed construction or other development in the community, including the placement of manufactured homes, so that it may be determined whether such construction or other development is proposed within flood-prone areas. Ensure the public is aware that floodplain development permits are required for development in SFHAs.
- (2) Conduct regular inspections of the community's SFHAs for any unpermitted development and issue Stop Work Orders and Notice of Violations for any such development. Any unpermitted structure or non-structural development in the SFHA will be considered a violation until such time that the violation has been remedied.
- (3) Review proposed development to assure that all necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334. Maintain such permits permanently with floodplain development permit file.

- (4) Review all permit applications of proposed development, to determine whether the proposed construction or other development will be reasonably safe from flooding and to assure compliance with this Ordinance.
  - (a) If the provisions of this Ordinance have been met, approve the permit.
  - (b) If the provisions of this Ordinance have not been met, request that either corrections and accurate completion of the application be made or disapprove the permit.
- (5) When BFE data or floodway data have not been provided in accordance with Article 2, Section B then the Municipal Floodplain Administrator shall obtain, review and reasonably utilize any BFE and floodway data available from a Federal, State, or other sources in order to administer the provisions of Article 4.
- (6) Verify and record the actual elevation of the lowest floor, in relation to mean sea level (or highest adjacent grade), including basement, of all new construction or substantially improved residential structures in accordance with Article 3, Section B(2).
  - (a) Review elevation certificates and require incomplete or incorrect certificates to be corrected and resubmitted for approval.
  - (b) A post-construction elevation certificate is required to be kept with the permit and certificate of occupancy in perpetuity; a pre-construction elevation certificate can be used to ensure the correct elevation for the lowest floor and machinery along with the correct number of vents that will be used.
- (7) Verify and record the actual elevation, in relation to mean sea level to which any new or substantially improved non-residential structures have been elevated or floodproofed, in accordance with Article 3, Section B, or Article 4, Sections B(2) and E(2).
- (8) When floodproofing is utilized for a non-residential structure, the Municipal Floodplain Administrator shall obtain certification of design criteria from a professional engineer, licensed to practice in the State of Alabama, or licensed architect, registered to practice in the State of Alabama, in accordance with Article 3, Section B(1) and Article 4, Section B(2) or E(2).
- (9) Notify adjacent communities and the Alabama Department of Environmental Management and the appropriate district office of the U.S. Army Corps of Engineers prior to any alteration or relocation of a watercourse. Submit evidence of such notification to FEMA and the NFIP State Coordinator's Office (Alabama Department of Economic and Community Affairs, Office of Water Resources).
- (10) For any altered or relocated watercourse, submit engineering data/analysis within six (6) months after completion of the project to FEMA and State to ensure accuracy of community flood maps through the Letter of Map Revision process. Assure flood carrying capacity of any altered or relocated watercourse is maintained following completion of the project.
- (11) Where interpretation is needed as to the exact location of boundaries of the SFHA (for example, where there appears to be a conflict between a mapped boundary and actual field conditions), the Municipal Floodplain Administrator shall make the necessary interpretation. Any person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this Ordinance.

- (12) All records pertaining to the provisions of this Ordinance shall be maintained, in perpetuity, at the office of the Municipal Floodplain Administrator and shall be available for public inspection when requested.
- (13) For any improvements made to existing construction located in the SFHA (as established in Article 2, Section B) ensure that a permit is obtained. Also, conduct Substantial Improvement (SI) (as defined in Article 6 of this Ordinance) reviews and analysis of all structural development permit applications. Maintain a record of the SI calculations and comments within the permit files in accordance with Section C(11) of this Article.
- (14) For any residential and nonresidential structures located in the SFHAs that are damaged from any source, natural hazard or man-made, conduct Substantial Damage (SD) (as defined in Article 6 of this Ordinance) assessments.
- (a) The Municipal Floodplain Administrator shall ensure that permits are obtained, in accordance with this Ordinance, prior to any repairs commencing.
  - (b) Make SD determinations whenever structures within the SFHA area are damaged by any cause or origin. SD determinations shall not be waived to expedite the rebuilding process during a post-disaster recovery or for any other reason.
  - (c) If the community has a large number of buildings in their SFHA that have been damaged, they should decide in advance how best to handle permitting and inspecting damaged buildings for substantial damage determinations.
  - (d) If required, a moratorium may be placed on all non-disaster related construction permits until the community has sufficiently completed its SD determinations.
  - (e) The SD determinations should be performed immediately after the damage-causing event or other cause of damage.
  - (f) The community shall utilize methods and tools for collecting building data and performing analyses that will provide reasonable and defensible SD determinations. Those tools shall be capable of generating reports for record-keeping purposes and to provide to the applicable property owners if requested.
  - (g) Maintain a record of the SD calculations within permit files in accordance with Section C(11) of this Article.
  - (h) If the SD determination finds that the extent that the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred, the Municipal Floodplain Administrator shall:
    - i. Coordinate with the property owner and issue a letter to convey the SD determination.
    - ii. Determine if the damage was caused by flooding and include the cause in the letter to the property owner. Also, include whether or not the structure qualifies as a repetitive loss structure per the definitions in Article 6 of this Ordinance. The information can be used to determine if the claim is eligible for an Increased Cost of Compliance claim.
    - iii. Coordinate with property owners and insurance companies for any NFIP claims.
    - iv. If the repairs are to proceed, coordinate with the permit applicant to ensure a permit is obtained and inspections are conducted to ensure that all applicable provisions of this Ordinance are adhered to without exception or waiver.
  - (i) Ensure that phased improvements and incremental repairs do not circumvent the SI/SD requirements.

- (j) Ensure that any combinations of elective improvements being made in addition to the necessary repairs to damages are included in making the SI/SD determination.
  - (k) An applicant for a permit may appeal a decision, order, or determination that was made by the local official for the following:
    - i. The local official's finding or determination that the proposed work constituting a SI/SD were based on insufficient information, errors, or repair/improvement costs that should be included and/or excluded;
    - ii. The local official's finding or determination that the proposed work constituting a SI/SD were based on inappropriate valuations of costs for the proposed work, or an inappropriate method to determine the market value of the building.
  - (l) It is not appropriate for a permit applicant to seek an appeal who wishes to build in a manner that is contrary to the regulations and codes included in this ordinance. In those cases, the applicant should seek a variance.
  - (m) Ensure that any building located in a floodway that constitutes a SI/SD has an engineering analysis performed in accordance with Article 4, Section C(2). If that analysis indicates any increase in the BFE, the local official must not allow the proposed work unless the structure is brought into full compliance with this Ordinance.
- (15) Coordinate with insurance adjusters prior to permitting any proposed work to bring any flood-damaged structure covered by a standard flood insurance policy into compliance (either substantially damaged structures or repetitive loss structures) to ensure eligibility for ICC funds.
- (16) Right of Entry
- (a) After the Certificate of Occupancy has been issued for a building and the Municipal Floodplain Administrator observes or has reasonable cause to believe that renovations or retrofits have been made to the building, structure, or premises located in a SFHA that appear to be in violation of any provisions of this Ordinance, he/she shall have the right to seek entry into that building as described in (b) to (e) below.
  - (b) Whenever it becomes necessary to make an inspection to enforce any of the provisions of this Ordinance, the Municipal Floodplain Administrator may enter such building, structure or premises at all reasonable times (normal business hours for the community) to inspect the same or perform any duty imposed upon the Municipal Floodplain Administrator by this Ordinance.
  - (c) If such building or premises are occupied, the Municipal Floodplain Administrator shall first present proper credentials and request entry. If such building, structure, or premises are unoccupied, he/she shall first make a reasonable effort to locate the owner or other persons having charge or control of such building or premises prior to entry.
  - (d) If entry is refused or owner cannot be located, the Municipal Floodplain Administrator shall have recourse to every remedy provided by law to secure the right of entry of the building, structure, or premises.
  - (e) When the Municipal Floodplain Administrator shall have first obtained a proper inspection warrant or other remedy provided by law to secure entry, no owner or occupant or any other persons having charge, care or control of any building, structure, or premises shall fail or neglect, after proper request is made as herein

provided, to promptly permit entry therein by the Municipal Floodplain Administrator for the purpose of inspection and examination pursuant to this Ordinance.

