

ORDINANCE NO. **3187**

AN ORDINANCE RESCINDING ORDINANCE NO. 2486 AND ADOPTING NEW FLOOD REGULATIONS FOR THE VILLAGE OF FRANKFORT, WILL AND COOK COUNTIES, ILLINOIS

WHEREAS, the Department of Homeland Security's Federal Emergency Management Agency (FEMA) requires the Village of Frankfort to adopt floodplain management regulations that meet standards specified in 44 Code of Federal Regulations (CFR) Section 60.3(d) of the National Flood Insurance Program by a legally enforceable document; and,

WHEREAS, it is necessary to update the Flood Regulations from time to time, to reflect inclusion of new Flood Insurance Study (FIS) and Flood Insurance Rate Maps (FIRM), per Federal Emergency Management Agency (FEMA) and Illinois Department of Natural Resources (IDNR) floodplain requirements; and

WHEREAS, at its December 12, 2018 meeting, the Land Use and Policy Committee of the Village of Frankfort reviewed draft revisions to Chapter 152: Flood Regulations, of the Village of Frankfort Code of Ordinances and recommended Village Board approval of same in their entirety.

NOW, THEREFORE, BE IT ORDAINED BY THE PRESIDENT AND BOARD OF TRUSTEES OF THE VILLAGE OF FRANKFORT, WILL AND COOK COUNTIES, ILLINOIS, AS FOLLOWS:

SECTION 1: RESCINDING OF EXISTING ORDINANCE

Ordinance No. 2486, which comprises Chapter 152: Flood Regulations, of the Village of Frankfort Code of Ordinances, is hereby rescinded in its entirety.

SECTION 2: ADOPTION OF NEW VILLAGE OF FRANKFORT FLOOD REGULATIONS

The Village of Frankfort Chapter 152: Flood Regulations, dated December 13, 2018, a copy of which is attached hereto, is hereby adopted in its entirety.

SECTION 3: SEVERABILITY

In the event any word, phrase, clause, sentence, paragraph, provision or section of this ordinance, or any part thereof, shall be held to be unconstitutional, unenforceable or void, the same shall not affect the validity or enforceability of any remaining words, phrases, clauses, sentences, paragraphs, provisions or sections of this ordinance.

SECTION 4: REPEALER

All ordinances or parts of ordinances conflicting with any provisions of this Ordinance are hereby repealed.

SECTION 5: EFFECTIVE DATE

This Ordinance shall be effective after its passage, approval and publication in pamphlet form as provided by law.

PASSED this 22nd day of January, 2019, with five members voting AYE; no members voting NAY; and one member absent; the President not voting; with no members abstaining and said vote being:

JOHN CLAVIO	<u>AYE</u>	CYNTHIA CORSO HEATH	<u>AYE</u>
ROBERT J. KENNEDY	<u>AYE</u>	KEITH OGLE	<u>AYE</u>
MIKE STEVENS	<u>AYE</u>	RICHARD TREVARTHAN	<u>ABSENT</u>



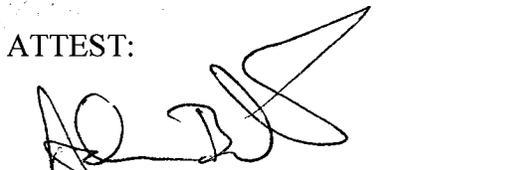
ADAM BORRELLI
VILLAGE CLERK

APPROVED this 22nd day of January, 2019.



JIM HOLLAND
VILLAGE PRESIDENT

ATTEST:



ADAM BORRELLI
VILLAGE CLERK

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§ 152.001 PURPOSE.

(A) This chapter is enacted pursuant to the police powers granted to the Village of Frankfort by 65 ILCS 5, §§ 1-2-1, 11-12-12, 11-30-8, and 11-31-2. The purpose of this chapter is to maintain the Village's eligibility in the National Flood Insurance Program; to minimize potential losses due to periodic flooding including loss of life, loss of 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; and to preserve and enhance the quality of surface waters, conserve economic and natural values and provide for the wise utilization of water and related land resources.

