ARTICLE X

FLOOD PLAIN REGULATIONS

PART 1. PURPOSE AND GENERAL PROVISIONS

10-101. Statutory Authorization, Findings of Fact, and Statement of Purpose

(A) Statutory Authorization.

1. Approval of Draft Ordinance by Kansas Chief Engineer Prior to Adoption

   The following floodplain management regulations, as written, were approved in draft form by the Chief Engineer of the Division of Water Resources of the Kansas Department of Agriculture on April 14, 2010.

2. Kansas Statutory Authorization

   The Legislature of the State of Kansas has in K.S.A. 12-741 et seq. and specifically in K.S.A. 12-766, delegated the responsibility to local government units to adopt floodplain management regulations designed to protect the health, safety, and general welfare.

(B) Findings of Fact.

1. Flood Losses Resulting from Periodic Inundation

   The special flood hazard areas of Manhattan, Kansas, are subject to 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. General Causes of the Flood Losses

   These flood losses are caused by (1) the cumulative effect of development in any delineated floodplain causing increases in flood heights and velocities; and (2) the occupancy of flood hazard areas by uses vulnerable to floods, hazardous to others, inadequately elevated, or otherwise unprotected from flood damages.

3. Methods Used To Analyze Flood Hazards

The Flood Insurance Study (FIS) that is the basis of this ordinance uses a standard engineering method of analyzing flood hazards, which consist of a series of interrelated steps.

(a) Selection of a base flood that is based upon engineering calculations, which permit a consideration of such flood factor s as its expected frequency of occurrence, the area inundated, and the depth of inundation. The base flood selected for this ordinance is representative of large floods, which are characteristic of what can be expected to occur on the particular streams subject to this ordinance. It is in the general order of a flood which could be expected to have a one percent chance of occurrence in any one year as delineated on the Federal Insurance Administrator's FIS, and illustrative materials dated July 6, 2010 as amended, and any future revisions thereto.

(b) Calculation of water surface profiles that are based on a standard hydraulic engineering analysis of the capacity of the stream channel and overbank areas to convey the regulatory flood.

(c) Computation of a floodway required to convey this flood without increasing flood heights more than one (1) foot at any point.

(d) Delineation of floodway encroachment lines within which no development is permitted that would cause any increase in flood height.

(e) Delineation of floodway fringe, i.e., that area outside the floodway encroachment lines, but still subject to inundation by the base flood.

(C) <u>Statement of Purpose.</u>

(1) It is the purpose of this Article to promote the public health, safety and general welfare and to minimize flood losses resulting from periodic inundation of the base flood by applying provisions designed to:

(a) Restrict or prohibit uses which are dangerous to health, safety or property in times of flood or cause undue increases in flood heights or velocities.

(b) Require that uses vulnerable to floods, including public facilities, which serve such uses, be provided with flood protection at the time of initial construction.

(c) Protect individuals from buying lands, which are unsuited for intended purposes because of flood hazard.

(d) Minimize the need for rescue and relief efforts associated with flooding, generally undertaken at the expense of the general public.

(e) Assure that eligibility is maintained for property owners in the community to purchase flood insurance in the National Flood Insurance Program.

10-102. General Provisions.

(A) Official Flood Plain Map.

(1) The Official Flood Plain Map shall consist of the FIRM, Flood Insurance Rate Map Riley County, Kansas and Incorporated Areas, consisting of the Map Panels listed on Map Index Sheet dated July 6, 2010, and any future revisions thereto, and the Federal Emergency Management Agency (FEMA) Flood Insurance Study for Riley County, Kansas and Incorporated Areas, dated July 6, 2010. The Official Flood Plain Map shall also consist of all modifications or changes to the above by the Federal Emergency Management Agency.

(2) The Official Flood Plain Map shall apply to all land within the jurisdiction of the City of Manhattan subject to the base flood.

(B) Flood Plain Overlay Districts.