## **ARTICLE 4**

### **PROVISIONS FOR FLOOD HAZARD REDUCTION**

#### **SECTION A        GENERAL STANDARDS**

In ALL SFHAs and flood-prone areas regulated by the City of Riverside, the following provisions are required for all proposed development including new construction, reconstruction or repairs made to repetitive loss structures, and substantial improvements:

- (1) Review proposed development to assure that all necessary permits have been received from those 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 (1972, 33 U.S.C. 1334) and the Endangered Species Act (1973, 16 U.S.C. 1531-1544). Maintain such permits permanently with floodplain development permit file.
- (2) New construction and 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.
- (3) New construction and substantial improvements shall be constructed with materials resistant to flood damage below the BFE.
- (4) New construction and substantial improvements shall be constructed by methods and practices that minimize flood damages.
- (5) New construction and 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.
- (6) Review subdivision proposals and other proposed development, including manufactured home parks or subdivisions, to determine whether such proposals will be reasonably safe from flooding. If a subdivision proposal or other proposed development is in a SFHA, any such proposals shall be reviewed to assure that:
  - (a) They are consistent with the need to minimize flood damage within the SFHA,
  - (b) All public utilities and facilities, such as sewer, gas, electrical and water systems are located and constructed to minimize or eliminate flood damage,
  - (c) All new and replacement water supply systems are to be designed to minimize or eliminate infiltration of flood waters into the systems,
  - (d) All new and replacement sanitary sewage systems are to be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters,
  - (e) Onsite waste disposal systems are to be located to avoid impairment to them or contamination from them during flooding, and



- (f) Adequate drainage provided to reduce exposure to flood hazards.
- (7) Manufactured homes shall be installed using methods and practices which minimize flood damage. They must be elevated and anchored to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not to be limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable State and local requirements for resisting wind forces.
- (8) New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems.
- (9) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters.
- (10) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.
- (11) Any alteration, repair, reconstruction or improvement to new construction and substantial improvements which is not compliant with the provisions of this Ordinance, shall be undertaken only if the non-conformity is not furthered, extended or replaced.
- (12) Proposed new construction and substantial improvements that are partially located in a SFHA shall have the entire structure meet the standards of this Ordinance for new construction.
- (13) Where new construction and substantial improvements located in multiple SFHAs or in a SFHA with multiple BFEs, the entire structure shall meet the standards for the most hazardous SFHA and the highest BFE.
- (14) Special Mudslide Hazard Areas -Until the Federal Insurance Administrator has identified areas within the community as an area having special mudslide hazards, the community shall perform the following permitting procedures for areas that it has identified as having such hazards.
- (a) Require permits for all proposed construction or other development in the community so that it may determine whether development is proposed within mudslide-prone areas.
- (b) Require review of each permit application to determine whether the proposed site and improvements will be reasonably safe from mudslides. Factors to be considered should include but not be limited to:
- (i) the type and quality of soils,
- (ii) any evidence of ground water or surface water problems,
- (iii) the depth and quality of any fill,
- (iv) the overall slope of the site, and
- (v) the weight that any proposed structure will impose on the slope.
- (c) Require, if a proposed site and improvements are in a location that may have mudslide hazards, that:
- (i) a site investigation and further review be made by persons qualified in geology and soils engineering,



- (ii) the proposed grading, excavations, new construction, and substantial improvements are adequately designed and protected against mudslide (i.e., mudflow) damages,
  - (iii) the proposed grading, excavations, new construction and substantial improvements do not aggravate the existing hazard by creating either on-site or off-site disturbances, and
  - (iv) drainage, planting, watering, and maintenance be such as not to endanger slope stability.
- (d) When the Federal Insurance Administrator has delineated Zone M on the community's FIRM, the community shall include the provisions from 44 CFR §60.4(b).
- (15) Special Flood-Related Erosion Hazard Areas - Until the Federal Insurance Administrator has identified areas within the community as an area having special flood-related erosion hazards, the community shall perform the following permitting procedures for areas that it has identified as having such hazards.
- (a) Require permits for all proposed construction or other development in the community so that it may determine whether proposed development is proposed within an erosion hazard area.
  - (b) Require review of each permit application to determine whether the proposed site and improvements will be reasonably safe from flood-related erosion and will not cause flood-related erosion hazards or otherwise aggravate the existing flood-related erosion hazard; and
  - (c) If a proposed improvement is found to be in the path of flood-related erosion or to increase the erosion hazard, require the improvement to be relocated or adequate protective measures to be taken which will not aggravate the existing erosion hazard.
  - (e) When the Federal Insurance Administrator has delineated Zone M on the community's FIRM, the community shall include the provisions from 44 CFR §60.5(b).

**SECTION B                    SPECIFIC TECHNICAL STANDARDS**

In ALL Special Flood Hazard Areas designated as A, AE, AH (with engineered or estimated BFE), the following provisions are required:

- (1) Residential and Non-Residential Structures - Where BFE data is available, new construction, reconstruction or repairs made to a repetitive loss structure, and substantial improvement of any structure or manufactured home shall have the lowest floor, including basement, elevated no lower than one (1) foot above the base flood elevation (also referred to as the design flood elevation). Should solid foundation perimeter walls be used to elevate a structure, openings sufficient to facilitate the unimpeded movements of flood waters shall be provided in accordance with standards of Article 4, Section B(3).
- (2) Non-Residential Structures - New construction, reconstruction or repairs made to a repetitive loss structure, and substantial improvement of any non-residential structure located in AE or AH zones, may be floodproofed (dry) in lieu of elevation. The structure, together with attendant utility and sanitary facilities, must be designed to be watertight to at least one (1) foot above the base flood elevation (herein after referred to as the design flood elevation), with walls substantially impermeable to the passage of water, and structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy.

