



Model Ordinance for Flood Hazard Areas

MODEL ORDINANCE FOR FLOOD HAZARD AREAS

The following is provided to assist you in developing an ordinance that will comply with the minimum participating criteria of the National Flood Insurance Program (NFIP) and to make the community eligible for technical and financial assistance from the Maumee River Basin Commission (MRBC). The basis for this model ordinance was the IDNR Model Ordinance for Flood Hazard Areas, obtained from the Indiana Department of Natural Resources (IDNR) in April 2008. Supplemental optional and required language was added by Christopher B. Burke Engineering, Ltd. (CBBEL) to provide the communities within the MRBC with an option to adopt higher standards that would save all tax payers in the long run and make communities eligible to technical and financial assistance from the MRBC. It is recommended that a Community's attorney(s) consider necessary additions and include all required information and delegations to the model. It is not intended that this model, if adopted, will serve all of a Community's needs as related to floodplain management, land use, or zoning. Any Community may adopt standards that are more restrictive than the minimum NFIP participating standards or proposed by the MRBC. *Optional enhancements are shown gray colored and italicized text.*

Table of Contents

Article 1.	<u>Statutory Authorization, Findings of Fact, Purpose, and Objectives.</u>	5
Section A.	Statutory Authorization.	5
Section B.	Findings of Fact.	5
Section C.	Statement of Purpose.	5
Section D.	Objectives.	5
Article 2.	<u>Definitions.</u>	6
Article 3.	<u>General Provisions.</u>	15
Section A.	Lands to Which this Ordinance Applies.	15
Section B.	Basis for Establishing Regulatory Flood Data.	15
Section C.	Establishment of Floodplain Development Permits.	16
Section D.	Compliance.	16
Section E.	Abrogation and Greater Restrictions.	16
Section F.	Discrepancy between Mapped Floodplain and Actual Ground Elevations	16
Section G.	Interpretation.	16
Section H.	Warning and Disclaimer of Liability.	17
Section I.	Penalties for Violation.	17
Article 4.	<u>Administration.</u>	17
Section A.	Designation of Administrator.	17
Section B.	Permit Procedures.	17
Section C.	Duties and Responsibilities of the Floodplain Administrator.	18
Article 5.	<u>Provisions for Flood Hazard Reduction.</u>	19
Section A.	General Standards.	19
Section B.	Specific Standards.	21
Section C.	Standards for Subdivision Proposals.	24
Section D.	Critical Facility.	24
Section E.	Standards for Identified Floodways.	24
Section F.	Standards for Identified Fringe.	25
Section G.	Standards for SFHAs without Established Base Flood Elevation and/or Floodways/Fringe.	25
Section H.	Standards for AO Zones.	26
Section I.	Standards for Areas behind Levees and within 1000 feet of SFHA	26
Article 6.	<u>Variance Procedures.</u>	26
Section A.	Designation of Variance and Appeals Board.	26
Section B.	Duties of Variance and Appeals Board.	27
Section C.	Variance Procedures.	27
Section D.	Conditions for Variances.	27
Section E.	Variance Notifications.	28
Section F.	Historic Structure.	28
Section G.	Special Conditions.	28

Article 7.	<u>Severability.</u>	29
Article 8.	<u>Effective Date.</u>	29

Article 1. Statutory Authorization, Findings of Fact, Purpose, and Objectives.

Section A. Statutory Authorization.

The Indiana Legislature has in IC 36-7-4 and IC 14-28-4 granted the power to local government units to control land use within their jurisdictions. Therefore, the [Governing Body]of [Community Name]does hereby adopt the following floodplain management regulations.

Section B. Findings of Fact.

- (1) The flood hazard areas of [Community Name] are subject to periodic inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.
- (2) These flood losses are caused by the cumulative effect of obstructions in floodplains causing increases in flood heights and velocities, and by the occupancy in flood hazard areas by uses vulnerable to floods or hazardous to other lands which are inadequately elevated, flood-proofed, or otherwise unprotected from flood damages.

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) Restrict or prohibit uses which are dangerous to health, safety, and property due to water or erosion hazards, which result in damaging increases in erosion or in flood heights or velocities;
- (2) Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- (3) Control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of flood waters;
- (4) Control filling, grading, dredging, and other development which may increase erosion or flood damage;
- (5) Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands; and,
- (6) Make federally subsidized flood insurance available for structures and their contents in the [City/Town/County]by fulfilling the requirements of the National Flood Insurance Program.

Section D. Objectives.

The objectives of this ordinance are:

- (1) To protect human life and health;
- (2) To minimize expenditure of public money for costly flood control projects;

- (3) To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- (4) To minimize prolonged business interruptions;
- (5) To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone, and sewer lines, streets, and bridges located in floodplains;
- (6) To 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, and;
- (7) To ensure that potential homebuyers are notified that property is in a flood area.

Article 2. 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 portions of the SFHA in which the principal source of flooding is runoff from rainfall, snowmelt, or a combination of both. In A zones, floodwaters may move slowly or rapidly, but waves are usually not a significant threat to buildings. These areas are labeled as Zone A, Zone AE, Zones A1-A30, Zone AO, Zone AH, Zone AR and Zone A99 on a FIRM or FHBM. The definitions are presented below:

Zone A: Areas subject to inundation by the one-percent annual chance flood event. Because detailed hydraulic analyses have not been performed, no base flood elevation or depths are shown. Mandatory flood insurance purchase requirements apply.

Zone AE and A1-A30: Areas subject to inundation by the one-percent annual chance flood event determined by detailed methods. Base flood elevations are shown within these zones. Mandatory flood insurance purchase requirements apply. (Zone AE is on new and revised maps in place of Zones A1-A30.)

Zone AO: Areas subject to inundation by one-percent annual chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between one and three feet. Average flood depths derived from detailed hydraulic analyses are shown within this zone. Mandatory flood insurance purchase requirements apply.

Zone AH: Areas subject to inundation by one-percent annual chance shallow flooding (usually areas of ponding) where average depths are between one and three feet. Average flood depths derived from detailed hydraulic analyses are shown within this zone. Mandatory flood insurance purchase requirements apply.

Zone AR: Areas that result from the decertification of a previously accredited flood protection system that is determined to be in the process of being restored to provide base flood protection. Mandatory flood insurance purchase requirements apply.

Zone A99: Areas subject to inundation by the one-percent annual chance flood event, but which will ultimately be protected upon completion of an under-construction Federal flood protection system. These are areas of special flood hazard where enough progress has been made on the construction of a protection system, such as dikes, dams, and levees, to consider it complete for insurance rating purposes. Zone A99 may only be used when the flood protection system has reached specified statutory progress toward completion. No base flood elevations or depths are shown. Mandatory flood insurance purchase requirements apply.