(1) The Official Flood Plain Map shall be applied as two (2) overlay districts for the purposes set forth in 10-101(A)(1-5). Land uses not meeting the development standards of this Article and those Articles of the underlying zoning districts are prohibited.

(a) Floodway Overlay District (FW):

(1) The FW District boundaries are identified on the FIRM of the Official Flood Plain Map and shall be consistent with those boundaries.

(b) Floodway Fringe Overlay District (FF):

(1) The FF District boundaries are identified on the FIRM as numbered and unnumbered A Zones (including AE, AO and AH Zones) and shall be consistent with those

boundaries.

(C) Rules for Interpretation of District Boundaries.

(1) The boundaries of the Floodway and Floodway Fringe Overlay Districts shall be determined by scaling distances on the Official Zoning Map and on the Flood Insurance Rate Map (FIRM). Where interpretation is needed as to the exact location of the boundaries of the districts as shown on the Official Zoning Map or FIRM, for example where there appears to be a conflict between a mapped boundary and actual field conditions, the Flood Plain Administrator shall make the necessary interpretations. The base flood elevation for the point in question shall be the governing factor in locating the district boundary on the land. Any person contesting the location of the district boundary shall be given a reasonable opportunity to present their case to FEMA for an amendment or revision of the boundary.

(D) Compliance.

(1) *No* development located within a FW or FF District shall be located, extended, converted or structurally altered without full compliance with the terms of this Article.

(E) Abrogation and Greater Restrictions.

(1) It is not intended by this Article to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this Article imposes greater restrictions, the provisions of this Article shall prevail. All other Articles inconsistent with this Article are hereby repealed to the extent of inconsistency only.

(F) Public Hearings Required By Regulatory Agencies.

(1) In the event FEMA, the Kansas Department of Agriculture or any other regulatory agency having jurisdiction over matters covered by this Article requires the City to conduct a public hearing related to such matters, and the method by which such public hearing is to be conducted is not prescribed by such agency or elsewhere in these regulations, such method shall be as follows:

(a) Written notice of such hearing shall be mailed at least 20 days before the hearing to all affected property owners. The Flood Plain Administrator may require any applicant to provide the City with a list of the names and addresses of all affected property owners.

(b) Notice of such hearing shall be published once in the official City newspaper at least 20 days prior to the hearing.

(c) The Flood Plain Administrator may request the Manhattan Urban Area Planning Board to review the matter prior to the public hearing if the public hearing is to be conducted by the Governing Body.

(G) Use of Other Base Flood Data in Identified Flood Plains Where Base Flood Elevations Have Not Been Established.

(1) When base flood elevation data has not been provided in accordance with Section 10-102(A)(1), the Flood Plain Administrator shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from federal, state or other sources as criteria for requiring that new construction, substantial improvements, or other development shall comply with the requirements of this Article.

(2) If a floodway has not been designated, no development, including sanitary landfills, shall be permitted within the Flood Plain, unless it is demonstrated by the developer that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the base flood elevation by more than one (1) foot on the average cross section of the reach in which the development is located as shown on the Flood Insurance Rate Study.

(3) Any use of data required in this section which would alter the location of the Flood Plain, FW District or FF District shall be subject to the additional requirements of Section 10-102(E).

10-103. Flood Plain Development Permit.

(A) No person, firm, corporation, or unit of government shall initiate any development or substantial improvement, or cause the same to be done within a Flood Plain as shown on the Official Flood Plain Map, without first obtaining a separate Flood Plain Development Permit.