(B) This chapter is adopted in order to accomplish the following specific purposes:

- (1) To meet the requirements of 615 ILCS 5, § 18(g), An Act in Relation to the Regulation of the Rivers, Lakes and Streams of the State of Illinois, approved June 10, 1911, as amended;
- (2) To comply with the rules and regulations of the National Flood Insurance Program codified as 44 C.F.R. 59-78, revised as of October 1, 2000, as well as final NFIP rules published after that date;
- (3) To protect new buildings and major improvements to buildings from flood damage;

- (4) To protect human life and health from the hazards of flooding;
- (5) To lessen the burden on the taxpayer for flood control projects, repairs to flood-damaged public facilities and utilities, and flood rescue and relief operations;
- (6) To make federally subsidized flood insurance available for property in the Village by fulfilling the requirements of the National Flood Insurance Program;
- (7) To comply with the rules and regulations of the National Flood Insurance Program codified as 44 CFR 59-79, as amended;
- (8) To protect, conserve, and promote the orderly development of land and water resources;
- (9) To preserve the natural hydrologic and hydraulic functions of watercourses and flood plains and to protect water quality and aquatic habitats;
- (10) To preserve the natural characteristics of stream corridors in order to moderate flood and stormwater impacts, improve water quality, reduce soil erosion, protect aquatic and riparian habitat, provide recreational opportunities, provide aesthetic benefits and enhance community and economic development;
- (11) To assure that new development does not increase the flood or drainage hazards to others, or creating unstable conditions susceptible to erosion.

§ 152.002 DEFINITIONS.

For the purposes of this chapter, the following definitions are adopted:

ACOE. Army Corps of Engineers. A federal agency providing military and public works services to the United States, including but not limited to the planning, designing, building, and operating of locks, dams, flood control, flood protection, waterway dredging, environmental regulation and ecosystem restoration.

ACCESSORY STRUCTURE. A non-habitable structure which is on the same parcel of property as the principal structure to be insured and the use of which is incidental to the use of the principal structure.

ACT. An Act in relation to the regulation of the rivers, lakes and streams of the state, 615 ILCS 5, § 5 et seq.

APPLICANT. Any person, firm, corporation or agency which submits an application.

APPROPRIATE USE. Only uses of the regulatory floodway that are permissible and will be considered for permit issuance. The only uses that will be allowed are as specified in § 152.028.

BASE FLOOD. The flood having a 1% probability of being equaled or exceeded in any given year. The base flood is also known as the 100-year frequency flood event. Application of the base flood elevation at any location is as defined in § 152.004

BASE FLOOD ELEVATION (BFE). The highest water surface elevation that can be expected during the base flood in relation to mean sea level. The Base Flood Elevation (BFE) is also known as the 100-year frequency flood elevation. The flood elevation having a 1% probability of being equaled or exceeded in any given year.

BASEMENT. Any area of a building having its floor below ground level on all sides.

BUILDING. A structure that is principally above ground and is enclosed by walls and a roof. The term includes a gas or liquid storage tank, a manufactured home, mobile home or a prefabricated building. This term also includes recreational vehicles and travel trailers to be installed on a site for more than 180 days.

CHANNEL. Any river, stream, creek, brook, branch, natural or artificial depression, ponded area, flowage, slough, ditch, conduit, culvert, gully, ravine, wash, or natural or man-made drainage way, which has a definite bed and banks or shoreline, in or into which surface or groundwater flows, either perennially or intermittently.

CHANNEL MODIFICATION. Alteration of a channel by changing the physical dimensions or materials of its bed or banks. **CHANNEL MODIFICATION** includes damming, rip-rapping or other armoring, widening, deepening, straightening, relocating, lining and significant removal of bottom or woody vegetation. **CHANNEL MODIFICATION** does not include the clearing of dead or dying vegetation, debris, or trash from the channel. **CHANNELIZATION.** A severe form of channel modification typically involving relocation of the existing channel (e.g., straightening).

COMPENSATORY STORAGE. An artificially excavated, hydraulically equivalent volume of storage within the SFHA used to balance the loss of natural flood storage capacity when artificial fill or structures are placed within the flood plain. The uncompensated loss of natural flood plain storage can increase off-site floodwater elevations and flows.

CONDITIONAL APPROVAL OF A REGULATORY FLOODWAY MAP CHANGE.

Preconstruction approval by IDNR-OWR and FEMA of a proposed change to the floodway map. This preconstruction approval, pursuant to this part, gives assurances to the property owner that once an appropriate use is constructed according to permitted plans, the floodway map can be changed, as previously agreed, upon review and acceptance of as-built plans.

CONDITIONAL LETTER OF MAP AMENDMENT (CLOMA). A letter from FEMA stating that a proposed structure that is not to be elevated by fill (natural grade) would not be inundated by the base flood if built as proposed.

CONDITIONAL LETTER OF MAP AMENDMENT BASED ON FILL (CLOMR-F). A letter from FEMA stating that a parcel of land or proposed structure that will be elevated by fill would not be inundated by the base flood if fill is placed on the parcel as proposed or the structure is built as proposed.