Accessory structure (appurtenant structure) means a structure that is located on the same parcel of property as the principal structure and the use of which is incidental to the use of the principal structure. Accessory structures should constitute a minimal initial investment, may not be used for human habitation, and be designed to have minimal flood damage potential. Examples of accessory structures are detached garages, carports, storage sheds, pole barns, and hay sheds.

Addition (to an existing structure) means any walled and roofed expansion to the perimeter of a structure in which the addition is connected by a common load-bearing wall other than a firewall. Any walled and roofed addition, which is connected by a firewall or is separated by independent perimeter load-bearing walls, is new construction.

Appeal means a request for a review of the floodplain administrator's interpretation of any provision of this ordinance or a request for a variance.

Area of shallow flooding means a designated AO or AH Zone on the community's Flood Insurance Rate Map (FIRM) with base flood depths from one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and indeterminate, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

Base Flood Elevation (BFE) means the elevation of the one-percent annual chance flood.

Basement means that portion of a structure having its floor sub-grade (below ground level) on all sides.

Benchmark means a marked point of known elevation from which other elevations may be established.

Building - see "Structure."

Community means a political entity that has the authority to adopt and enforce floodplain ordinances for the area under its jurisdiction.

Community Rating System (CRS) means a program developed by the Federal Insurance Administration to provide incentives for those communities in the Regular Program that have gone beyond the minimum floodplain management requirements to develop extra measures to provide protection from flooding.

Conditional Letter of Map Amendment (CLOMA) is FEMA's comment on whether a proposed project would be excluded from the Special Flood Hazard Area (SFHA) shown on the effective National Flood Insurance Program (NFIP) map. There is no appeal period. The letter becomes effective on the date sent. This letter does not revise an effective NFIP map, it indicates whether the project, if built as proposed, would or would not be removed from the SFHA by FEMA if later submitted as a request for a Letter of Map Amendment.

Conditional Letter of Map Revision (CLOMR) is FEMA's comment on a proposed project that would affect the hydrologic and/or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway or effective Base Flood Elevations. There is no appeal period. The letter becomes effective on the date sent. This letter does not revise an effective National Flood Insurance Program map, it indicates whether the project, if built as proposed, would or would not be removed from the Special Flood Hazard Area by FEMA if later submitted as a request for a Letter of Map Revision.

Critical facility means a facility for which even a slight chance of flooding might be too great. Critical facilities include, but are not limited to, schools, nursing homes, hospitals, police, fire, and emergency response installations, installations which produce, use or store hazardous materials or hazardous waste.

Development means any man-made change to improved or unimproved real estate including but not limited to:

- (1) construction, reconstruction, or placement of a structure or any addition to a structure;

- (2) installing a manufactured home on a site, preparing a site for a manufactured home or installing recreational vehicle on a site for more than 180 days;
- (3) installing utilities, erection of walls and fences, construction of roads, or similar projects;
- (4) construction of flood control structures such as levees, dikes, dams, channel improvements, etc.;
- (5) mining, dredging, filling, grading, excavation, or drilling operations;
- (6) construction and/or reconstruction of bridges or culverts;
- (7) storage of materials; or
- (8) any other activity that might change the direction, height, or velocity of flood or surface waters.

"Development" does not include activities such as the maintenance of existing structures and facilities such as painting, re-roofing; resurfacing roads; or gardening, plowing, and similar agricultural practices that do not involve filling, grading, excavation, or the construction of permanent structures.

Earthen fill means soil that is used to raise the level of the ground to reduce flood risk to the filled area. The placement of fill in a SFHA is considered development and will require a permit under applicable Federal, state and local laws, ordinances, and regulations. Fill is prohibited within the floodway unless it has been demonstrated that it will not result in any increase in flood levels.

Elevated structure means a non-basement structure built to have the lowest floor elevated above the ground level by means of fill, solid foundation perimeter walls, pilings, or columns (posts and piers).

Elevation Certificate is a certified statement that verifies a structure's elevation information.

Emergency Program means the first phase under which a community participates in the NFIP. It is intended to provide a first layer amount of insurance at subsidized rates on all insurable structures in that community before the effective date of the initial FIRM.

Encroachment means the advance or infringement of uses, fill, excavation, buildings, permanent structures or development into a floodplain, which may impede or alter the flow capacity of a floodplain.

Existing Construction means any structure for which the "start of construction" commenced before the effective date of the community's first floodplain ordinance.

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

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).

FEMA means the Federal Emergency Management Agency.

Five-hundred year flood (500-year flood) means the flood that has a 0.2 percent chance of being equaled or exceeded in any year.

Flood means a general and temporary condition of partial or complete inundation of normally dry land areas from the overflow, the unusual and rapid accumulation, or the runoff of surface waters from any source.

Flood Boundary and Floodway Map (FBFM) means an official map on which the Federal Emergency Management Agency (FEMA) or Federal Insurance Administration (FIA) has delineated the areas of flood hazards and regulatory floodway.

Flood Hazard Boundary Map (FHBM) means an official map of a community, issued by FEMA, where the boundaries of the areas of special flood hazard have been identified as Zone A.

Flood Insurance Rate Map (FIRM) means an official map of a community, on which FEMA has delineated both the areas of special flood hazard and the risk premium zones applicable to the community.

Flood Insurance Study (FIS) is the official hydraulic and hydrologic report provided by FEMA. The report contains flood profiles, as well as the FIRM, FBFM (where applicable), and the water surface elevation of the base flood.

Floodplain means the channel proper and the areas adjoining any wetland, lake, or watercourse which have been or hereafter may be covered by the regulatory flood. The floodplain includes both the floodway and the fringe districts.

Floodplain Administrator means the local community official charged with enforcing NFIP regulations that regulate development in the floodplain.

Floodplain development permit or another form of official approval is required before construction or development begins within any SFHA. If FEMA has not defined the SFHA within a community, the community shall require permits for all proposed construction or other development in the community including the placement of manufactured homes, so that it may determine whether such construction or other development is proposed within flood-prone areas. Permits or approval are required to ensure that proposed development projects meet the requirements of the NFIP and the community's floodplain management ordinance.

Floodplain management means the operation of an overall program of corrective and preventive measures for reducing flood damage and preserving and enhancing, where possible, natural resources in the floodplain, including but not limited to emergency preparedness plans, flood control works, floodplain management regulations, and open space plans.

Floodplain management regulations means this ordinance and other zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances, and other applications of police power which control development in flood-prone areas. This term describes federal, state, or local regulations in any combination thereof, which provide standards for preventing and reducing flood loss and damage. Floodplain management regulations are also referred to as floodplain regulations, floodplain ordinance, flood damage prevention ordinance, and floodplain management requirements.