- (a) A professional engineer, who is licensed to practice in the State of Alabama, or licensed architect, who is registered to practice in the State of Alabama, 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 the standards in ASCE-24 (for dry floodproofing) or other compatible standards of practice for meeting the provisions above, and shall provide such certification to the official as set forth above and in Article 3, Section C(6).
  - (b) A record of such certificates, which includes the specific elevation (in relation to mean sea level) to which such structures are floodproofed, shall be maintained with the official permitting records for the structure and kept in-perpetuity.
  - (c) Any non-residential functionally dependent structure (as defined in Article 6) that cannot meet the standards stated in Section B(2)(a) shall require a variance to be issued in accordance with Article 5, Section C(3) and D(1).
- (3) Enclosures for Elevated Buildings - All new construction, reconstruction or repairs made to a repetitive loss structure, and substantial improvements of existing structures (residential and non-residential) that include ANY fully enclosed area below the BFE, located below the lowest floor formed by the foundation and other exterior walls shall be designed so as to be an unfinished or flood resistant enclosure. The enclosure shall be designed to equalize hydrostatic flood forces on exterior walls by allowing for the automatic entry and exit of flood waters.
- (a) Designs for complying with this requirement must either be certified by a professional engineer, who is licensed to practice in the State of Alabama, or a licensed architect, registered to practice in the State of Alabama, or meet the following minimum criteria:
    - (i) Provide a minimum of two openings for each enclosed area having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding (if a structure has more than one enclosed area below the BFE, each shall have openings on exterior walls);
    - (ii) Openings shall be in at least two walls of each enclosed area (includes areas separated by interior walls);
    - (iii) The bottom of all openings shall be no higher than one foot above grade;
    - (iv) Openings may be equipped with screens, louvers, valves and other coverings or devices provided that they permit the automatic entry and exit of floodwaters in both directions without impeding or blocking flow and shall be accounted for in determination of the net open area; and
    - (v) Openings meeting the requirements of (3)(a)(i) – (iv) that are installed in doors are permitted.
  - (b) So as not to violate the "Lowest Floor" criteria of this Ordinance, the unfinished or flood resistant enclosure shall only be used for parking of vehicles, limited storage, or access to the elevated area.
  - (c) The interior portion of such enclosed area shall not be partitioned or finished into separate rooms.
  - (d) All interior walls, ceilings and floors below the BFE shall be unfinished and/or constructed of flood damage-resistant materials. This practice is also referred to as “wet floodproofing”. The definitions for “flood damage-resistant materials” and “wet floodproofing” are included in Article 6.

- (e) Mechanical, electrical, or plumbing devices shall be installed not less than one foot above the BFE. The interior portion of such enclosed area(s) shall be void of utilities except for essential lighting and power, as required, that are watertight or have otherwise been floodproofed.
- (f) Property owners shall agree, certify, and declare to the following conditions and restrictions placed on the affected property as a condition for granting a permit. A binding agreement, referred to as a Non-conversion Agreement, is required to be executed and recorded with the Deed. It shall obligate the Owner to the following terms and conditions:
  - (i) That the enclosed area(s) shall remain fully compliant with all parts of Article 4, Section B(3) of this Ordinance unless otherwise modified to be fully compliant with the applicable sections of the Floodplain Development Ordinance in effect at the time of conversion.
  - (ii) A duly appointed representative of the City of Riverside is authorized to enter the property for the purpose of inspecting the exterior and interior of the enclosed area to verify compliance with the Agreement and Permit.
  - (iii) The community may take any appropriate legal action to correct any violation pertaining to the Agreement and the subject Permit.

(4) Standards for Manufactured Homes and Recreational Vehicles Where Base Flood Elevation Data is Available.

- (a) Require that all manufactured homes placed or substantially improved:
  - (i) Outside of a manufactured home park or subdivision,
  - (ii) In a new or substantially improved 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 the result of a flood,  
Be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated one foot or more above the BFE and be securely anchored to an adequately anchored foundation system to resist floatation, collapse, and lateral movement.
- (b) Require that all manufactured homes to be placed or substantially improved on sites in an existing manufactured home park or subdivision that are not subject to the provisions of Subsection (4)(a) be elevated so that either:
  - (i) The lowest floor of the manufactured home is one foot or more above the BFE;  
OR
  - (ii) The manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above the highest adjacent grade and be securely anchored to an adequately anchored foundation system to resist floatation, collapse, and lateral movement.
  - (iii) Concrete block piers (and other foundation systems) are to be designed in accordance with the Code of Federal Regulations Title 24, Part 3285 and with the specifications in *FEMA P-85: Protecting Manufactured Homes from Floods and Other Hazards – A Multi-Hazard Foundation and Installation Guide*. The §3285.306 *Design procedures for concrete block piers* and *FEMA P-85* (Table SP-1.1), specify that the maximum allowable pier height (measured from top of grade) for concrete piers to be five (5) feet.

- (iv) The chassis and its supporting equipment are to be above the pier or other foundation. The areas below the chassis must be constructed with flood-resistant materials. All utilities and mechanical equipment must be elevated to a minimum of three (3) feet above the highest adjacent grade. Any utility and mechanical components that must be below the BFE must be made watertight to that same elevation to meet the standards in Article 4, Section A(5).
  - (c) Require that all recreational vehicles placed on sites must either:
    - (i) Be on the site for fewer than 180 consecutive days,
    - (ii) Be fully licensed and ready for highway use on its wheels or jacking system,
    - (iii) Be attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached structures or additions; OR
    - (iv) Must meet all the requirements for "New Construction", including the anchoring and elevation requirements of Article 4, Section B, provisions (4)(a) and (4)(b).
- (5) Standards for Manufactured Homes Where No Base Flood Elevation Exists.
- (a) Require that all manufactured homes to be placed within a Zone A area on the FIRM shall be installed using methods and practices which minimize flood damage.
  - (b) Manufactured homes must be elevated and anchored to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not to be limited to, use of over-the-top or frame ties to ground anchors.
  - (c) The manufactured home chassis must be supported by reinforced piers or other foundation elements of at least equivalent strength such that the bottom of the chassis and its supporting equipment be no less than 36 inches and up to a maximum 60 inches (five feet) above the highest adjacent grade and be securely anchored to an adequately anchored foundation system.
  - (d) The areas below the chassis must be constructed with flood-resistant materials. All utilities and mechanical equipment must be elevated to a minimum of 3 feet above the highest adjacent grade. Any utility and mechanical components that must be below the BFE must be made watertight to that same elevation to meet the standards in Article 4, Section A(5).
- (6) Require, until a regulatory floodway is designated, that no new construction, substantial improvements, or other development (including fill) shall be permitted within Zones A and AE on the City of Riverside's FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.
- (7) Accessory and Agricultural Structures – When an accessory structure meets the requirements outlined below, these structures may be wet-floodproofed and do not have to be elevated to one foot above the BFE as required in Article 4, Section B(1). A permit shall be required prior to construction or installation of any accessory structures and any agricultural structures built below the DFE and the following provisions apply:
- (a) Must be adequately anchored to prevent flotation, collapse, or lateral movement;
  - (b) Must be designed with an unfinished interior and constructed with flood damage-resistant materials below the DFE as described in Article 4, Section B(3);
  - (c) Must have adequate flood openings as described in Article 4, Section B(3);

- (d) Must be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters;
  - (e) Must comply with the requirements for development in floodways in accordance with Article 4, Section C;
  - (f) Must elevate any mechanical and other utility equipment in or servicing the structure to or above the DFE or must be floodproofed in accordance with Article 4, Section A;
  - (g) Prohibit storage of any hazardous or toxic materials below the DFE.
  - (h) Permits for small accessory structures may be issued to provide wet floodproofing measures in accordance with the standards described in subsections (i) through (iv) below without requiring a variance. Before issuing permits for small accessory structures, the Municipal Floodplain Administrator must verify:
    - (i) Use is limited to parking of vehicles or storage;
    - (ii) Size is less than or equal to a one-story, two-car garage for all A zones;
    - (iii) Structures are a minimal investment and have a low damage potential with respect to the structure and contents;
    - (iv) Structures will not be used for human habitation;
    - (v) Structures comply with the wet floodproofing requirements in Article 4, Section B(3).
  - (i) Permits for accessory structures larger than the size allowed for in subsection (7)(h) above, shall require a variance to be granted on a case-by-case basis in accordance with Article 7, Section D(3). Variances shall not be granted for entire subdivisions for accessory structures.
  - (j) Permits for new construction of all agricultural structures shall require a variance to be granted on a case-by-case basis in accordance with Article 7, Section D(4).
  - (k) Prohibit the storage of hazardous substances (as defined in Article 7) in any residential accessory structure located in a SFHA. Limit the storage in non-residential accessory structures to only fertilizers, petroleum products, and pesticides essential for landscaping purposes. Limit storage in agricultural structures to only fertilizers, petroleum products, and pesticides necessary for agricultural purposes. In both cases, storage shall be in strict compliance with the requirements of Article 4, Section B(9).
- (8) Underground and Aboveground Storage (Liquid and Gas) Tanks - Tanks and tank inlets, fill openings, outlets, and vents that are located below the DFE shall be designed, constructed, installed, and anchored to resist all flood-related loads (flotation, collapse, or lateral movement resulting from hydrostatic and hydrodynamic forces) and any other loads, including the effects of buoyancy, during flooding up to and including the 100-year flood and without release of contents into floodwaters or infiltration of floodwaters into the tanks.
- (a) A permit that includes floodplain development shall be required prior to construction or installation of any underground and aboveground tanks (including their foundation and support systems) located within a special flood hazard area.
  - (b) Loads on underground tanks and aboveground tanks exposed to flooding shall be determined assuming at least 1.3 times the potential buoyant and other flood forces acting on the empty tank.
  - (c) Tanks and associated piping shall be installed to resist local scour and erosion during the 100-year flood.
  - (d) Aboveground tanks located in Zone A/AE flood hazard areas shall be either:

- (i) Elevated to or above the DFE on platforms or structural fill,
  - (ii) Elevated to or above the DFE where attached to structures and the foundation system supporting the structures shall be designed to accommodate any increased loads resulting from the attached tanks,
  - (iii) Permitted below the DFE where the tank and its foundation are designed to resist all flood-related loads including floating debris, or
  - (iv) Permitted below the DFE where the tank and its foundation are designed to resist flood loads and are located inside a barrier designed to protect the tank from floating debris.
- (e) Aboveground tanks located in areas designated as Zone V/VE, Coastal A-Zones, and other high risk flood hazard areas (see ASCE 24-14) shall be elevated to or above the DFE on platforms that conform to the foundation requirements of ASCE 24-14, Section 4.5. Aboveground tanks shall not be permitted to be located under elevated structures or attached to structures at elevations below one foot above the DFE in these areas.
- (f) Underground tanks located in areas designated as Zone V/VE, Coastal A-Zones, and other high risk flood hazard areas (see ASCE 24-14) shall have the determination of flood-related loads take into consideration the eroded ground elevation.
- (g) Tank inlets, fill openings, outlets, and vents shall be:
- (i) At or above the DFE or fitted with covers designed to prevent the inflow of floodwater or outflow of the contents of the tanks during conditions of the 100-year flood.
  - (ii) Anchored to prevent lateral movement resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, during conditions of the 100-year flood.
- (9) Structures and Sites for the Storage or Production of Hazardous Substances – Require that all outdoor storage sites, new construction, reconstruction or repairs made to a repetitive loss structure, and substantial improvements to be used for the production or storage of hazard substances (as defined in Article 7) which are located in the special flood hazard area shall be built in accordance with all applicable standards in this Ordinance in addition to the following requirements:
- (a) No structures containing hazardous substances shall be permitted for construction in a floodway;
  - (b) Residential structures shall have the area in which the hazard substances are to be stored elevated or dry floodproofed a minimum of two (2) feet above the BFE;
  - (c) Non-residential structures shall be permitted to be built below the BFE in accordance with Article 4, Section B(2) such that the area where the hazard substance production or storage is located will be:
    - (i) elevated or designed and constructed to remain completely dry to at least two (2) feet above the BFE, and
    - (ii) designed to prevent pollution from the storage containers, structure, or activity during the course of the base flood.
  - (d) Any solid, liquid, or gas storage containers of hazardous substances and any associated mechanical, electrical, and conveyance equipment shall be watertight and shall be properly anchored and protected from the hydrostatic and hydrodynamic forces of flood waters and debris carried by the base flood.



- (10) Construction of Fences - New and replacement fences may be allowed in flood hazard areas if they do not act as a flow boundary and redirect the direction of flow, collect flood debris and cause blockages, cause localized increases in flood levels, or if damaged, become debris that may cause damage to other structures.
- (11) Structures Elevated on Fill – Fill for structures 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. The standards from ASCE 24 should be followed for any fill placed in flood hazard areas. All new construction for residential or non-residential structures may be constructed on permanent structural fill in accordance with the following:
- (a) The lowest floor (including basement) of the structure or addition along with any appurtenant utilities shall be no lower than one foot above the BFE.
  - (b) The nearest wall foundation of the structure shall have a minimum setback distance of 25 feet from the edge of the floodplain boundary.
  - (c) Fill used for structural support or protection shall consist of granular and earthen material that is free of vegetation and foreign or organic materials and suitable for its intended use.
  - (d) The fill shall be placed in layers no greater than one foot deep before compacting and should extend at least ten (10) feet beyond the foundation of the structure before sloping below the BFE, said slope being no greater than a 1:1.5 (vertical / horizontal) ratio unless a stability analysis is provided by a registered professional engineer. However, the ten-foot minimum may be waived if a structural engineer certifies an alternative method to protect the structure from damage due to erosion, scour, and other hydrodynamic forces.
  - (e) All new structures built on fill must be constructed on properly designed and compacted fill (ASTM D-698 or equivalent) that extends beyond the building walls before dropping below the BFE.
  - (f) The top of the fill shall be no lower than one foot above the BFE.
  - (g) The fill shall not adversely affect the flow or surface drainage from or onto any neighboring properties.
  - (h) Structural fill, including side slopes, shall be protected from scour and erosion under flood conditions up to and including the base flood discharge. When expected velocities during the occurrence of the base flood are greater than five feet per second, armoring with stone or rock protection shall be provided. When expected velocities during the base flood are five feet per second or less, protection shall be provided by covering them with vegetative ground cover.
  - (i) The design of the fill or the fill standard must be approved by a licensed professional engineer.
  - (j) The applicant shall submit a Letter of Map Revision based on fill (LOMR-F) utilizing FEMA’s MT-1 application forms to FEMA requesting a revision to the FIRM for the placement of fill.
  - (k) This standard is not applicable for placement of fill in a floodway; fill in a floodway is prohibited.
- (12) Incompatible Uses Prohibited in SFHAs
- (a) Lands lying within the 100-year floodplain shall not be used for:
    - (i) dumping of any material or substance including solid waste disposal sites (including manure),



- (ii) on-site soil absorption sanitary sewage system site,
  - (iii) petroleum or chemical holding tanks,
  - (iv) construction of any wells used to obtain water for ultimate human consumption; or
  - (v) restricted confinement or permanent sheltering of animals.
- (b) Lands lying within the 100-year floodplain shall not be used for the storage of materials that are buoyant, flammable, explosive, or injurious to human, animal, plant, fish, or other aquatic life.
- (13) Vegetative Buffer Strips (Riparian Zones) – For all activities involving construction within 25 feet of the channel, the following criteria shall be met:
- (a) A natural vegetative buffer strip shall be preserved within at least 25 feet of the mean highwater level of the channel.
  - (b) Where it is not possible to protect this buffer strip during the construction of an appropriate use, a vegetated buffer strip shall be established upon completion of construction.
  - (c) The use of native riparian vegetation is preferred in the buffer strip. Access through this buffer strip shall be provided for stream maintenance purposes.