(B) A Flood Plain Development Permit shall be filed with the Flood Plain Administrator on a form furnished for that purpose, and shall include the following:

(1) Identify and describe the work to be covered by the flood plain development; and,

(2) Describe the land on which the proposed work is to be done by lot, block, tract and house and street address, or similar description that will readily identify and specifically locate the proposed building or work; and,

(3) Indicate the use or occupancy for which the proposed work is intended; and,

(4) Be accompanied by plans and specifications for proposed construction; and,

(5) Specify whether development is located in a designated floodway fringe or floodway; and,

(6) When required, indicate the assessed value of the structure and the fair market value of the improvement; and,

(7) Identify the existing base flood elevation and the elevation of the proposed development; and,

8) Be signed by the property owner or his authorized agent who may be required to submit evidence to indicate such authority; and,

(9) Provide such other information as reasonably may be required by the Flood Plain Administrator.

10-104. Administration.

(A) The Zoning Administrator shall serve as the Flood Plain Administrator and shall administer, enforce and implement the provisions of this Article.

(B) Duties of the Flood Plain Administrator shall include, but not be limited to:

(1) Review all Flood Plain Development Permits to assure that sites are reasonably safe from flooding and that the flood plain development requirements of this Article have been satisfied.

(2) Review Flood Plain Development Permits for proposed development to assure that all necessary permits have been obtained from federal, state or local governmental agencies from which prior approval is required.

(3) Notify adjacent communities and the Kansas Department of Agriculture Division of Water Resources prior to any alteration or relocation of a watercourse, and shall submit evidence of such notification to the

Federal Emergency Management Agency.

(4) Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished.

(5) Verify, record and maintain records of the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures.

(6) Verify, record and maintain records of the actual elevation (in relation to mean sea level) to which the new or substantially improved structures have been floodproofed.

(7) When floodproofing is utilized for a particular structure the Flood Plain Administrator shall be presented certification of floodproofing from a registered professional engineer or architect.

(8) If a violation of this Article is found, the Flood Plain Administrator shall notify the person responsible for such violation, indicate the nature of the violation and order the action necessary to correct it.

(9) Review subdivision proposals and other proposed new 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 new development is in a flood-prone area, any such proposals shall be reviewed to assure that:

(a) All such proposals are consistent with the need to minimize flood damage within the flood-prone area;

(b) All public utilities and facilities, such as sewer, gas, electrical, and water systems are located and constructed to minimize or eliminate flood damage; and

(c) Adequate drainage easements are provided to reduce exposure to flood hazards.

(10) Assure that base flood elevation data shall be provided by the applicant for subdivision proposals and other proposed development. Such data shall be clearly indicated on the subdivision plat and shall be subject to the requirements of Section 10-102(F), where applicable.

(11) Determine date of start of construction when necessary.

(12) Issue flood plain development permits for all approved applications.

10-105. Warning and Disclaimer of Liability.

The degree of flood protection required by this Article is considered reasonable for regulatory purposes and is based on engineering and scientific methods of study. Larger floods may occur on rare occasions or the flood height may be increased by man-made or natural causes, such as ice jams and bridge openings restricted by debris. These regulations do not imply that areas outside floodway and floodway fringe district boundaries or land uses permitted within such districts will be free from flooding or flood damage. This Article shall not create liability on the part of the City of Manhattan or any officer or employee thereof for any flood damages that may result from reliance on this Article or any administrative decision lawfully made thereunder.

10-106. Definitions.

For the purposes of this Article, the following definitions shall apply. Unless specifically defined below, words or phrases used in this Article shall be interpreted so as to give them the meaning they have in common usage and to give this Article its most reasonable application.

AREA OF SHALLOW FLOODING means a designated AO or AH zone on a community's Flood Insurance Rate Map (FIRM) with a one percent or greater annual chance of flooding to an average depth of one (1) to three (3) feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

AREA OF SPECIAL FLOOD HAZARD means the land in the Flood Plain within a community subject to one percent (1%) or greater chance of flooding in any given year.

BASE FLOOD means a flood having a one percent (1%) chance of being equaled or exceeded in any given year.

BASE FLOOD ELEVATION means the elevation shown on the FIRM as representative of the base flood.