Flood Protection Grade (FPG) is the elevation of the regulatory flood plus two feet at any given location in the SFHA. This term shall only be used when a FEMA approved hydraulic model is available for reference (see "Freeboard")

Floodproofing (dry floodproofing) is a method of protecting a structure that ensures that the structure, together with attendant utilities and sanitary facilities, is watertight to the floodproofed design elevation

with walls that are substantially impermeable to the passage of water. All structural components of these walls are capable of resisting hydrostatic and hydrodynamic flood forces, including the effects of buoyancy, and anticipated debris impact forces and such design must be certified by an Indiana registered Professional Engineer.

Floodproofing certificate is a form used to certify compliance for non-residential structures as an alternative to elevating structures to or above the FPG. This certification must be by a Registered Professional Engineer or Architect.

Floodway is the channel of a river or stream and those portions of the floodplains adjoining the channel which are reasonably required to efficiently carry and discharge the peak flood flow of the regulatory flood of any river or stream.

Freeboard means a factor of safety, usually expressed in feet above the BFE, which is applied for the purposes of floodplain management. It is used to compensate for the many unknown factors that could contribute to flood heights greater than those calculated for the base flood.

Fringe is that portion of the floodplain lying outside the floodway.

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

Hardship (as related to variances of this ordinance) means the exceptional hardship that would result from a failure to grant the requested variance. The [Governing Body] requires that the variance is exceptional, unusual, and peculiar to the property involved. Mere economic or financial hardship alone is NOT exceptional. Inconvenience, aesthetic considerations, physical handicaps, personal preferences, or the disapproval of one's neighbors likewise cannot, as a rule, qualify as an exceptional hardship. All of these problems can be resolved through other means without granting a variance, even if the alternative is more expensive, or requires the property owner to build elsewhere or put the parcel to a different use than originally intended.

Highest adjacent grade means the highest natural elevation of the ground surface, prior to the start of construction, next to the proposed walls of a structure.

Historic structure means any structure individually listed on the National Register of Historic Places or the Indiana State Register of Historic Sites and Structures.

Increased Cost of Compliance (ICC) means the cost to repair a substantially damaged structure that exceeds the minimal repair cost and that is required to bring a substantially damaged structure into compliance with the local flood damage prevention ordinance. Acceptable mitigation measures are elevation, relocation, demolition, or any combination thereof. All renewal and new business flood insurance policies with effective dates on or after June 1, 1997, will include ICC coverage.

Letter of Map Amendment (LOMA) means an amendment to the currently effective FEMA map that establishes that a property is not located in a SFHA. A LOMA is only issued by FEMA.

Letter of Map Revision (LOMR) means an official revision to the currently effective FEMA map. It is issued by FEMA and changes flood zones, delineations, and elevations.

Letter of Map Revision Based on Fill (LOMR-F) means an official revision by letter to an effective NFIP map. A LOMR-F provides FEMA's determination concerning whether a structure or parcel has been elevated on fill above the BFE and excluded from the SFHA.

Lowest Adjacent Grade (LAG) means the lowest elevation, after completion of construction, of the ground, sidewalk, patio, deck support, or basement entryway immediately next to the structure.

Lowest floor means the lowest of the following:

- (1) the top of the lowest level of the structure;
- (2) the top of the basement floor;
- (3) the top of the garage floor, if the garage is the lowest level of the structure;
- (4) the top of the first floor of a structure elevated on pilings or pillars;
- (5) the top of the first floor of a structure constructed with a crawl space, provided that the lowest point of the interior grade is at or above the BFE and construction meets requirements of 6. a.; or
- (6) the top of the floor level of any enclosure, other than a basement, below an elevated structure where the walls of the enclosure provide any resistance to the flow of flood waters unless:
 - a). the walls are designed to automatically equalize the hydrostatic flood forces on the walls by allowing for the entry and exit of flood waters, by providing a minimum of two openings (in addition to doorways and windows) having a total net area of one (1) square inch for every one square foot of enclosed area. The bottom of all such openings shall be no higher than one (1) foot above grade; and,
 - b). such enclosed space shall be usable solely for the parking of vehicles and building access and/or limited storage of maintenance equipment used in connection with the premises.

Lowest level means the measured distance of a building's lowest floor above the National Geodetic Vertical Datum (NGVD) or other datum specified on the FIRM for that location.

Lowest referenced flood elevation (see definition for Lowest floor)

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.

Map amendment means a change to an effective NFIP map that results in the exclusion from the SFHA of an individual structure or a legally described parcel of land that has been inadvertently included in the SFHA (i.e., no alterations of topography have occurred since the date of the first NFIP map that showed the structure or parcel to be within the SFHA).

Map panel number is the four-digit number followed by a letter suffix assigned by FEMA on a flood map. The first four digits represent the map panel, and the letter suffix represents the number of times the map panel has been revised. (The letter "A" is not used by FEMA, the letter "B" is the first revision.)

Market value means the building value, excluding the land (as agreed to between a willing buyer and seller), as established by what the local real estate market will bear. Market value can be established by independent certified appraisal, replacement cost depreciated by age of building (actual cash value), or adjusted assessed values.

Minimum finished floor elevation means the lowest habitable elevation determined by the top of the slab for a slab foundation, top of finished floor of a crawlspace foundation, or top of finished floor of a basement foundation.

Mitigation means sustained actions taken to reduce or eliminate long-term risk to people and property from hazards and their effects. The purpose of mitigation is two fold: to protect people and structures, and to minimize the cost of disaster response and recovery.

National Flood Insurance Program (NFIP) is the federal program that makes flood insurance available to owners of property in participating communities nationwide through the cooperative efforts of the Federal Government and the private insurance industry.

National Geodetic Vertical Datum (NGVD) of 1929 as corrected in 1929 is a vertical control used as a reference for establishing varying elevations within the floodplain.

New construction means any structure for which the “start of construction” commenced after the effective date of the community’s first floodplain ordinance.

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

North American Vertical Datum of 1988 (NAVD 88) as adopted in 1993 is a vertical control datum used as a reference for establishing varying elevations within the floodplain.

Obstruction includes, but is not limited to, any dam, wall, wharf, embankment, levee, dike, pile, abutment, protection, excavation, canalization, bridge, conduit, culvert, building, wire, fence, rock, gravel, refuse, fill, structure, vegetation, or other material in, along, across or projecting into any watercourse which may alter, impede, retard or change the direction and/or velocity of the flow of water; or due to its location, its propensity to snare or collect debris carried by the flow of water, or its likelihood of being carried downstream.

One-hundred year flood (100-year flood) is the flood that has a one percent (1%) chance of being equaled or exceeded in any given year. Any flood zone that begins with the letter A is subject to the one-percent annual chance flood. See “Regulatory Flood”.

One-percent annual chance flood is the flood that has a one percent (1%) chance of being equaled or exceeded in any given year. Any flood zone that begins with the letter A is subject to the one-percent annual chance flood. See “Regulatory Flood”.