CONDITIONAL LETTER OF MAP REVISION (CLOMR). A letter from FEMA which indicates that they will revise base flood elevations, flood insurance rate zones, flood boundaries or floodway as shown on an effective Flood Hazard Boundary Map or Flood Insurance Rate Map, once the project is built as proposed and as-built plans are submitted and approved.

CONTROL STRUCTURE. A structure designed to control the rate of flow that passes through the structure, given a specific upstream and downstream water surface elevation.

CRITICAL FACILITY. Any facility which is critical to the health and welfare of the population and, if flooded, would create an added dimension to the disaster. Damage to these critical facilities can impact the delivery of vital services, can cause greater damage to other sectors of the community, or can put special populations at risk. Examples of critical facilities where flood protection should be required include: emergency services facilities (such as fire and police stations), schools, hospitals, retirement homes and senior care facilities, major roads and bridges, critical utility sites (telephone switching stations or electrical transformers), and hazardous material storage facilities (chemicals, petrochemicals, hazardous or toxic substances). Examples of critical facilities where flood protection is recommended include: sewage treatment plants, water treatment plants, and pumping stations.

DAM. All obstructions, wall embankments or barriers, together with their abutments and appurtenant works, if any, constructed for the purpose of storing or diverting water or creating a pool. Underground water storage tanks are not included. Dams may include weirs, restrictive culverts or impoundment structures.

DELEGATED COMMUNITY. A community delegated state permitting authority in the floodway.

DESIGN STANDARDS. The Village of Frankfort Design Standards, Revised June 2007 or as amended from time to time, which shall be utilized in conjunction with other applicable ordinances and guidelines including, but not limited to, the Floodplain Ordinance, Water Resource Management Plan and Zoning Ordinance.

DEVELOPMENT. Any man-made change to real estate, including, but not limited to:

- (1) Construction, reconstruction, repair, addition to or replacement of a building or

structure.

- (2) Installing a manufactured home on a site, preparing a site for a manufactured home, or installing a travel trailer on a site for more than 180 days.
- (3) Drilling, mining, installing utilities, construction of roads, bridges, or similar projects.
- (4) Demolition of a structure or redevelopment of a site.
- (5) Clearing of land as an adjunct of construction.
- (6) Construction or erection of levees, walls, fences, dams, or culverts; channel modification; filling, dredging, grading, excavating, paving, or other non-agricultural alterations of the ground surface; storage of equipment or materials; deposit of solid or liquid waste.
- (7) Any other activity of man that might change the direction, height, or velocity of flood or surface water, including extensive vegetation removal.

Development does not include maintenance of existing buildings and facilities such as re-roofing or re-surfacing of roads when there is no increase in elevation, or gardening, plowing, cultivation, and similar agricultural practices that do not involve filling, grading, or construction of levees.

ELEVATION CERTIFICATE. A form used by FEMA to certify building elevations, confirm compliance with the Village floodplain management ordinance, determine proper insurance premium rates, and to support a request for a Letter of Map Amendment (LOMA) or a Letter of Map Revisions based on fill (LOMR-F).

EROSION. The general process whereby soils are moved by flowing water or wave action.

EXEMPT ORGANIZATIONS. Organizations which are exempt from this chapter per the ILCS including state, federal or local units of government.

EXISTING MANUFACTURED HOUSING PARK. A manufactured housing park, as defined by the Village of Frankfort Zoning Ordinance, for which the construction of facilities to service the manufactured homes to be affixed or buildings to be constructed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is complete before the effective date of the Village's initial floodplain management regulations.

EXPANSION TO AN EXISTING MANUFACTURED HOUSING PARK. The preparation of additional sites, as approved by the Village and pursuant the then existing Zoning Code, by the construction of facilities to service the property upon 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. Federal Emergency Management Agency and its regulations at 44 CFR 59-79. The independent Federal agency that, in addition to carrying out other activities, administers the NFIP.

FLOOD. A general and temporary condition of partial or complete inundation of normally dry land areas from overflow of inland or tidal waves, or the unusual and rapid accumulation or runoff of surface waters from any source.

FLOOD FREQUENCY. A period of years, based on a statistical analysis, during which a flood of a stated magnitude may be expected to be equaled or exceeded.

FLOOD FRINGE. That portion of the flood plain outside of the regulatory floodway.

FLOOD HAZARD BOUNDARY MAP (FHBM). A map prepared by the FEMA that depicts generalized areas within the Special Flood Hazard Area (SFHA) within a community. These maps have since been replaced by Flood Insurance Rate Maps (FIRM) based on a detailed Flood Insurance Study (FIS).