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

DEVELOPMENT means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, levees, levee systems, mining, dredging, filling, grading, paving, excavation or drilling operations

or storage of equipment or materials located within the area of special flood hazard.

EQUAL DEGREE OF ENCROACHMENT means a standard applied in determining the location of encroachment limits so that flood plain lands on both sides of a stream are capable of conveying a proportionate share of flood flows. This is determined by considering the effect of encroachment on the hydraulic efficiency of the flood plain along both sides of a stream for a significant reach.

EXCEPTION For the purposes of this Article, an exception shall mean a grant of relief by the City of Manhattan from the terms of a flood plain management regulation. Flood insurance requirements remain in place for any excepted use or structure and cannot be excepted by the City of Manhattan.

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 floodplain management regulations adopted by a 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).

FEMA means the Federal Emergency Management Agency.

FLOOD OR FLOODING means a general and temporary condition of partial or complete inundation of normally dry land areas from:

(1) The overflow of waters normally confined between the banks of a stream or other watercourse, or;

(2) The unusual and rapid accumulation or runoff of surface waters from any source.

(3) The collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as flash flood, or by some similarly unusual and unforeseeable event which results in flooding as defined above in paragraph one (1) above.

FLOOD FREQUENCY means the average frequency, statistically determined, for which it is expected that a specific flood level or discharge may be equaled or exceeded.

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

FLOOD INSURANCE STUDY means an examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations.

FLOOD PLAIN means any land area susceptible to being inundated by water from any source, (see definition of "flooding").

FLOOD-PROOFING means any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

FLOODWAY or 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 one (1) foot.

FLOODWAY FRINGE means that portion of the flood plain located outside of the floodway, that is still subject to inundation by the base flood.

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 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 in states with historic preservation programs which have been approved by the Secretary of Interior;

or

(d) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:

(1) By an approved state program as determined by the Secretary of the Interior or

(2) Directly by the Secretary of the Interior in states without approved programs.

LOWEST FLOOR means the lowest floor of the lowest enclosed area which includes a basement or cellar. An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area, is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable floodproofing design requirements of this Article.

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 (2) or more manufactured home lots for rent or sale.

MARKET VALUE OR FAIR MARKET VALUE means an estimate of what is a fair, economic, just and equitable value under normal local market conditions.

MEAN SEA LEVEL means, for purposes of the National Flood Insurance Program (NFIP), 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 (FIRM) are referenced.

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 Flood Insurance Rate Map or after December 31, 1974, which ever is later, and includes any subsequent improvements to such structures. For flood plain management purposes, "new construction" means structures for which the "start of construction" commenced on or after the effective date of a flood plain management regulation adopted by a community and includes any subsequent improvements to such structures.

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 floodplain management regulations adopted by a community.

NFIP means the National Flood Insurance Program.

OBSTRUCTION means any dam, wall, wharf, embankment, levee, dike, pile, abutment, projection, excavation, channel rectification, bridge conduit, culvert, building, wire, fence, rock, gravel, refuse, fill, structure or matter in, along, across, or projecting into any channel, watercourse or special flood hazard area which may impede, retard or change the direction of the flow of water, either in itself or by catching or collecting debris carried by such water, or that is placed where the flow of water might carry the same downstream to the damage of life or property.

100-YEAR FLOOD see "Base Flood".

PERMIT means a signed document from a designated community official authorizing development in a floodplain, including all necessary supporting documentation such as:

(1) A site plan;

(2) An elevation certificate; and

(3) Any other necessary or applicable approvals or authorizations from local, state, or federal authorities.

PERSON includes any individual, or group of individuals, firm, partnership, association, corporation, or any other entity, including Federal, State, and local governments and agencies.

REACH means a hydraulic engineering term to describe longitudinal segments of a stream or river. A reach will generally include the segment of the flood hazard area where flood heights are influenced by a man-made or natural obstruction. In an urban area, the segment of a stream or river between two consecutive bridge crossings would typically constitute a reach.