Participating community is any community that voluntarily elects to participate in the NFIP by adopting and enforcing floodplain management regulations that are consistent with the standards of the NFIP.

Permanent structure means any structure occupying a site for more than 180 days per year.

Physical Map Revision (PMR) is an official republication of a community’s FEMA map to effect changes to base (1-percent annual chance) flood elevations, floodplain boundary delineations, regulatory floodways, and planimetric features. These changes typically occur as a result of structural works or improvements, annexations resulting in additional flood hazard areas, or correction to base flood elevations or SFHAs.

Post-FIRM construction means construction or substantial improvement that started on or after the effective date of the initial FIRM of the community or after December 31, 1974, whichever is later.

Pre-FIRM construction means construction or substantial improvement, which started on or before December 31, 1974, or before the effective date of the initial FIRM of the community, whichever is later.

Probation is a means of formally notifying participating communities of violations and deficiencies in the administration and enforcement of the local floodplain management regulations.

Public safety and nuisance, anything which is injurious to the safety or health of an entire community, neighborhood or any considerable number of persons, or unlawfully obstructs the free passage or use, in the customary manner, of any navigable lake, or river, bay, stream, canal, or basin.

Recreational vehicle means a vehicle which is (1) built on a single chassis; (2) 400 square feet or less when measured at the largest horizontal projections; (3) designed to be self-propelled or permanently towable by a light duty truck; and (4) designed primarily not for use as a permanent dwelling, but as quarters for recreational camping, travel, or seasonal use.

Regular program means the phase of the community's participation in the NFIP where more comprehensive floodplain management requirements are imposed and higher amounts of insurance are available based upon risk zones and elevations determined in a FIS.

Regulatory flood means the flood having a one percent (1%) chance of being equaled or exceeded in any given year, as calculated by a method and procedure that is acceptable to and approved by the Indiana Department of Natural Resources and the Federal Emergency Management Agency. The regulatory flood elevation at any location is as defined in Article 3 (B) of this ordinance. The "Regulatory Flood" is also known by the term "Base Flood", "One-Percent Annual Chance Flood", and "100-Year Flood".

Repetitive loss means flood-related damages sustained by a structure on two separate occasions during a 10-year period ending on the date of the event for which the second claim is made, in which the cost of repairing the flood damage, on the average, equaled or exceeded 25% of the market value of the structure at the time of each such flood event.

Retrofitting means making changes to an existing building to protect it from flooding or other hazards such as high winds and earthquakes. For flooding, these include: elevation, wet floodproofing, relocation, dry floodproofing, levee and floodwall protection, and demolition.

Section 1316 is that section of the National Flood Insurance Act of 1968, as amended, which states that no new flood insurance coverage shall be provided for any property that the Floodplain Administrator finds has been declared by a duly constituted state or local zoning authority or other authorized public body to be in violation of state or local laws, regulations, or ordinances that intended to discourage or otherwise restrict land development or occupancy in flood-prone areas.

Special Flood Hazard Area (SFHA) means those lands within the jurisdictions of the [City/Town/County] subject to inundation by the regulatory flood. The SFHAs of the [City/Town/County] generally identified as such on the Flood Insurance Rate Map of the [City/Town/County] dated [Date of FIRM], as well as any future updates, amendments, or revisions, prepared by the Federal Emergency Management Agency with the most recent date. The SFHAs of those parts of unincorporated [Name of County] County that are within the extraterritorial jurisdiction of the [City/Town] or that may be annexed into the [City/Town] are generally identified as such on the Flood Insurance Rate Map prepared for [Name of County] County by the Federal Emergency Management Agency and dated [Date of FIRM], as well as any future updates, amendments, or revisions, prepared by the Federal Emergency Management Agency with the most recent date. (These areas are shown on a FHBM or FIRM as Zone A, AE, A1- A30, AH, AR, A99, or AO).

Start of construction includes substantial improvement, and means the date the building permit was issued, 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 or permanent construction of a

structure (including a manufactured home) on a site, such as the pouring of slabs or footing, installation of piles, construction of columns, or any work beyond the stage of excavation for placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, foundations, or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For 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 a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured home. This term also includes recreational vehicles to be installed on a site for more than 180 days.

Substantial damage means flood related damage sustained by a structure on 2 separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25 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 40 percent of the market value of the structure before the "start of construction" of the improvement. When the combined total of all previous improvements or repairs made during the life of the structure equals or exceeds 40 percent of the structure's market value, that structure is considered a substantial improvement.

Suspension means the removal of a participating community from the NFIP because the community has not enacted and/or enforced the proper floodplain management regulations required for participation in the NFIP.

Variance is a grant of relief from the requirements of this ordinance, which permits construction in a manner otherwise prohibited by this ordinance where specific enforcement would result in unnecessary hardship.

Violation means the failure of a structure or other development to be fully compliant with this ordinance. A structure or other development without the elevation, other certification, or other evidence of compliance required in this ordinance is presumed to be in violation until such time as that documentation is provided.

Watercourse means a lake, river, creek, stream, wash, channel or other topographic feature on or over which waters flow at least periodically. Watercourse includes specifically designated areas in which substantial flood damage may occur.

Water surface elevation means the height, in relation to the North American Vertical Datum of 1988 (NAVD 88) or National Geodetic Vertical Datum of 1929 (NGVD) (other datum where specified) of floods of various magnitudes and frequencies in the floodplains of riverine areas.

Zone means a geographical area shown on a FHBM or FIRM that reflects the severity or type of flooding in the area.

Zone A (see definition for A zone)

Zone B, C, and X means areas identified in the community as areas of moderate or minimal hazard from the principal source of flood in the area. However, buildings in these zones could be flooded by severe, concentrated rainfall coupled with inadequate local drainage systems. Flood insurance is available in participating communities but is not required by regulation in these zones. (Zone X is used on new and revised maps in place of Zones B and C.)

Shaded Zone X shown on recent FIRMs (B zones on older FIRMs) designate areas subject to inundation by the flood with a 0.2 percent chance of being equaled or exceeded (the 500-year flood); areas of 100-year flood with average depths of less than 1 foot or with drainage area less than 1 square mile; and areas protected by levees from 100-year flood.

Unshaded Zone X (C zones on older FIRMs) designate areas where the annual exceedance probability of flooding is less than 0.2 percent.

Article 3. General Provisions.

Section A. Lands to Which This Ordinance Applies.

This ordinance shall apply to all SFHAs *and other at-risk areas as determined by the Floodplain Administrator or other delegated, designated or qualified community official from available technical studies, historical information, and other available and reliable sources (optional)* within the jurisdiction of [Community Name]. *In addition, land areas within 1000 feet of SFHA or land areas behind levees are subject to Article 6 Section I of this ordinance (optional).*

Section B. Basis for Establishing Regulatory Flood Data.