FLOOD INSURANCE RATE MAP (FIRM). A map prepared by FEMA that depicts the Special Flood Hazard Area (SFHA) within a community. This map includes insurance rate zones and flood plains and may or may not depict floodway.

FLOOD INSURANCE STUDY (FIS). An examination, evaluation and determination of flood hazards and if appropriate, corresponding water surface elevations, adopted and published by FEMA.

FLOODPLAIN. That land typically adjacent to a body of water with ground surface elevations at or below the base flood or the 100-year frequency flood elevation. Flood plains may also include detached Special Flood Hazard Areas, ponding areas, etc. The flood plain is also known as the Special Flood Hazard Area (SFHA). The flood plains are those lands within the jurisdiction of the Village that are subject to inundation by the base flood or 100-year frequency flood. The SFHA's of the Village, those parts of unincorporated Will and Cook Counties that lie within the extraterritorial jurisdiction of the Village, or those parts of unincorporated Will and Cook Counties that may be annexed into the Village, are generally identified as such on the Countywide Flood Insurance Rate Map of Will and Cook Counties, Illinois prepared by FEMA for Will County on panel numbers 17197C0195G, 17197C0212G, 17197C0213G, 17197C0214G, 17197C0218G, 17197C0310G, 17197C0326G, 17197C0327G, 17197C0330G, 17197C0331G, and 17197C0335G dated February 15, 2019; and for Cook County on panel numbers 17031C0781J and 17031C0782J dated August 19, 2008, and as amended from time to time.

FLOODPROOF. Any combination of structural and non-structural additions, changes or

adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

FLOODPROOFING CERTIFICATE. A form used to certify that a building has been designed and constructed to be structurally dry floodproofed to the flood protection elevation.

FLOOD PROTECTION ELEVATION (FPE). The elevation of the base flood or 100-year frequency flood plus two-feet (2') of freeboard at any given location in the SFHA. Outside of the floodplain limits, the water table or 100-year design water surface elevation of any adjacent stormwater facility, whichever is higher, plus 2 feet of freeboard.

FLOODPROOF. Any combination of structural and non-structural additions, changes or adjustments to structures of property which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

FLOODPROOFING CERTIFICATE. A form published by FEMA that is used to certify that a building has been designed and constructed to be structurally dry flood proofed to the FPE.

FLOODWAY. The portion of the channel and floodplain needed to store and convey the critical duration 100-year frequency flood discharge with no more than 0.1' increase in flood stage due to the loss of flood conveyance or storage, and no more than a 10% increase in velocities.

FREEBOARD. An increment of elevation added to the base flood elevation to provide a factor of safety for uncertainties in calculations, unknown localized conditions, wave actions and unpredictable effects such as those caused by ice or debris jams.

HISTORIC STRUCTURE. Any structure that is:

- (A) Listed individually in the National Register of Historic Places or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Registrar.
- (B) Certified or preliminarily determined by the Secretary of the Interior as contributing to the historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
- (C) Individually listed on the State inventory of historic places by the Illinois Historic Preservation Agency;
- (D) Individually listed on a local inventory of historic places that has been certified by the Illinois Historic Preservation Agency.

HYDROLOGIC AND HYDRAULIC CALCULATIONS. Engineering analysis which determines expected flood flows and flood elevations based on land characteristics and rainfall

events.

HYDRAULICALLY EQUIVALENT COMPENSATORY STORAGE. Compensatory storage either adjacent to the floodplain fill or not located adjacent to the development but can be shown by hydrologic and hydraulic analysis to be equivalent to compensatory storage located adjacent to the development.

HYDROLOGICALLY DISTURBED. An area where the land surface has been cleared, grubbed, compacted, or otherwise modified that changes runoff, volumes, rates or direction.

IDNR-OWR. Illinois Department of Natural Resources - Office of Water Resources.

INTERMITTENT STREAM. A stream whose bed intersects the groundwater table for only a portion of the year on the average or any stream which flows continuously for at least one month out of the year but not the entire year.

LETTER OF MAP AMENDMENT (LOMA). Official determination by FEMA that a specific structure or parcel of land would not be inundated by the base flood; amends the effective FHBM or FIRM.

LETTER OF MAP REVISION (LOMR). A letter from FEMA that officially revises the base flood or 100-year frequency flood elevations, flood insurance rate zones, flood boundaries or floodway as shown on an effective FHBM or FIRM.

LOWEST FLOOR. The lowest floor of the lowest enclosed area (including basement). 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 lowest floor provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this ordinance.

MANUFACTURED HOME. A structure, transportable in one or more sections, which is built on a permanent chassis and is designated for use with or without a permanent foundation when connected to the required utilities. The term manufactured homes also includes park trailers, travel trailers and other similar vehicles placed on site for more than 180 consecutive days.