REASONABLY SAFE FROM FLOODING means base flood waters will not inundate the land or damage structures to be removed from the Special Flood Hazard Area (SFHA) and that any subsurface waters related to the base flood will not damage existing or proposed buildings.

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 projections;

(c) designed to be self-propelled or permanently towable by a light duty truck; and

(d) designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

SPECIAL FLOOD HAZARD AREA (SFHA) see "Area of Special Flood Hazard."

START OF CONSTRUCTION includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation or lot. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include the excavation of 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 to 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 gas or liquid storage tank, that is principally above ground, as well as a manufactured home. "Structure" for insurance purposes, means a walled and roofed building, other than a gas or liquid storage tank that is principally above ground and affixed to a permanent site, as well as a manufactured home on a permanent foundation. For the latter purpose, the term includes a building while in the course of construction, alteration or repair, but does not include building materials or supplies intended for use in such construction, alteration or repair, unless such materials or supplies are within an enclosed building on the premises.

SUBSTANTIAL DAMAGE means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed fifty (50%) percent of the market value of the structure before the damage occurred.

SUBSTANTIAL IMPROVEMENT means any reconstruction, rehabilitation, addition, or improvement of a structure, the cost of which equals or exceeds fifty (50%) percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either: (1) any project for improvement of a structure to correct existing violations of state or local health, sanitary or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions, or (2) any alteration of a "historic structure", provided that the alteration will not preclude the structure's continued designation as a "historic structure".

VARIANCE see "Exception".

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

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 floodplain.

PART 2. DEVELOPMENT STANDARDS

10-201. General Standards for Flood Plain Development.

(A) No flood plain development or building permit for development shall be granted for new construction, substantial improvements or other improvements including the placement of manufactured homes within all numbered and unnumbered A zones, AE, AO, and AH zones, unless the conditions of this Section are satisfied.

(B) New construction, subdivision proposals, substantial improvements, prefabricated buildings, placement of manufactured homes and other developments shall require:

(1) Design or anchorage to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effect of buoyancy.

(2) New or replacement water supply systems and/or sanitary sewage systems be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood

waters, and on-site waste disposal systems be located so as to avoid impairment or contamination.

(3) Construction with materials resistant to flood damage, utilizing methods and practices that minimize flood damages, and so that electrical, heating ventilation, plumbing, and air conditioning equipment and other service facilities are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

(4) That until a floodway has been designated, no development, including fill, may be permitted within any numbered or unnumbered A Zones, or AE Zones on the FIRM unless the applicant for the land use has demonstrated that the proposed use, when combined with all other existing and reasonably anticipated uses, will not increase the water surface elevation of the 100-year flood more than one (1) foot on the average cross section of the reach in which the development is located as shown on the Flood Insurance Rate Study.

(5) Storage of Material and Equipment.

(a) The storage or processing of materials that are in time of flooding buoyant, flammable, explosive, or could be injurious to human, animal or plant life is prohibited.

(b) Storage of material and equipment may be allowed if not subject to major damage by floods and firmly anchored to prevent flotation or if readily removable from the area within the time available after flood warning.

(6) Subdivision proposals and other proposed new development, including manufactured home parks or subdivisions, shall be required to assure that: (a) all such proposals are consistent with the need to minimize flood damage, (b) all public utilities and facilities, such as sewer, gas, electrical and water systems are located, elevated, or floodproofed and constructed to minimize or eliminate flood damage, (c) adequate drainage is provided so as to reduce exposure to flood hazards, and (d) the base flood elevation shall be included on all plats and site plans.

(7) Notwithstanding any provision of this Article, sanitary landfills shall be prohibited in any Flood Plain regulated by this Article.

10-202. <u>Floodway District (FW).</u>

(A) Permitted Uses.

(1) Agricultural uses such as general farming, pasture grazing, outdoor plant nurseries, horticulture, viticulture, truck farming, forestry, sod farming, and wild crop harvesting.