This ordinance's protection standard is the regulatory flood. The best available regulatory flood data is listed below. Whenever a party disagrees with the best available data, the party submitting the detailed engineering study needs to replace existing data with better data and submit it to the Indiana Department of Natural Resources for review and approval.

- (1) The regulatory flood elevation, floodway, and fringe limits for the studied SFHAs of [Names of studied streams from FIS] and shall be as delineated on the 100 year flood profiles in the Flood Insurance Study of the [City/Town/County] dated [FIS date] and the corresponding [FBFM/FIRM] dated [Date of FBFM or FIRM], as well as any future updates, amendments, or revisions, prepared by the Federal Emergency Management Agency with the most recent date. ***(Include only if the community has a Flood Insurance Study.)***
- (2) The regulatory flood elevation for each SFHA delineated as an "AO Zone" (in fringe) shall be that elevation (or depth) delineated on the FIRM of the [City/Town/County]. ***(Include only if the community's mapping contains areas identified as "AO Zone")***
- (3) The regulatory flood elevation, floodway, and fringe limits for each of the remaining SFHAs delineated as an "A Zone" on the FIRM of the [City/Town/County] shall be according to the best data available as approved by the Indiana Department of Natural Resources.
- (4) For the SFHAs of those parts of unincorporated _____ County that are within the extraterritorial jurisdiction of the [City/Town] or that may be annexed into the [City/Town]:
 - a). The regulatory flood elevation, floodway, and fringe limits of studied streams shall be as delineated on the 100 year flood profiles in the Flood Insurance Study of [County name] County dated [Date of County's FIS] and the corresponding [FBFM/FIRM] dated [FBFM/FIRM date], as well as any future updates, amendments, or revisions, prepared by the Federal Emergency Management Agency with the most recent date. ***(Include only if County has a Flood Insurance Study.)***

- b). If the SFHA is delineated as "AO Zone," (in fringe) the elevation (or depth) will be delineated on the County FIRM. ***(Include only if County's mapping contains areas identified as "AO Zone")***
- c). If the SFHA is delineated as "Zone A" on the County Flood Insurance Rate Map, the regulatory flood elevation, floodway, and fringe limits shall be according to the best data available as provided or approved by the Indiana Department of Natural Resources. ***(Include only if County's mapping contains areas identified as "Zone A")***

Include (4) only if ordinance is for a City or Town.

Section C. Establishment of Floodplain Development Permit.

A Floodplain Development Permit shall be required in conformance with the provisions of this ordinance prior to the commencement of any development activities in areas of special flood hazard.

Section D. Compliance.

No structure shall hereafter be located, extended, converted or structurally altered within the SFHA without full compliance with the terms of this ordinance and other applicable regulations. No land or stream within the SFHA *and other at-risk areas as determined by the Floodplain Administrator or other delegated, designated or qualified community official from available technical studies, historical information, and other available and reliable sources (optional)* shall hereafter be altered without full compliance with the terms of this ordinance and other applicable regulations. *In addition, land areas within 1000 feet of SFHA or land areas behind levees are subject to Article 6 Section I of this ordinance (optional).*

Section E. Abrogation and Greater Restrictions.

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

Section F. Discrepancy between Mapped Floodplain and Actual Ground Elevations.

- (1) In cases where there is a discrepancy between the mapped floodplain (SFHA) on the FIRM and the actual ground elevations, the elevation provided on the flood profiles shall govern and must be used to delineate floodplain on the best available topographic map.
- (2) If the elevation of the site in question is below the base flood elevation, that site shall be included in the SFHA and regulated accordingly.
- (3) If the elevation (natural grade) of the site in question is above the base flood elevation, that site shall be considered outside the SFHA and the floodplain regulations will not be applied. The property owner should be advised to apply for a LOMA.

Section G. 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 H. Warning and Disclaimer of Liability.

The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on available information derived from engineering and scientific methods of study. Larger floods can and will occur on rare occasions. Therefore, this ordinance does not create any liability on the part of [Community Name], the Indiana Department of Natural Resources, or the State of Indiana, for any flood damage that results from reliance on this ordinance or any administrative decision made lawfully thereunder.

Section I. Penalties for Violation.

Failure to obtain a Floodplain Development Permit in the SFHA or failure to comply with the requirements of a Floodplain Development Permit or conditions of a variance shall be deemed to be a violation of this ordinance. All violations shall be considered a common nuisance and be treated as such in accordance with the provisions of the Zoning Code for [Community Name]. All violations shall be punishable by a fine not exceeding \$[Amount of Fine].

- (1) A separate offense shall be deemed to occur for each day the violation continues to exist.
- (2) The [Community Name] Planning Commission shall inform the owner that any such violation is considered a willful act to increase flood damages and therefore may cause coverage by a Standard Flood Insurance Policy to be suspended.
- (3) Nothing herein shall prevent the [City/Town/County] from taking such other lawful action to prevent or remedy any violations. All costs connected therewith shall accrue to the person or persons responsible.

Article 4. Administration.

Section A. Designation of Administrator.

The [Governing Body] of [Community Name] hereby appoints the [Community Official's Title] to administer and implement the provisions of this ordinance and is herein referred to as the Floodplain Administrator.

Section B. Permit Procedures.

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

- (1) Application stage.
 - a). A description of the proposed development;
 - b). Location of the proposed development sufficient to accurately locate property and structure in relation to existing roads and streams;
 - c). A legal description of the property site;
 - d). A site development plan showing existing and proposed development locations and existing and proposed land grades;

- e). Elevation of the top of the lowest floor (including basement) of all proposed buildings. Elevation should be in NAVD 88 or NGVD 29 as an option;
 - f). Elevation (in NAVD 88 or NGVD 29 as an option) to which any non-residential structure will be floodproofed;
 - g). Description of the extent to which any watercourse will be altered or related as a result of proposed development, and;
- (2) Construction stage.

Upon placement of the lowest floor; or floodproofing, it shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the NAVD 88 or NGVD elevation of the lowest floor or floodproofed elevation, as built. Said certification shall be prepared by or under the direct supervision of a registered land surveyor or professional engineer and certified by the same. When floodproofing is utilized for a particular structure said certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. Any work undertaken prior to submission of the certification shall be at the permit holders' risk. (The Floodplain Administrator shall review the lowest floor and floodproofing elevation survey data submitted.) The permit holder shall correct deficiencies detected by such review before any further work is allowed to proceed. Failure to submit the survey or failure to make said corrections required hereby, shall be cause to issue a stop-work order for the project.

Section C. Duties and Responsibilities of the Floodplain Administrator.

The Floodplain Administrator and/or designated staff is hereby authorized and directed to enforce the provisions of this ordinance. The administrator is further authorized to render interpretations of this ordinance, which are consistent with its spirit and purpose.