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

MITIGATION. Includes those measures necessary to minimize the negative effects which flood plain development activities might have on the public health, safety and welfare. Examples of mitigation include compensatory storage, soil erosion and sedimentation control, and channel restoration. Mitigation may also include those activities taken to reduce a structure's susceptibility to flooding.

NATIONAL FLOOD INSURANCE PROGRAM (NFIP). A Federal program whose requirements are codified in Title 44 of the Code of Federal Regulations.

NATURAL. When used in reference to channels means those channels formed by the existing surface topography of the earth prior to changes made by man. A natural stream tends to follow a meandering path; its flood plain is not constrained by levees; the area near the bank has not been cleared, mowed or cultivated; the stream flows over soil and geologic materials typical of the area with no substantial alteration of the course or cross-section of the stream caused by filling or excavating. A modified channel may regain some natural characteristics over time as the channel meanders and vegetation is re-established. Similarly, a modified channel may be restored to more natural conditions by man through regrading and revegetation.

NAVD 88. National American Vertical Datum of 1988, which supersedes the National Geodetic Vertical Datum of 1929 (NGVD).

NET WATERSHED BENEFIT. A finding that, when compared to the existing condition, the developed project will do one of the following: substantially reduce (more than 10%) downstream peak discharges; reduce downstream flood stages (more than 0.1'); or reduce downstream damages to structures occurring in the pre-development condition. The demonstration of one of these conditions must be through detailed hydrologic and hydraulic analysis of watersheds on a regional scale.

NEW CONSTRUCTION. Structures and subsequent improvements for which the start of construction commenced on or after the effective date of the floodplain ordinance.

NEW MANUFACTURED HOUSING PARK. A manufactured housing park, as defined by the Village of Frankfort Zoning Ordinance, for which the construction of facilities for servicing the property 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 Village's initial floodplain management regulations.

NGVD. National Geodetic Vertical Datum of 1929. Reference surface set by the National Geodetic Survey deduced from a continental adjustment of all existing adjustments in 1929.

NON-RIVERINE. Areas not associated with a stream or river such as isolated depressional storage areas, ponds and lakes.

NPDES II. Mandated by Congress under the Clean Water Act, the NPDES Stormwater Program is a comprehensive two-phased national program for addressing the non-agricultural sources of stormwater discharges which adversely affect the quality of our nation's waters. The program uses the National Pollutant Discharge Elimination System (NPDES) permitting mechanism to require the implementation of controls designed to prevent harmful pollutants from being washed by stormwater runoff into local water bodies.

ORDINARY HIGH WATER MARK (OHWM). The point on the bank or shore up to which the presence and action of surface water is so continuous so as to leave a distinctive mark such as by erosion, destruction or prevention of terrestrial vegetation, predominance of aquatic vegetation or other easily recognized characteristics.

PERENNIAL STREAMS. Riverine watercourses whose thalweg generally intersects the groundwater table elevation and flows throughout the year.

PUBLIC BODIES OF WATER. All open public streams and lakes capable of being navigated by watercraft, in whole or in part, for commercial uses and purposes, and all lakes, rivers, and streams which in their natural condition were capable of being improved and made navigable, or that are connected with or discharge their waters into navigable lakes or rivers within, or upon the borders of the state of Illinois, together with all bayous, sloughs, backwaters, and submerged lands that are open to the main channel or body of water directly accessible thereto.

PUBLIC FLOOD CONTROL PROJECT. A flood control project which will be operated and maintained by a public agency to reduce flood damages to existing buildings and structures which includes a hydrologic and hydraulic study of the existing and proposed conditions of the watershed. Nothing in this definition shall preclude the design, engineering, construction or financing, in whole or in part, of a flood control project by persons or parties who are not public agencies.

PUBLICLY NAVIGABLE WATERS. All streams and lakes capable of being navigated by watercraft.

RECREATIONAL VEHICLE OR TRAVEL TRAILER. As defined by the Village of Frankfort Zoning Ordinance.

REGIONAL PERMIT. Regional permits are offered for pre-approved projects which are considered minor projects that are permissible for IDNR-OWR Part 3708 rules for Northeastern Illinois regulatory floodways. A complete listing of the terms and conditions for specific project types can be obtained from the IDNR-OWR website.

REGISTERED LAND SURVEYOR. A land surveyor registered in the state of Illinois, under the Illinois Land Surveyors Act (225 ILCS 330, § 1 et seq.).

REGISTERED or LICENSED PROFESSIONAL ENGINEER. An engineer registered in the state of Illinois, under the Illinois Professional Engineering Act (225 ILCS 325, § 1 et seq.).