## **SECTION C                    FLOODWAYS**

Located within Special Flood Hazard Areas established in Article 2, Section B, are areas designated as floodway. A floodway may be an extremely hazardous area due to velocity floodwaters, debris or erosion potential. In addition, the area must remain free of encroachment in order to allow for the discharge of the base flood without increased flood heights. Therefore, the following provisions shall apply:

- (1) The community shall select and adopt a regulatory floodway based on the principle that the area chosen for the regulatory floodway must be designed to carry the waters of the base flood, without increasing the water surface elevation of that flood more than one foot at any point;
- (2) Encroachments, including fill, new construction, substantial improvements or other development are prohibited within the adopted regulatory floodway unless it is demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in BFEs during the occurrence of the base flood discharge. A registered professional engineer must provide supporting technical data and certification (No-Rise Certificate) to FEMA for the proposed floodway encroachment. The No-Rise Certificate must be submitted to the Municipal Floodplain Administrator with the development permit (including a Site Plan showing the current and proposed floodway alignment) for approval.
- (3) ONLY if Article 4, Section C, provisions (1) and (2) are satisfied, then any new construction or substantial improvement in a floodway shall comply with all other applicable flood hazard reduction provisions of Article 4. After satisfying the required provisions stated in this section, encroachments in floodways should be limited to the following types of projects:
  - (a) flood control and stormwater management structures;
  - (b) road improvements and repairs;

- (c) utility easements/rights-of-way; and
  - (d) public improvements or public structures for bridging over the floodway.
- (4) Fencing shall be prohibited in floodways unless it is demonstrated that such development will not cause any increase in the BFE. Appropriate analysis and documentation shall be submitted along with the development permit for review and approval. Fences that have the potential to block or restrict the passage of floodwaters (by trapping debris or with openings too small to allow unhindered passage of water), such as stockade and wire mesh fences, shall meet the requirements of Article 4, Section C(2).

**SECTION D BUILDING STANDARDS FOR STREAMS WITHOUT ESTABLISHED BASE FLOOD ELEVATIONS (APPROXIMATE A-ZONES)**

Located within the SFHAs established in Article 2, Section B, where streams exist but no base flood data have been provided (Approximate A-Zones), the following provisions apply:

- (1) BFE data shall be provided for new subdivision proposals and other proposed development (including manufactured home parks and subdivisions) greater than fifty (50) lots or five (5) acres, whichever is the lesser.
- (2) When BFE data or floodway data have not been provided in accordance with Article 2, Section B then the Municipal Floodplain Administrator shall obtain, review, and reasonably utilize any scientific or historic BFE and floodway data available from a Federal, State, or other source, in order to administer the provisions of Article 4. ONLY if data are not available from these sources, then Article 4, Section D, provisions (4) and (5) shall apply.
- (3) All development in Zone A must meet the requirements of Article 4, Section A and Sections B(1), B(2), B(3), B(5), B(6), B(7), B(8), B(9), B(10), B(11), B(12), and B(13).
- (4) In SFHAs without BFE data, new construction and substantial improvements of existing structures shall have the lowest floor (for the lowest enclosed area; including basement) elevated no less than three (3) feet above the highest adjacent grade. As the requirements set forth in Article 4, Section B(1) and B(2) stipulate the lowest floor to be elevated no less than one foot about the BFE, then the structure for this condition shall be elevated no less than four (4) feet about the highest adjacent grade.
- (5) In the absence of a BFE, a manufactured home must also meet the elevation requirements of Article 4, Section B(4)(b)(ii) – B(4)(b)(iv) in that the structure cannot be elevated above a maximum of 60 inches (5 feet) and all utilities and mechanical equipment must be elevated a minimum of three (3) feet above the highest adjacent grade.
- (6) Enclosures for elevated buildings in Zone A areas shall comply with the standards of Article 4, Section B(3)(a). The Municipal Floodplain Administrator shall certify the lowest floor elevation level and the record shall become a permanent part of the permit file.

## **SECTION E                    STANDARDS FOR AREAS OF SHALLOW FLOODING (AO ZONES)**

Special flood hazard areas established in Article 2, Section B may include designated "AO" shallow flooding areas. These areas have base flood depths of one to three feet (1'-3') above ground, with no clearly defined channel. The following provisions apply:

- (1) All new construction and substantial improvements of residential and nonresidential structures shall have the lowest floor, including basement, elevated above the highest adjacent grade at least as high as the depth number specified on the Flood Insurance Rate Map (FIRM) plus one foot of freeboard. If no depth number is specified, the lowest floor (including basement) shall be elevated at least three (3) feet above the highest adjacent grade. Openings sufficient to facilitate the unimpeded movements of flood waters shall be provided in accordance with standards of Article 4, Section B(3).

The Municipal Floodplain Administrator shall certify the lowest floor elevation level and the record shall become a permanent part of the permit file.

- (2) New construction and the substantial improvement of a non-residential structure may be floodproofed in lieu of elevation. The structure, together with attendant utility and sanitary facilities, must be designed to be water tight to the specified flood level in Article 4, Section E(1) or three (3) feet (if no depth number is specified), above highest adjacent grade, with walls substantially impermeable to the passage of water, and structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. As the requirements set forth in Article 4, Section B(1) and B(2) stipulate the lowest floor to be elevated no less than one foot about the BFE, then the structure for this condition shall be elevated no less than four (4) feet about the highest adjacent grade.

A professional engineer, who is licensed to practice in the State of Alabama, or licensed architect, who is registered in the State of Alabama, shall certify that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions above and shall provide such certification to the official as set forth above and as required in Article 3, Section B(1) and (2).

- (3) Drainage paths shall be provided to guide floodwater around and away from any proposed structure.

## **SECTION F                    STANDARDS FOR SUBDIVISIONS AND OTHER DEVELOPMENT**

All subdivision proposals and other proposed development (including proposals for manufactured home parks and subdivisions) greater than 50 lots or 5 acres, whichever is the lesser, shall include within the drawings, plans, and permits for such proposals the following:

- (1) BFE data;

- (2) Provisions to minimize flood damage;
- (3) Public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage;
- (4) Adequate drainage provided to reduce exposure to flood hazards without negatively impacting adjacent properties;
- (5) **Preliminary plans** for review and approval of the platted subdivision which identifies the Special Flood Hazard Area, floodway boundaries, the BFE, and other areas regulated by the community;
- (6) **Final subdivision plats** that identify the boundary of the special flood hazard area, the floodway boundary, the BFEs, and any drainage easements to reduce the risk for flash flooding;

## ARTICLE 5

### VARIANCE PROCEDURES

#### **SECTION A.        DESIGNATION OF VARIANCE AND APPEALS BOARD**

The Variance Board of Adjustments as established by the Mayor and Council of the City of Riverside shall hear and decide requests for appeals or variance from the requirements of this Ordinance.

#### **SECTION B.        DUTIES OF BOARD**

The Board shall hear and decide appeals when it is alleged an error in any requirement, decision, or determination is made by the Municipal Floodplain Administrator in the enforcement or administration of this Ordinance. Any person aggrieved by the decision of the Variance Board of Adjustments may appeal such decision to the Riverside Municipal Court, as provided in State statute.

#### **SECTION C.        CONDITIONS FOR VARIANCES**

The provisions of this Ordinance are minimum standards for flood loss reduction, therefore any deviation from the standards must be weighed carefully. Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

- (1) A variance may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size, contiguous to and surrounded by lots with existing structures constructed below the base flood level, in conformance with the procedures of Sections C(3), C(4), F(1) and F(2) of this Article.
- (2) In the instance of a Historic Structure, a determination is required that the variance is the minimum necessary so as not to destroy the historic character and design of the building.
- (3) A variance shall be issued ONLY when there is:
  - (a) A finding of good and sufficient cause;
  - (b) A determination that failure to grant the variance would result in exceptional hardship (cannot be personal physical or financial hardship); and
  - (c) A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
- (4) A variance shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- (5) Variances shall not be issued “after the fact.”