Duties and Responsibilities of the Floodplain Administrator shall include, but not be limited to:

- (1) Review all floodplain development permits to assure that the permit requirements of this ordinance have been satisfied;
- (2) Inspect and inventory damaged structures in SFHA and complete substantial damage determinations;
- (3) Ensure that construction authorization has been granted by the Indiana Department of Natural Resources for all development projects subject to Article 5, Section E and G (1) of this ordinance, and maintain a record of such authorization (either copy of actual permit or floodplain analysis/regulatory assessment.)
- (4) Ensure that all necessary federal or state permits have been received prior to issuance of the local floodplain development permit. Copies of such permits are to be maintained on file with the floodplain development permit;
- (5) Notify adjacent communities and the State Floodplain Coordinator prior to any alteration or relocation of a watercourse, and submit copies of such notifications to FEMA;
- (6) Maintain for public inspection and furnish upon request local permit documents, damaged structure inventories, substantial damage determinations, regulatory flood data, SFHA maps, Letters of Map Amendment (LOMA), Letters of Map Revision (LOMR), copies of DNR permits

and floodplain analysis and regulatory assessments (letters of recommendation), federal permit documents, and “as-built” elevation and floodproofing data for all buildings constructed subject to this ordinance.

- (7) Utilize and enforce all Letters of Map Revision (LOMR) or Physical Map Revisions (PMR) issued by FEMA for the currently effective SFHA maps of the community.
- (8) Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished;
- (9) Verify and record the actual elevation of the lowest floor (including basement) of all new or substantially improved structures, in accordance with Article 4 Section B;
- (10) Verify and record the actual elevation to which any new or substantially improved structures have been floodproofed, in accordance with Article 4, Section B;
- (11) Review certified plans and specifications for compliance.
- (12) Non-compliance/Stop Work Orders
 - a). Upon notice from the floodplain administrator, work on any building, structure or premises and or placement of fill or other unapproved material on a property that is being done 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 agent, or to the person doing the work, and shall state the conditions under which work may be resumed.
- (13) Revocation of Permits
 - a). The floodplain administrator may revoke a permit or approval, issued under the provisions of the ordinance, in cases where 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.
 - b). The floodplain administrator may revoke a permit upon determination by the floodplain administrator 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.

Article 5. Provisions for Flood Hazard Reduction.

Section A. General Standards.

In all SFHAs the following provisions are required:

- (1) New construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure;
- (2) Manufactured homes shall be anchored to prevent flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This standard shall be in addition to and consistent with applicable state requirements for resisting wind forces;

- (3) New construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage below the FPG;
- (4) New construction and substantial improvements shall be constructed by methods and practices that minimize flood damage;
- (5) Electrical, heating, ventilation, plumbing, air conditioning equipment and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding; to ensure uninterrupted electrical services, all outdoor electric meters installed at least 2 foot above BFE
- (6) New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;
- (7) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the system;
- (8) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding;
- (9) Any alteration, repair, reconstruction or improvements to a structure that is in compliance with the provisions of this ordinance shall meet the requirements of "new construction" as contained in this ordinance; and,
- (10) Any alteration, repair, reconstruction or improvement to a structure that is not in compliance with the provisions of this ordinance, shall be undertaken only if said non-conformity is not further, extended, or replaced.
- (11) Prohibit storage of harmful hazardous materials in SFHA that may block flood waters or create an environmental health hazard during a flood event.
- (12) Whenever any portion of the SFHA is authorized for use, the volume of space which will be occupied by the authorized fill or structure below the BFE shall be compensated for and balanced by an equivalent volume of excavation taken below the BFE. The excavation volume shall be at least equal to the volume of storage lost (replacement ratio of 1 to 1) due to the fill or structure.
 - a). The excavation shall take place in the floodplain and in the same property in which the authorized fill or structure is located; the excavation area may not be refilled
 - b). Under certain circumstances, the excavation may be allowed to take place outside of but adjacent to the floodplain provided that the excavated volume will be below the regulatory flood elevation, will be in the same property in which the authorized fill or structure is located or be directly across the stream from the location of fill, will be accessible to the regulatory flood water, will not be subject to ponding when not inundated by flood water, and that it shall not be refilled;
 - c). The fill or structure shall not obstruct a drainage way leading to the floodplain;
 - d). The fill or structure shall be of a material deemed stable enough to remain firm and in place during periods of flooding and shall include provisions to protect adjacent property owners against any increased runoff or drainage resulting from its placement; and,
 - e). Plans depicting the areas to be excavated and filled shall be submitted prior to the actual start of construction or any site work; once site work is complete, but before the actual start

of construction, the applicant shall provide to the Floodplain Administrator a certified survey of the excavation and fill sites demonstrating the fill and excavation comply with this article.

Section B. Specific Standards.

In all SFHAs, the following provisions are required:

- (1) In addition to the requirements of Article 5, Section A, all structures to be located in the SFHA shall be protected from flood damage below the FPG. This building protection requirement applies to the following situations:
 - a). Construction or placement of any new structure having a floor area greater than 400 square feet;
 - b). Addition or improvement made to any existing structure:
 - (i) where the cost of the addition or improvement equals or exceeds 40% of the value of the existing structure (excluding the value of the land);
 - (ii) with a previous addition or improvement constructed since the community's first floodplain ordinance.
 - c). Reconstruction or repairs made to a damaged structure where the total combined improvements or repairs made during the life of structure equals or exceeds 40% of the market value of the structure (excluding the value of the land) before damage occurred regardless of the actual work performed;
 - d). Installing a travel trailer or recreational vehicle on a site for more than 180 days.
 - e). Installing a manufactured home on a new site or a new manufactured home on an existing site. This ordinance does not apply to returning the existing manufactured home to the same site it lawfully occupied before it was removed to avoid flood damage; and
 - f). Reconstruction or repairs made to a repetitive loss structure;
- (2) **Residential Construction.** New construction or substantial improvement of any residential structure (or manufactured home) shall have the lowest floor; including basement, at or above the FPG (two feet above the base flood elevation) *determined based on future conditions hydrology (optional)*. Should solid foundation perimeter walls be used to elevate a structure, openings sufficient to facilitate the unimpeded movements of floodwaters shall be provided in accordance with the standards of Article 5, Section B (4).
- (3) **Non-Residential Construction.** New construction or substantial improvement of any commercial, industrial, or non-residential structure (or manufactured building) shall have the lowest floor, including basement, elevated to or above the FPG (two feet above the base flood elevation) *determined based on future conditions hydrology (optional)*. Structures located in all "A Zones" may be floodproofed in lieu of being elevated if done in accordance with the following:
 - a). A Registered Professional Engineer or Architect shall certify that the structure has been designed so that below the FPG, the structure and attendant utility facilities are watertight and capable of resisting the effects of the regulatory flood. The structure design shall take into account flood velocities, duration, rate of rise, hydrostatic pressures, and impacts from debris or ice. Such certification shall be provided to the official as set forth in Article 4, Section C (10).