REGULATORY FLOODWAY or DESIGNATED FLOODWAY. Those portions of the floodplain depicted on maps as floodway and recognized by the IDNR-OWR for regulatory purposes. The channel, including on-stream lakes, and that portion of the flood plain adjacent to a stream or watercourse as designated by OWR, which is needed to store and convey the existing

and anticipated future 100-year frequency flood discharge with no more than a 0.1 foot increase in stage due to the loss of flood conveyance or storage, and no more than a 10% increase in velocities. The regulatory floodway for Hickory Creek, Hickory Creek Tributaries 1, 2, 3, and A, Jackson Creek, Jackson Creek Tributary 2, and Forked Creek, within the Village, those parts of unincorporated Will and Cook Counties that are within the extraterritorial jurisdiction of the Village, or for those parts of unincorporated Will County that may be annexed into the Village are designated on the Countywide Flood Insurance Rate Map of Will and Cook Counties, Illinois prepared by FEMA-for Will County on panel numbers 17197C0195G, 17197C0212G, 17197C0213G, 17197C0214G, 17197C0218G, 17197C0310G, 17197C0326G, 17197C0327G, 17197C0330G, 17197C0331G, and 17197C0335G dated February 15, 2019; and for Cook County on panel numbers 17031C0781J and 17031C0782J dated August 19, 2008, and as amended from time to time. To locate the regulatory floodway boundary on any site, the regulatory floodway boundary should be scaled off the regulatory floodway map and located on a site plan, using reference marks common to both maps. Where interpretation is needed to determine the exact location of the regulatory floodway boundary, the IDNR-OWR should be contacted for the interpretation. When two floodway maps exist for a waterway, the more restrictive floodway limit shall prevail.

REGULATORY FLOODPLAIN. The floodplain as depicted on maps recognized by FEMA as defining the limits of the SFHA.

REPAIR, REMODELING, or MAINTENANCE. Development activities which do not result in any increases in the outside dimensions of a building or any changes to the dimensions of a structure.

REPETITIVE LOSS. Flood-related damages sustained by a structure on two 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% of the market value of the structure before the damage occurred.

RETENTION/DETENTION FACILITY. A retention facility stores stormwater runoff without a gravity release. A detention facility provides for storage of stormwater runoff and controlled release of this runoff during and after a flood or storm.

RIVERINE SFHA. Any SFHA subject to flooding from a river, creek, intermittent stream, ditch, on stream lake system or any other identified channel. This term does not include areas subject to flooding from lakes, ponding areas, areas of sheet flow, or other areas not subject to overbank flooding.

RUNOFF. The water derived from melting snow or rain falling on the land surface, flowing over the surface of the ground or collected in channels or conduits.

SEDIMENTATION. The processes that deposit soils, debris, and other materials either on other ground surfaces or in bodies of water or watercourses.

SPECIAL FLOOD HAZARD AREA (SFHA). Any base flood area subject to flooding from a river, creek, intermittent stream, ditch, or any other identified channel, having flood or flood-

related erosion hazards, or ponding and shown on a Flood Hazard Boundary Map or Flood Insurance Rate Map as Zone A, AO, A1-30, AE, A99, AH, VO, V1-V30, VE, V, M, or E.

STATEWIDE PERMITS. Statewide permits are offered for pre-approved projects that are considered minor projects which are permissible per the IDNR-OWR Part 3700 rules. A complete listing of the statewide permits and permit requirements can be obtained from the IDNR-OWR website.

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 placement of a manufactured home on a foundation.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP). A sediment and erosion control plan plus all the construction activities to prevent stormwater contamination and comply with the requirements of the Clean Water Act.

STRUCTURE. The results of a man-made change to the land constructed on or below the ground, including the construction, reconstruction or placement of a building or any addition to a building, roads, signs, billboards, etc.; installing a manufactured home on a site; preparing a site for a manufactured home or installing a travel trailer on a site for more than 180 days.

SUBSTANTIAL DAMAGE. Damage of any origin sustained by a structure whereby the cumulative percentage of damage during the life of the building equals or exceeds 50 percent of the market value of the structure before the damage occurred regardless of actual repair work performed. Volunteer labor and materials must be included in this determination. The term includes Repetitive Loss Buildings.