#### **SECTION D.        VARIANCE PROCEDURES**

In reviewing requests for variance, the Variance Board of Adjustments shall consider all technical evaluations, relevant factors, and standards specified in other sections of this Ordinance, and:

- (1) Certain facilities and structures must be located on or adjacent to water in order to perform their intended purpose which may result in practical and operational difficulties due to the physical characteristics of the property. Variances may be issued for development necessary for conducting of a functionally dependent use, provided the criteria of this Article are met, no reasonable alternative exists, the development is protected by methods that minimize flood damage during the base flood, and it creates no additional threats to public safety.
- (2) Variances shall not be issued within any designated floodway if ANY increase in flood levels during the base flood discharge would result.
- (3) Variances may be issued for the construction or substantial improvement of accessory structures provided it has been determined that the proposed structure:
  - (a) Represents minimal investment and has low damage potential (amount of physical damage, contents damage, and loss of function).
  - (b) Is larger than the size limits specified in Article 4, Section B(7)(i).
  - (c) Complies with the wet floodproofing construction requirements of Article 4, Section (B)(3).
- (4) Variances may be issued for the construction or substantial improvement of agricultural structures provided it has been determined that the proposed structure:
  - (a) Is used exclusively in connection with the production, harvesting, storage, raising, or drying of agricultural commodities and livestock, or storage of tools or equipment used in connection with these purposes or uses, and will be restricted to such exclusive uses.
  - (b) Has low damage potential (amount of physical damage, contents damage, and loss of function).
  - (c) Does not increase risks and pose a danger to public health, safety, and welfare if flooded and contents are released, including but not limited to the effects of flooding on manure storage, livestock confinement operations, liquified natural gas terminals, and production and storage of highly volatile, toxic, or water-reactive materials.
  - (d) Is an aquaculture structure that is dependent on proximity to water if located in a coastal high-hazard area (Zones V, VE, V1 30, and VO).
  - (e) Complies with the wet floodproofing construction requirements of Article 4, Section (B)(3).
- (5) The evaluation must be based on the characteristics unique to that property and not be shared by adjacent parcels. The characteristics must pertain to the land itself, not to the structure, its inhabitants, or its owners.
- (6) Variances should never be granted for multiple lots, phases of subdivisions, or entire subdivisions.
- (7) Careful consideration and evaluation should be given to the following factors:
  - (a) The danger of life and property due to flooding or erosion damage including materials that may be swept onto other lands to the injury of others.

- (b) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner and the community.
- (c) The safety of access to the property during flood conditions for daily traffic and emergency vehicles.
- (d) The importance of the services provided by the proposed facility to the community.
- (e) The necessity of the facility to be at a waterfront location, where applicable.
- (f) The compatibility of the proposed use with existing and anticipated development based on the community's comprehensive plan for that area.
- (g) If applicable, the expected heights, velocity, duration, rate of rise, and sediment transport of the floodwaters and the effects of wave action expected at the site.
- (h) The costs associated with providing governmental services to the development during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, and community infrastructure such as streets, bridges, and culverts.

Upon consideration of factors listed above, and the purpose of this Ordinance, the Variance Board of Adjustments may attach such conditions to the granting of variances as it deems necessary to further the purposes of this Ordinance.

**SECTION E. VARIANCES FOR HISTORIC STRUCTURES**

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 to preserve the historic character and design of the structure.

**SECTION F. VARIANCE NOTIFICATION AND RECORDS**

- (1) Any applicant to whom a variance is granted shall be given written notice over the signature of a community official that specifies the difference between the BFE and the elevation of the proposed lowest floor and stating that the issuance of such a variance could:
  - (a) result in flood insurance rate increases in the hundreds and possibly thousands of dollars annually depending on structure and site-specific conditions; and
  - (b) increase the risk to life and property resulting from construction below the base flood level.
- (2) The Municipal Floodplain Administrator shall maintain a record of all variance actions and appeal actions, including justification for their issuance. Report any variances to the Federal Emergency Management Agency Region 4 and the Alabama Department of Economic and Community Affairs/Office of Water Resources upon request.
- (3) A copy of the notice shall be recorded by the Municipal Floodplain Administrator in the Office of the Riverside City Clerk and shall be recorded in a manner so that it appears in the chain of title (i.e., deed) of the affected parcel of land.



## ARTICLE 6

### DEFINITIONS

Unless specifically defined below, words or phrases used in this Ordinance shall be interpreted so as to give them the meaning they have in common usage and to give this Ordinance its most reasonable application.

**A Zone** means the special flood hazard areas on a FIRM without base flood elevations determined.

**Administrator** means the Administrator of the Federal Emergency Management Agency (FEMA).

**Accessory Structure (also referred to as Appurtenant Structures)** means a structure which is located on the same parcel of property as a principal structure and the use of which is incidental to the use of the principal structure. Detached garages and small sheds used for limited storage are considered accessory structures. Other examples of accessory structures include gazebos, picnic pavilions, boathouses, small pole barns, storage sheds, and similar buildings. An accessory structure specifically excludes structures used for human habitation.

**Addition (to an Existing Building)** means any improvement that increases the square footage of a structure. These include lateral additions added to the front, side, or rear of a structure, vertical additions added on top of a structure, and enclosures added underneath a structure. NFIP regulations for new construction apply to any addition that is considered a substantial improvement to a structure.

**AE Zone** means the special flood hazard areas on a FIRM with base flood elevations determined.

**Agricultural Structure** means a walled and roofed structure used exclusively for agricultural purposes or uses in connection with the production, harvesting, storage, raising, or drying of agricultural commodities and livestock, including aquatic organisms. Aquaculture structures are included within this definition. Structures that house tools or equipment used in connection with these purposes or uses are also considered to have agricultural purposes or uses.

**AH Zone** means area of special food hazards on a FIRM having shallow water depths and/or unpredictable flow paths between one (1) and three (3) feet, and with water surface elevations determined.

**AO Zone** means an area of special flood hazards on a FIRM having shallow water depths and /or unpredictable flow paths between one (1) and three (3) feet.

**Appeal** means a request for a review of the Municipal Floodplain Administrator's interpretation of any provision of this Ordinance.

**Appurtenant Structure** (see definition for **Accessory Structure**)

**Area of Shallow Flooding** means a designated AO, AH, AR/AO, AR/AH or VO zone on a community's FIRM with a 1 percent or greater annual chance of flooding to an average depth of one (1) to three (3) feet where a clearly defined channel does not exist, where the path of flooding unpredictable, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

**Area of Special Flood Hazard** (see definition for **Special Flood Hazard Area**)

**Base Flood** means the flood having a one percent chance of being equaled or exceeded in any given year (also referred to as the “one percent chance flood”).

**Base Flood Elevation (BFE)** means the elevation of surface water resulting from a flood that has a 1% chance of equaling or exceeding that level in any given year. The BFE is shown on the FIRM for zones AE, AH, A1–A30, AR, AR/A, AR/AE, AR/A1– A30, AR/AH, AR/AO, V1–V30 and VE. It is the regulatory requirement for the elevation of flood proofing of structures. The relationship between the BFE and a structure’s elevation determines the flood insurance premium.

**Basement** means any portion of a building having its floor sub grade (below ground level) on all sides.

**Building** (also see **Structure**) means a structure with two or more outside rigid walls and a fully secured roof that is affixed to a permanent site; a manufactured home or a mobile home 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. “Building” does not mean a gas or liquid storage tank or a recreational vehicle, park trailer or other similar vehicle.