(2) Industrial-commercial uses such as loading area, parking areas, and airport landing strips.

(3) Private and public recreational uses such as golf courses, tennis courts, driving ranges, archery ranges, picnic grounds, boat launching ramps, swimming area, parks, wildlife and nature preserves, game farms, fish hatcheries, shooting preserves, target ranges, trap and skeet ranges, hunting and fishing areas, hiking and horseback riding trails.

(4) Accessory residential uses such as lawns, gardens, parking areas and play area, but not including structures.

(5) Railroads, streets, bridges, utility transmission lines, and pipelines.

(6) Manufactured homes may be placed or substantially improved in existing manufactured home parks or subdivisions in accordance with Section 10-203(C)(8)(a) and (b).

(7) Notwithstanding the above listed permitted uses, no use shall be permitted in this district unless it is also permitted in the underlying zoning district.

(B) Use Limitations.

(1) All encroachments, including fill, new construction, substantial improvements and other developments shall be prohibited unless certification by a registered professional engineer is provided demonstrating that encroachments shall not result in any increase in the base flood elevation.

(2) Any fill or other material proposed to be deposited in the floodway must be essential to carry out the permitted uses within the floodway and it must not impede the hydraulic capacity of the floodway or increase the velocity of any potential flood. The amount thereof must not exceed that necessary to achieve the intended purpose, and it shall be protected against erosion by rip-rap, vegetative cover, or bulkheading.

(3) Structures (temporary or permanent) as permitted in 10-202 (A).

(a) Structures shall not be designed for human habitation, except as allowed by 10-202(A)(6).

(b) Structures shall have a low flood damage potential.

(c) Whenever permitted and possible, structures shall be constructed with the longitudinal axis parallel to the direction of flood flow.

(d) Whenever permitted and practicable, structures shall be placed approximately on the same flood flow lines as those of adjoining structures.

(e) Structures shall be firmly anchored to prevent flotation, which may result in damage to other structures, restriction of bridge openings and other narrow sections of the stream or river.

(f) Service facilities such as electrical and heating equipment shall be constructed at or above the base flood elevation for the particular area or flood proofed.

10-203. Floodway Fringe District (FF).

(A) Permitted Uses.

(1) Any use permitted in the underlying zoning district.

(B) Conditional Uses. Any conditional use allowed in the underlying zoning district.

(C) Use Limitations.

(1) New construction and substantial improvements for residential uses shall be constructed on non-settling fill so that the lowest floor is at least one (1) foot above the base flood elevation. A licensed land surveyor or professional engineer shall certify the elevation of the lowest floor. The finished fill elevation shall be at the established base flood elevation for the particular site and shall extend at or above such elevation at least fifteen (15) feet beyond the limits of any structure or building erected thereon or to the property line.

(2) New construction and substantial improvements for all manufactured homes shall be constructed according to Section 10-203 (C) (8).

(3) New construction and substantial improvements for commercial uses shall be constructed on fill so that the lowest floor is at least one (1)

foot above the base flood elevation, or flood proofed to at least one (1) foot above base flood elevation. A licensed land surveyor or professional engineer shall certify the elevation of the lowest floor.

(4) New construction and substantial improvements used for manufacturing or industrial uses shall be constructed on fill so that the lowest floor is at least one (1) foot above the base flood elevation, or flood proofed to at least one (1) foot above base flood elevation. A licensed land surveyor or professional engineer shall certify the elevation of the lowest floor.

(5) Land accessory to commercial or industrial uses such as yards, railroad tracks and parking areas which are below the base flood elevation shall not be designed for, designated for, or used by the general public if the area is subject to inundation to a depth greater than four (4) feet or subject to flood velocities greater than four (4) feet per second upon the occurrence of the base flood.