SUBSTANTIAL IMPROVEMENT. Any repair, reconstruction, rehabilitation, addition or improvement of a structure taking place during the life of the building, the cost of which equals or exceeds 50% of the market value or increases the floor area by more than 20% of the structure either: (a) before the improvement or repair is started, or (b) if the structure has been damaged, and is being restored, before the damage occurred. Substantial Improvement is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. This term includes structures which have incurred repetitive loss or substantial damage, regardless of the actual work done. The term does not, however, include either (a) any project for improvement of a structure to comply with existing state or local health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions or (b) any alteration of a structure listed on the National Register of Historic Places or the Illinois Register of Historic Places, provided that the alteration will not preclude the structure's continued designation as a historic structure.

THALWEG. A line along the lowest point in a channel.

TRANSITION SECTION. Reaches of the stream or floodway where water flows from a narrow cross-section to a wide cross-section or vice versa.

USABLE SPACE. Space used for dwelling, storage, utilities, or other beneficial purposes, including without limitation basements.

VIOLATION. The failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance is presumed to be in violation until such times as that documentation is provided.

WATERSHED. All land area drained by, or contributing water to, the same stream, lake, stormwater facility, or draining to a point.

§ 152.003 HOW TO USE THIS CHAPTER.

(A) The Village Administrator, with consultation of the Village Engineer (hereinafter referred to as "Administrative Department"), shall be responsible for fulfilling all of the duties listed in § 152.125.

(B) To fulfill those duties, the Administrative Department first should use the criteria listed in § 152.004 to determine whether the development site is located within a flood plain. Once it has been determined that a site is located within a flood plain, the Administrative Department must determine whether the development site is within a flood fringe, a regulatory floodway, or within a SFHA or flood plain on which no floodway has been identified.

(1) If the site is within a flood fringe, the Administrative Department shall require that the minimum requirements of §§ 152.015 through 152.018 be met.

(2) If the site is within a floodway, the Administrative Department shall require that the minimum requirements of §§ 152.025 through 152.028 be met.

(3) If the site is located within a SFHA or flood plain for which no detailed study has been completed and approved, the Administrative Department shall require that the minimum requirements of §§ 152.065 through 152.074 be met.

(C) In addition, the general requirements of §§ 152.080 through 152.087 shall be met for all developments meeting the requirements of §§ 152.015 through 152.018, 152.025 through 152.056, and 152.065 through 152.074. The Administrative Department shall assure that all subdivision proposals shall meet the requirements of §§ 152.100 through 152.104.

(D) If a variance is to be granted for a proposal, the Administrative Department shall review the requirements of §§ 152.115 through 152.118 to make sure they are met. In addition, the

Administrative Department shall complete all notification requirements.

(E) In order to assure that property owners obtain permits as required in this chapter, the Administrative Department may take any and all actions as outlined in §§ 152.998 and 152.999.

§ 152.004 BASE FLOOD ELEVATION.

(A) This chapter's protection standard is based on the Countywide Flood Insurance Study for Will and Cook Counties dated February 15, 2019 and August 19, 2008 respectively, prepared by FEMA, and as amended from time to time. If a base flood elevation or 100-year frequency flood elevation is not available for a particular site, then the protection standard shall be according to the best existing data available in the Illinois State Water Survey's Flood Plain Information Repository. When a party disagrees with the best available data, he/she may finance the detailed engineering study needed to replace existing data with better data and submit it to IDNR-OWR and FEMA.

(B) The base flood or 100-year frequency flood elevation for the SFHA's of Hickory Creek, Hickory Creek Tributaries 1, 2, 3, A, Union Drainage Ditch, Jackson Creek, Jackson Creek Tributary 2, Jackson Branch, and Forked Creek shall be as delineated on the 100-year flood profiles in the Countywide Flood Insurance Study of Will and Cook Counties prepared by FEMA dated February 15, 2019, and August 19, 2008 respectively. These areas are shown on the Flood Insurance Rate Maps for Will County on panel numbers 17197C0195G, 17197C0212G, 17197C0213G, 17197C0214G, 17197C0218G, 17197C0310G, 17197C0326G, 17197C0327G, 17197C0330G, 17197C0331G, and 17197C0335G dated February 15, 2019; and for Cook County on panel numbers 17031C0781J and 17031C0782J dated August 19, 2008, and such amendments to such study and maps as may be prepared from time to time.

(C) The base flood or 100-year frequency flood elevation for the SFHA's of those parts of unincorporated Will County that are within the extraterritorial jurisdiction of the Village or that may be annexed into the Village shall be as delineated on the 100-year flood profiles in the Countywide Flood Insurance Study of Will and Cook County, Illinois prepared by FEMA dated February 15, 2019 and August 19, 2008. These areas are shown on the Flood Insurance Rate Maps for Will County on panel numbers 17197C0195G, 17197C0212G, 17197C0213G, 17197C0214G, 17197C0218G, 17197C0310G, 17197C0326G, 17197C0327G, 17197C0330G, 17197C0331G, and 17197C0335G dated February 15, 2019; and for Cook County on panel numbers 17031C0781J and 17031C0782J dated August 19, 2008, and such amendments or revisions to such study and maps as may be prepared from time to time.