**Community** means any State or area or political subdivision thereof, or any Indian tribe or authorized tribal organization, or authorized native organization, which has authority to adopt and enforce floodplain management regulations for the areas within its jurisdiction.

**Condominium Building** means a type of building in the form of ownership in which each unit owner has an undivided interest in common elements of the building.

**Critical Facility** (aka, critical action) means facilities or activities for which even a slight chance of flooding is too great a threat. Typical critical facilities include hospitals, fire stations, police stations, storage of critical records, and similar facilities. These facilities should be given special consideration when formulating regulatory alternatives and floodplain management plans. A critical facility should not be located in a floodplain if at all possible.

**Design Flood Elevation (DFE)** means the locally adopted regulatory flood elevation. It is the minimum elevation to which a structure must be elevated or floodproofed. DFE is the sum of the base flood elevation and freeboard, based a building’s structural category. In areas designated as Zone AO on a community’s flood map, the DFE is the elevation of the highest existing grade of a building’s perimeter plus the depth number specified on the flood hazard map. In areas designated as Zone AO where a depth is not specified on the map, the depth is two feet. In all cases, the DFE must be at least as high as the base flood elevation.

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

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

**Elevation Certificate** means a FEMA form used as an administrative tool of the NFIP to provide building elevation information necessary to ensure compliance with community floodplain

management ordinances, to inform the proper insurance premium, and to support a request for a LOMA, CLOMA, LOMR-F, or CLOMR-F.

**Encroachment** means activities or construction within the floodway including fill, new construction, substantial improvements, and other development.

**Existing 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”.

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

**Expansion to an Existing Manufactured Home Park or Subdivision** means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed, including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads.

**Fair Market Value** means the price that the seller is willing to accept and the buyer is to pay on the open market and in an arm's length transaction.

**Flood or Flooding** means:

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

**Flood Damage-Resistant Material** means any building product capable of withstanding direct and prolonged contact with floodwaters without sustaining significant damage. Prolonged contact is defined as at least 72 hours. Significant damage is any damage requiring more than low-cost cosmetic repair (such as painting).

**Flood Elevation Determination** means a determination by the Federal Insurance Administrator of the water surface elevations of the base flood, that is, the flood level that has a one percent or greater chance of occurrence in any given year.

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

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

**Flood Insurance Study** (see **Flood Elevation Study**)

**Floodplain (or Flood-Prone Area)** means any land area susceptible to being inundated by water from any source (see definition of **Flooding**).

**Floodplain Management** means 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** means this Ordinance and other zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as those for floodplain management, stormwater management, watershed management, grading/earthwork, and erosion control), and other applications of police power. This term describes state or local regulations in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

**Floodproofing** means any combination of structural and nonstructural additions, changes or adjustments to structures, which reduce or eliminate risk of flood damage to real estate or improved real property, water and sanitation facilities, structures, and their contents.

**Floodway** (see definition for **Regulatory Floodway**)

**Floodway Fringe (or Flood Fringe)** means the portion of the Special Flood Hazard Area outside of the floodway, which experiences shallower, lower-velocity floodwater than in the floodway. It serves as a temporary floodwater storage area during a flood.

**Floodway Encroachment Lines** mean the lines marking the limits of floodways on Federal, State and local flood plain maps.

**Freeboard** means 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.

**Functionally Dependent Use** means a means a use which cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, but does not include long-term storage or related manufacturing facilities.

**Hazardous Substance (or Material)** means any substance or material that, when involved in an accident and released in sufficient quantities, poses a risk to people’s health, safety, and/or property. These substances and materials include explosives, radioactive materials, flammable liquids or solids, combustible liquids or solids, poisons, oxidizers, toxins, and corrosive materials. It includes any substance defined as a hazardous substance pursuant to 42 U.S.C. §9601(14) or listed as a hazardous waste pursuant to the Hazardous Wastes Management Act, Section 22-30-1 et seq. and the regulations promulgated thereunder.

**Highest Adjacent Grade** means the highest natural elevation of the ground surface, prior to construction, next to the proposed walls of a structure.

**Historic Structure** means any 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 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.

**Increased Cost of Compliance (ICC)** means a claim under a standard NFIP flood insurance policy, available to flood insurance policyholders who need additional funding to rebuild after a flood. It provides up to \$30,000 to help cover the increased cost of mitigation measures to bring a building into compliance with the latest state or local floodplain management ordinances. Acceptable mitigation measures are elevation, floodproofing, relocation, and demolition, or any combination of these measures.

**Letter of Map Change (LOMC)** is an official FEMA determination, by letter, to amend or revise effective Flood Insurance Rate Maps, Flood Boundary and Floodway Maps, and Flood Insurance Studies. LOMC’s are broken down into the following categories:

- a. **Letter of Map Amendment (LOMA)**  
An amendment based on technical data showing that a property was incorrectly included in a designated SFHA, was not elevated by fill (only by a natural grade elevation), and will not be inundated by the one percent chance flood. A LOMA amends the current effective FIRM and establishes that a specific property is not located in a SFHA.

b. Letter of Map Revision (LOMR)

A revision based on technical data 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 concerning whether a structure or parcel has been elevated by fill above the BFE and is, therefore, excluded from the SFHA.

c. Conditional Letter of Map Revision (CLOMR)

A formal review and comment by FEMA as to whether a proposed project complies with the minimum NFIP floodplain management criteria. A CLOMR does not revise effective Flood Insurance Rate Maps, Flood Boundary and Floodway Maps, or Flood Insurance Studies.

**Lowest Adjacent Grade** means the lowest elevation of the natural or regraded ground surface, or structural fill (or concrete slab or pavement), at the location of a structure.

**Lowest Floor** means 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 building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of other provisions of this Ordinance. This definition applies even when the floor below ground level is not enclosed by full-height walls.

**Manufactured Home** means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term “manufactured home” does not include a “recreational vehicle”.

**Manufactured Home Park or Subdivision** means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

**Market Value** (see definition for **Fair Market Value**)

**Mean Sea Level** means, for purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which base flood elevations shown on a community's Flood Insurance Rate Map are referenced.

**Mixed Use Building** means a building that has both residential and non-residential uses.

**National Flood Insurance Program (NFIP)** is a federal program created by the United States Congress in 1968 to identify flood-prone areas nationwide and make flood insurance available for properties in participating communities. Communities must enact and enforce floodplain management regulations that meet or exceed the criteria established by FEMA in order to participate in the program. This program requires properties within the floodplain with a federally backed or regulated mortgage, or those that receive federal housing subsidies, to buy flood insurance.



**National Geodetic Vertical Datum (NGVD) of 1929** means a national standard reference datum for elevations, formerly referred to as Mean Sea Level (MSL) of 1929. NGVD 1929 may be used as the reference datum on some Flood Insurance Rate Maps (FIRMs).

**New Construction** means, for the purposes of determining insurance rates, structures for which 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. For floodplain management purposes, new construction means structures for which the start of construction commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such structures.

An existing building is considered to be new construction if it is substantially improved or once it has been repaired after being substantially damaged/improved.

**New Manufactured Home Park or Subdivision** means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after August 19, 1986.

**Non-Residential Building** means, a commercial or mixed-use building where the primary use is commercial or non-habitational.

**Non-residential Property** means either a non-residential building, the contents within a non-residential building, or both.