- b). Floodproofing measures shall be operable without human intervention and without an outside source of electricity.
- (4) **Elevated Structures.** New construction or substantial improvements of elevated structures that include fully enclosed areas formed by foundation and other exterior walls below the flood protection grade shall be designed to preclude finished living space and designed to allow for the entry and exit of floodwaters to automatically equalize hydrostatic flood forces on exterior walls.
- a). Designs for complying with this requirement must either be certified by a professional engineer or architect or meet the following minimum criteria:
 - (i) provide a minimum of two openings having a total net area of not less than one square inch for every one square foot of enclosed area; and
 - (ii) the bottom of all openings shall be no higher than one foot above foundation interior grade (which must be equal to in elevation or higher than the exterior foundation grade); and
 - (iii) openings may be equipped with screens, louvers, valves or other coverings or devices provided they permit the automatic flow of floodwaters in both directions.
 - (iv) access to the enclosed area shall be the minimum necessary to allow for parking for vehicles (garage door) or limited storage of maintenance equipment used in connection with the premises (standard exterior door) or entry to the living area (stairway or elevator); and
 - (v) the interior portion of such enclosed area shall not be partitioned or finished into separate rooms; and
 - (vi) portions of the building below the flood protection grade must be constructed with materials resistant to flood damage.
 - (vii) where elevation requirements exceed 6 feet above the highest adjacent grade, a copy of the legally recorded deed restriction prohibiting the conversion of the area below the lowest floor to a use or dimension contrary to the structure's originally approved design, shall be presented as a condition of issuance of the final Certificate of Occupancy.
- (5) **Structures Constructed on Fill.** A residential or nonresidential structure may be constructed on a permanent land fill in accordance with the following:
- a). The fill shall be placed in layers no greater than 1 foot deep before compacting to 95% of the maximum density obtainable with the Modified Proctor Test method.
 - b). The fill should extend at least ten feet beyond the foundation of the structure before sloping below the FPG.
 - c). The fill shall be protected against erosion and scour during flooding by vegetative cover, riprap, or bulkheading. If vegetative cover is used, the slopes shall be no steeper than 3 horizontal to 1 vertical.
 - d). The fill shall not adversely affect the flow of surface drainage from or onto neighboring properties.
 - e). The top of the lowest floor including basements shall be at or above the FPG.

- (6) **Standards for Structures Constructed with a Crawlspace.** A residential or nonresidential structure may be constructed with a crawlspace located below the flood protection grade provided that the following conditions are met:
- a). The building must be designed and adequately anchored to resist flotation, collapse, and lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy; and
 - b). Any enclosed area below the flood protection grade shall have openings that equalize hydrostatic pressures by allowing for the automatic entry and exit of floodwaters. Provide a minimum of two openings having a total net area of not less than one square inch for every one square foot of enclosed area. The bottom of the openings shall be no more than one foot above grade; and
 - c). The interior grade of the crawlspace must be at or above the base flood elevation.
 - d). The interior height of the crawlspace measured from the interior grade of the crawlspace to the top of the foundation wall must not exceed four feet at any point; and
 - e). An adequate drainage system must be installed to remove floodwaters from the interior area of the crawlspace within a reasonable period of time after a flood event; and
 - f). Portions of the building below the flood protection grade must be constructed with materials resistant to flood damage; and
 - g). Utility systems within the crawlspace must be elevated above the flood protection grade.
- (7) **Standards for Manufactured Homes and Recreational Vehicles.** Manufactured homes and recreational vehicles to be installed or substantially improved on a site for more than 180 days must meet one of the following requirements:
- a). The manufactured home shall be elevated on a permanent foundation such that the lowest floor shall be at or above the FPG and securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement. This requirement applies to all manufactured homes to be placed on a site;
 - (i) outside a manufactured home park or subdivision;
 - (ii) in a new manufactured home park or subdivision;
 - (iii) in an expansion to an existing manufactured home park or subdivision; or
 - (iv) in an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as a result of a flood.
 - b). The manufactured home shall be elevated so that the lowest floor of the manufactured home chassis is supported by reinforced piers or other foundation elevations that are no less than 36 inches in height above grade and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement. This requirement applies to all manufactured homes to be placed on a site in an existing manufactured home park or subdivision that has not been substantially damaged by a flood.

- c). Recreational vehicles placed on a site shall either:
 - (i) be on site for less than 180 days; and,
 - (ii) be fully licensed and ready for highway use (defined as being on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions); or
 - (iii) meet the requirements for “manufactured homes” as stated earlier in this section.

Section C. Standards for Subdivision Proposals.

- (1) All subdivision proposals shall be consistent with the need to minimize flood damage;
- (2) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage;
- (3) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood hazards;
- (4) Base flood elevation data shall be provided for subdivision proposals and other proposed development (including manufactured home parks and subdivisions), which is greater than the lesser of fifty lots or five acres;
- (5) *All subdivision proposals shall minimize development in the floodplain and/or limit density of development permitted in floodplain (optional); and*
- (6) *All subdivision proposals shall ensure safe access into/out of floodplain for pedestrians, vehicles (especially emergency responders); elevation 1 foot above the BFE; route lead directly out of floodplain area (optional).*

Section D. Critical Facility.

Construction of new critical facilities shall be, located outside the limits of the 500-year floodplain.

Section E. Standards for Identified Floodways.

The purpose of this section is to guide development away from areas identified as floodway. The floodway is not to be considered a zoning district. The floodway is identified as such by the Federal Emergency Management Agency on the current Flood Insurance Study and Flood Insurance Rate Maps. These maps, along with any subsequent revisions, are hereby adopted by reference and made a part of this section.

- (1) **Permitted uses.** The following uses shall be permitted, excluding any enclosed structures, if the use is permitted by the zoning district in which the property is located:
 - (a) Agricultural uses;
 - (b) Wildlife areas, nature preserves, forests, and wetlands;
 - (c) Parks and recreational uses, such as golf courses and driving ranges, and play areas, provided that no structures or fill will be located within the floodway;

- (d) Public and quasi-public utility collection and/or transmission lines, pipes, cables, and the like;
- (e) Public transportation facilities, such as roads, streets, and bridges, which are located in public rights-of-way;
- (f) Public works projects for flood control improvements such as levees, dikes, floodwalls, and dams; and
- (g) Private transportation facilities such as roads, bridges, or driveways which are necessary to access private property, and parking lots or parking areas; and
- (h) Any proposed use which requires a permit from the Indiana Department of Natural Resources shall also be subject to the requirements and conditions of that review and approval process.

- (2) **Prohibited uses.** Any non-permitted encroachments, including structures and fill, except the fill needed for public transportation facilities, utility collection or transmission lines, public flood control improvement projects, or fill approved as part of the Department of Natural Resources review of an application for other work within a floodway. No structure shall be placed within the regulatory floodway.