(6) Public or private utility facilities, roads, railroad tracks, and bridges shall be designed to minimize increases in the base flood elevation. Protection to or above the base flood elevation shall be provided where failure or interruption of these public or private facilities would result in danger to the public health or safety or where such facilities are essential to the orderly functioning of the area. Where failure or interruption of service would not endanger life or health, a lesser degree of protection may be provided for minor or auxiliary roads, railroads or utilities.

(7) All new construction and substantial improvements to non-residential structures, with fully enclosed areas below the lowest floor that are subject to flooding, shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must be certified by a registered professional engineer or architect and must meet or exceed the following minimum criteria:

(a) A minimum of two (2) openings having a total net area of not less than one (1) square inch for every square foot of enclosed area subject to flooding shall be provided;

(b) The bottom of all openings shall be no higher than one (1) foot above grade; and,

(c) Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry

or exit of floodwaters.

(8) Manufactured Homes.

(a) All manufactured homes shall be anchored to resist flotation, collapse, or lateral movement. Manufactured homes must be anchored in accordance with local building codes or FEMA guidelines, and approved by the City of Manhattan. In the event that over-the-top frame ties to ground anchors are used, the following specific requirements (or their equivalent) shall be met:

(1) Over-the-top ties be provided at each of the four corners of the manufactured home, with two additional ties per side at intermediate locations and manufactured homes less than fifty (50) feet long requiring only one (1) additional tie per side;

(2) Frame ties be provided at each corner of the home with five (5) additional ties per side at intermediate points and manufactured homes less than fifty (50) feet long requiring four (4) additional ties per side;

(3) All components of the anchoring system be capable of carrying a force of 4,800 pounds; and

(4) Any additions to manufactured homes be similarly anchored.

(b) Prior to the installation of a manufactured home within Zones A1-30, AH, and AE on the Community's FIRM, a plan for all anchoring, over-the-top frame ties to ground anchor and foundation plans shall be submitted to, and approved by, the Flood Plain Administrator, City Engineer and Building Official. Plans shall be designed and certified by a registered professional engineer that is licensed in the State of Kansas, or a registered professional architect that is licensed in the State of Kansas. The plans shall be designed to take into account the specific flood characteristics of the site on which the manufactured home will be placed.

(c) All manufactured homes to be placed within Zones A1-30, AH, and AE on the Community's FIRM shall be securely anchored to an adequately anchored foundation system in accordance with the provisions of Sections 10-203(C)(8)(a) and (b) and shall be constructed according to Section 10-203(C)(1) when located:

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

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

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

(d) All manufactured homes to be placed within Zones A1-30, A1 and AE on the Community's FRM shall be securely anchored to an adequately anchored foundation system in accordance with the provisions of Section 10-203(C)(8)(a) and (b) and shall either be constructed according to Section 10-203(C)(1), or shall be elevated on a permanent foundation in accordance with Section 10-203(C)(8)(b), and so that the lowest enclosed floor is at least one (1) foot above the base flood elevation when located as certified by a licensed land surveyor or professional engineer.

(1) In an existing manufactured home park or subdivision on which a manufactured home has incurred substantial damage.

(e) Require that all manufactured homes that are not subject to the provisions of Section 10-203(C)(8)(c) and (d), and to be placed or substantially improved on sites in an existing manufactured home park or subdivision within Zones A1-30, AH and AE on the community's FIRM shall be elevated so that either:

(1) The lowest floor of the manufactured home is at least one (1) foot above the base flood elevation, as certified by a licensed land surveyor or professional engineer, and in accordance with the provisions of Section 10-203(C)(8)(a) and (b); or,

(2) The manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than thirty six (36) inches in height above grade and be securely anchored to an adequately anchored foundation system in accordance with the provisions of Section 10-203(C)(8)(a) and(b).