**North American Vertical Datum (NAVD) of 1988** means the vertical control datum established for vertical control surveying in the United States of America based upon the General Adjustment of the North American Datum of 1988. It replaces the National Geodetic Vertical Datum (NGVD) of 1929. Used by FEMA in many recent Flood Insurance Studies as the basis for measuring flood, ground, and structural elevations.

**Post-FIRM** means, for floodplain management purposes, a post-FIRM building is one for which construction began after the effective date of a community’s NFIP-compliant floodplain management ordinance. For the purpose of determining flood insurance rates under the NFIP, a post-FIRM building is a building for which construction began on or after the effective date of an initial Flood Insurance Rate Map or after December 31, 1974, whichever is later, including any subsequent improvements to such structures.

**Pre-FIRM** means, for floodplain management purposes, a building for which the start of construction occurred before the effective date of the community’s NFIP-compliant floodplain management ordinance. For the purpose of determining flood insurance rates under the NFIP, a pre-FIRM building is a building for which construction began prior to the effective date of an initial Flood Insurance Rate Map or on or before December 31, 1974, whichever is later.

**Recreational Vehicle** means 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.

**Regular Program** means the Program authorized by the Act under which risk premium rates are required for the first half of available coverage (also known as “first layer” coverage) for all new construction and substantial improvements started on or after the effective date of the FIRM, or after December 31, 1974, for FIRM's effective on or before that date. All buildings, the construction of which started before the effective date of the FIRM, or before January 1, 1975, for FIRMs effective before that date, are eligible for first layer coverage at either subsidized rates or risk premium rates, whichever are lower. Regardless of date of construction, risk premium rates are always required for the second layer coverage and such coverage is offered only after the Administrator has completed a risk study for the community.

**Regulatory Floodway** means 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.

**Remedy a Violation** means to bring the structures or other development into full or partial compliance with State or local regulations or, if this is not possible, to reduce the impacts of its non-compliance. Ways that impacts may be reduced include protecting the structure or other affected development from flood damages, implementing the enforcement provision of the ordinance or otherwise deterring future similar violations, or reducing Federal financial exposure with regard to the structure or other development.

**Repetitive Loss Agricultural Structure** means an agricultural structure covered by a NFIP contract for flood insurance that has incurred flood-related damage on two (2) separate occasions in which the cost of repair, on the average, equaled or exceeded 25 percent of the value of the structure at the time of each such flood event.

**Repetitive Loss Property** means any NFIP-insured single family or multi-family residential building for which two or more claims of more than \$1,000 were paid by the NFIP within any rolling 10-year period, since 1978. A repetitive loss property may or may not be currently insured by the NFIP.

**Residential Building** means a non-commercial building designed for habitation by one or more families or a mixed-use building that qualifies as a single-family, two-to-four family, or other residential building.

**Residential Property** means either a residential building or the contents within a residential building, or both.

**Riverine** means floodplain relating to, formed by, or resembling a river (including tributaries), stream, brook, etc. Riverine floodplains have readily identifiable channels.

**Section 1316** means Section 1316 of the National Flood Insurance Act of 1968, as amended, which provides for the denial of flood insurance coverage for any property which 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. Once a duly constituted State or local authority declares a structure as being in violation, the Administrator must deny flood insurance coverage provided that the individual or office making the declaration has the authority to do so and that the law or

regulations violated was, in fact, intended to discourage or otherwise restrict land development or occupancy in the flood-prone area.

Section 1316 was intended for use primarily as a backup for local enforcement actions (i.e., if a community could not force compliance through the enforcement mechanisms in its regulations, it could use Section 1316 as additional leverage) and was not intended merely as a mechanism to remove bad risks from the policy base. Section 1316 will only be implemented in instances where States or communities submit declarations specifically for that purpose.

**Severe Repetitive Loss Structure** means a single family property (consisting of 1 to 4 residences) that is covered under flood insurance by the NFIP and has incurred flood-related damage for which 4 or more separate claims payments have been paid under flood insurance coverage, with the amount of each claim payment exceeding \$5,000 and with cumulative amount of such claims payments exceeding \$20,000; or for which at least 2 separate claims payments have been made with the cumulative amount of such claims exceeding the reported value of the property.

**Sheet Flow Area** (see definition for **Area of Shallow Flooding**)

**Single-family Dwelling** means either (a) a residential single-family building in which the total floor area devoted to non-residential uses is less than 50 percent of the building's total floor area, or (b) a single-family residential unit within a two-to-four family building, other-residential building, business, or non-residential building, in which commercial uses within the unit are limited to less than 50 percent of the unit's total floor area.

**Special Flood Hazard Area (SFHA)** means the land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year as shown on a FHBM or FIRM as Zones A, AE, AH, AO, AR, AR/AE, AR/AO, AR/AH, AR/A, A99, or VE. The SFHA is the area where the National Flood Insurance Program's (NFIP's) floodplain management regulations must be enforced and the area where the mandatory purchase of flood insurance applies.

**Start of Construction** (for other than new construction or substantial improvements under the Coastal Barrier Resources Act (Pub. L. 97-348)) means the date the development or building permit was issued (includes substantial improvement), provided the actual start of construction, repair, reconstruction, or improvement was within 180 days of the permit date. The actual start means the first placement of permanent construction of the structure (including a manufactured home) on a site, such as the pouring of slabs or footings, installation of piles, construction of columns, or any work beyond the stage of excavation, and includes the placement of a manufactured home on a foundation.

“Permanent construction” does not include initial 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 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** means, for floodplain management purposes, a walled and roofed building, including a liquid or gas storage tank, that is principally above ground, as well as a manufactured home. The

terms "structure" and "building" are interchangeable in the NFIP. For insurance purposes, **structure** means:

- (1) A building with two or more outside rigid walls and a fully secured roof, that 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 the latter purpose, "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** means damage of any origin sustained by a structure whereby the cost of restoring the structure to it before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

**Substantial Improvement** means any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "repetitive loss" or "substantial damage", regardless of the actual repair work performed. The term does not, however, include either:

- a. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions or;
- b. Any alteration of a "historic structure", provided that the alteration will not preclude the structure's continued designation as a "historic structure".

**Variance** means a grant of relief by the (Community name) from the terms of a floodplain management regulation.

**Violation** means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in the Code of Federal Regulations (CFR) §44, Sec. 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.

**Watercourse** means only the channel and banks of an identifiable watercourse and not the adjoining floodplain areas. The flood carrying capacity of a watercourse refers to the flood carrying capacity of the channel.

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

**Wet floodproofing** means a method of construction that involves modifying a building to allow floodwaters to enter it in order to minimize damage to the building, using flood damage-resistant

materials below the DFE throughout the building, raising utilities and important contents to or above the DFE, installing and configuring electrical and mechanical systems to minimize disruptions and facilitate repairs, installing flood openings or other methods to equalize the hydrostatic pressure exerted by floodwaters, and, where required, installing pumps to gradually remove floodwater from basement areas after the flood.

Wet floodproofing shall not be utilized as a method to satisfy the requirements of this Ordinance for bringing substantially damaged or improved structures into compliance. Wet floodproofing is not allowed in lieu of complying with the lowest floor elevation requirements for new residential buildings.

**X Zones (shaded)** means the areas on a FIRM subject to inundation by the flood that has a 0.2-percent chance of being equaled or exceeded during any given year, often referred to as 500-year flood.

**X Zones (unshaded)** designates areas on a FIRM where the annual probability of flooding is less than 0.2 percent.

**Zone of Imminent Collapse** means an area subject to erosion adjacent to the shoreline of an ocean, bay, or lake and within a distance equal to 10 feet plus 5 times the average annual long-term erosion rate for the site, measured from the reference feature.