Section F. Standards for Identified Fringe.

If the site is located in an identified fringe, then the Floodplain Administrator may issue the local Floodplain Development Permit provided the provisions contained in Article 5 of this ordinance have been met. The key provision is that the top of the lowest floor of any new or substantially improved structure shall be at or above the FPG.

Section G. Standards for SFHAs Without Established Base Flood Elevation and/or Floodways/Fringes.

- (1) Drainage area upstream of the site is greater than one square mile:

If the site is in an identified floodplain where the limits of the floodway and fringe have not yet been determined, and the drainage area upstream of the site is greater than one square mile, the Floodplain Administrator shall require the applicant to forward the application, along with all pertinent plans and specifications, to the Indiana Department of Natural Resources for review and comment.

No action shall be taken by the Floodplain Administrator until either a permit for construction in a floodway or a floodplain analysis/regulatory assessment citing the 100 year flood elevation and the recommended Flood Protection Grade has been received from the Indiana Department of Natural Resources.

Once the Floodplain Administrator has received the proper permit for construction in a floodway or floodplain analysis/regulatory assessment approving the proposed development, a Floodplain Development Permit may be issued provided the conditions of the Floodplain Development Permit are not less restrictive than the conditions received from the Indiana Department of Natural Resources and the provisions contained in Article 5 of this ordinance have been met.

- (2) Drainage area upstream of the site is less than one square mile:

If the site is in an identified floodplain where the limits of the floodway and fringe have not yet been determined and the drainage area upstream of the site is less than one square mile, the

Floodplain Administrator shall require the applicant to provide an engineering analysis showing the limits of the floodway, fringe and 100 year flood elevation for the site.

Upon receipt, the Floodplain Administrator may issue the local Floodplain Development Permit, provided the provisions contained in Article 5 of this ordinance have been met.

- (3) The total cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the regulatory flood more than 0.14 of one foot and will not increase flood damages or potential flood damages.

Section H. Standards for AO Zones. ***

Located within the SFHAs established in Article 3, Section B, are areas designated as shallow flooding areas. These areas have flood hazards associated with base flood depths of one to three feet (1-3'), where a clearly defined channel does not exist and the water path of flooding is unpredictable and indeterminate; therefore the following provisions shall apply:

- (1) All new construction and substantial improvements of residential structures shall have the lowest floor, including basement, elevated two feet (2') greater than the flood depth number specified on the Flood Insurance Rate Map above the highest adjacent grade.
- (2) Drainage paths must be provided to guide floodwaters around and away from proposed structures to be constructed on slopes.
- (3) All new construction and substantial improvements of non-residential structures shall:
 - a). Have the lowest floor, including basement, elevated two feet (2') greater than the flood depth number specified on the Flood Insurance Rate Map above the highest adjacent grade; or,
 - b). Together with attendant utility and sanitary facilities be completely floodproofed to the specified flood level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. Certification is required as per Article 5, Section B (3).

***** Include this Section only if the community's FIRM has AO zones.**

Section I. Standards for Areas behind Levees without SFHA Designation and Areas within 1000 feet of SFHA.

- (1) The lowest floor, including basement, of a new building in areas behind levees without SFHA designation shall be a minimum of 2 feet above the highest adjacent grade.*
- (2) Construction of new structures in areas behind levees without SFHA designation and within 1000 feet of the SFHA are required to meet FPG requirements to reduce the overall risk of flood damages (optional).*

Article 6. Variance Procedures.

Section A. Designation of Variance and Appeals Board.

The [Appointed Board] as established by [Governing Body] of [Community Name] shall hear and decide appeals and requests for variances from requirements of this ordinance.

Section B. Duties of Variance and Appeals Board.

The board shall hear and decide appeals when it is alleged an error in any requirement, decision, or determination is made by the Floodplain Administrator in the enforcement or administration of this ordinance. Any person aggrieved by the decision of the board may appeal such decision to the [Appropriate Court], as provided in [Statute].

Section C. Variance Procedures.

In passing upon such applications, the [Appointed Board] shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this ordinance, and;

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

Section D. Conditions for Variances.

- (1) Variances shall only be issued when there is:
 - a). A showing of good and sufficient cause;
 - b). A determination that failure to grant the variance would result in exceptional 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 nuisances, cause fraud or victimization of the public, or conflict with existing laws or ordinances.
- (2) No variance for a residential use within a floodway subject to Article 5, Section E or Section G (1) of this ordinance may be granted.

- (3) Any variance granted in a floodway subject to Article 5, Section E or Section G (1) of this ordinance will require a permit from the Indiana Department of Natural Resources.
- (4) Variances to the Provisions for Flood Hazard Reduction of Article 5, Section B, may be granted only when a new structure is to be located on a lot of one-half acre or less in size, contiguous to and surrounded by lots with existing structures constructed below the flood protection grade.
- (5) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- (6) Variances may be granted for the reconstruction or restoration of any structure individually listed on the National Register of Historic Places or the Indiana State Register of Historic Sites and Structures.
- (7) Any application to whom a variance is granted shall be given written notice specifying the difference between the base flood elevation and the elevation to which the lowest floor is to be built and stating that the cost of the flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation (See Section E).
- (8) The Floodplain Administrator shall maintain the records of appeal actions and report any variances to the Federal Emergency Management Agency or the Indiana Department of Natural Resources upon request (See Section E).

Section E. Variance Notification.

Any applicant to whom a variance is granted shall be given written notice over the signature of a community official that:

- (1) The issuance of a variance to construct a structure below the base flood elevation will result in increased premium rates for flood insurance up to amounts as high as \$25 for \$100 of insurance coverage; and;
- (2) Such construction below the base flood level increases risks to life and property. A copy of the notice shall be recorded by the Floodplain Administrator in the Office of the County Recorder and shall be recorded in a manner so that it appears in the chain of title of the affected parcel of land.

The Floodplain Administrator will maintain a record of all variance actions, including justification for their issuance, and report such variances issued in the community's biennial report submission to the Federal Emergency Management Agency.

Section F. Historic Structure.

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 an "historic structure" and the variance is the minimum to preserve the historic character and design of the structure.

Section G. Special Conditions.

Upon the consideration of the factors listed in Article 6, and the purposes of this ordinance, the [Appointed Board] may attach such conditions to the granting of variances as it deems necessary to further the purposes of this ordinance.

Article 7. Severability.

If any section, clause, sentence, or phrase of the Ordinance is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holding shall in no way effect the validity of the remaining portions of this Ordinance.

Article 8. Effective Date.

This ordinance shall take effect upon its passage by the [Governing Body].

Passed and enacted by the [Governing Body], Indiana on the _____ day of _____, 2007.

[Governing Body]
[Name of City/Town/County] Indiana

Attest: _____