(9) Areas of Shallow Flooding (AO and AH zones)

(a) Located within the areas of special flood hazard as described in Section 10-102(A) and (B) are areas designated as AO zones. These areas have special flood hazards associated with base flood depths of one (1) to three (3) feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and indeterminate. The following provisions apply:

(b) AO Zones

(1) All new construction and substantial-improvements of residential structures, including manufactured homes, shall have the lowest floor, including basement, elevated above the highest adjacent grade at least as high as the depth number specified in feet on the community's FIRM (at least two (2) feet if no depth number is specified).

(2) All new construction and substantial-improvements of any commercial, industrial, or other non-residential structures, including manufactured homes, shall have the lowest floor, including basement, elevated above the highest adjacent grade at least as high as the depth number specified in feet on the community FIRM (at least two (2) feet if no depth number is specified) or together with attendant utilities and sanitary facilities be completely floodproofed to that level so that the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.

(3) Adequate drainage paths shall be required around structures on slopes, in order to guide floodwaters around and away from proposed structures.

(c) AH Zones

(1) The specific standards for all areas of special flood hazard where base flood elevation has been provided shall be required as set forth in Section 10-203.

(2) Adequate drainage paths shall be required around structures on slopes, in order to guide floodwaters around and away from proposed structures.

(10) Recreational Vehicles

(a) Require that recreational vehicles placed on sites within all unnumbered and numbered A Zones, AE, AH, and AO Zones on the community's FIRM either:

(1) Be on the site for fewer than 180 consecutive days, or

(2) Be fully licensed and ready for highway use, which is defined as the vehicle being on 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

(3) Meet the permitting, elevation, and anchoring requirements for manufactured homes of this ordinance.

PART 3 EXCEPTIONS

10-301. Authorization.

(A) The Board of Zoning Appeals may grant exceptions from the Flood Plain Regulations subject to the following requirements and Article XIV, Part 6:

(1) Exceptions shall not be issued by the Board of Zoning Appeals within any designated regulatory floodway if any increase in flood levels during the base flood discharge would result. The determination of whether or not any increase in flood levels during the base flood discharge shall be made by a professional engineer and said determination shall be provided to the Board of Zoning Appeals prior to its decision.

(2) The Board may authorize issuance of an exception for the reconstruction, rehabilitation, or restoration of structures listed on the National Register of Historic Places or the Register of Historic Kansas Places without regard to the requirements set out in this section.

(3) No exception shall be issued in connection with new construction or substantial improvements except upon:

(a) A lot of 1/2 acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level; or,

(b) A lot of any size, which because of physical limitations, legal restrictions enforceable by the City or these regulations is

incapable of being subdivided and which is contiguous to and surrounded by lots with existing structures constructed below the base flood level; or,

(c) A lot of any size which contains a condition unique to the property in question, not ordinarily found in the same Zoning District, not created by an action or actions of the property owner or applicant, and requiring the requested exceptions.

(4) Exceptions shall only be issued upon:

(a) A showing of good and sufficient cause; and,

(b) A determination that failure to grant the exception would result in exceptional hardship to the applicant; and

(c) A determination that the granting of an exception will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.

(d) An exception shall only be issued upon a determination that the exception is the minimum necessary, considering the flood hazard, to afford relief.

10-302 Notice to Applicant. Upon approval of an exception, the Flood Plain Administrator shall notify the applicant in writing that:

(a) The issuance of an exception to construct a structure below the base flood level will result in increased premium rates for flood insurance up to amounts as high as $25 for $100 of insurance coverage and

(b) Such construction below the base flood level increases risks to life and property.

10-303 Records. The Flood Plain Administrator shall maintain a copy of the written findings of fact, written decisions and notices issued by the Board of Zoning Appeals for any exception granted under this section. The Flood Plain Administrator shall report such exceptions issued in its annual or biennial report submitted to FEMA.

10-304. Nonconformities.

Notwithstanding the provisions of Article VIII, no nonconformity may be added to,

enlarged, maintained, repaired or remodeled, if such addition, enlargement, maintenance, repair, or remodeling shall constitute a substantial improvement.