(D) The base flood or 100-year frequency flood elevation for each SFHA delineated as an "AH Zone" or "AO Zone" shall be that elevation (or depth) delineated on the Countywide Flood Insurance Rate Map for Will County on panel numbers 17197C0195G, 17197C0212G, 17197C0213G, 17197C0214G, 17197C0218G, 17197C0310G, 17197C0326G, 17197C0327G, 17197C0330G, 17197C0331G, and 17197C0335G dated February 15, 2019; and for Cook County on panel numbers 17031C0781 and 0782 dated August 19, 2008, and such amendments or revisions to such study and maps as may be prepared from time to time.

(E) The base flood or 100-year frequency flood elevation for each of the remaining SFHAs delineated as an “A Zone” on the Countywide Flood Insurance Rate Map for Will County on panel numbers 17197C0195G, 17197C0212G, 17197C0213G, 17197C0214G, 17197C0218G, 17197C0310G, 17197C0326G, 17197C0327G, 17197C0330G, 17197C0331G, and 17197C0335G dated February 15, 2019; and for Cook County on panel numbers 17031C0781J and 17031C0782J dated August 19, 2008, and such amendments or revisions to such study and maps as may be prepared from time to time, shall be according to the best existing data available in the Illinois State Water Survey Flood Plain Information Repository.

(1) When no base flood or 100-year frequency flood elevation exists, the base flood or 100-year frequency flood elevation for a riverine SFHA shall be determined from a backwater model, such as HEC-RAS, HEC-2, WSP-2, or a dynamic model such as HIP.

(2) The flood flows used in the hydraulic models shall be obtained from a hydrologic model, such as HEC-HMS, HEC-1, TR-20, Pond Pack, or HIP, or by techniques presented in various publications prepared by the United States Geological Survey for estimating peak flood discharges.

(3) For an unmapped extended SFHA (with a drainage area less than one square mile) which has been identified by the Administrative Department, the base flood elevation shall be determined by the applicant utilizing a method approved in this section.

(F) In all occasions, regardless of existing flood zone, a detailed site specific flood study is required for the proposed condition when any fill is proposed within the floodplain.

OCCUPATION AND USE OF FLOOD FRINGE AREAS.

§ 152.015 DEVELOPMENT TO BE REGULATED.

(A) Only limited development in and/or filling of the flood fringe will be permitted if protection is provided against the base flood or 100-year frequency flood by proper elevation, and compensatory storage and other provisions of this chapter are met. No use will be permitted which adversely affects the capacity of drainage facilities or systems. No new structures or buildings with basements are permitted within the SFHA as determined by elevation from an FIS or detailed flood study. All buildable residential and nonresidential lots must be outside the SFHA for new development to minimize flood risk associated with base flood and higher-magnitude floods. Subdivisions and Planned Unit Developments are required to obtain a Letter of Map Revision from FEMA in accordance with § 152.088. Permitted developments located within the flood fringe shall meet the requirements of this section, along with the requirements of §§ 152.080 through 152.087.

(B) If the BFE at the site of the proposed development is affected by backwater from a downstream receiving stream with a larger drainage area, the proposed development shall be

shown to meet the requirements of this chapter with the receiving stream at both the normal water and BFEs.

(C) If the applicant is informed by IDNR-OWR, local governments, or a private owner that a downstream or upstream restrictive bridge or culvert is scheduled to be removed, reconstructed, modified, or a regional flood control project is scheduled to be built, removed, constructed or modified within the next five years, the proposed development shall be analyzed and shown to meet the requirements of this chapter for both the existing conditions and the expected flood profile conditions when the bridge, culvert or flood control project is built, removed or modified as applicable.

§ 152.016 DEVELOPMENT PERMIT.

(A) No person, firm, corporation, or governmental body not exempted by state law shall commence any development in the SFHA without first obtaining a development permit from the Administrative Department.

(B) Application for a development permit shall be made on a form provided by the Administrative Department.

(1) The application shall be accompanied by drawings of the site, drawn to scale, showing property line dimensions and legal description for the property and sealed by an Illinois licensed engineer, architect or land surveyor; existing grade elevations in Mean Sea Level, 1988 adj. datum or NAVD and all changes in grade resulting from excavation or filling; the location and dimensions of all buildings and additions to buildings.

(2) For all proposed buildings, the elevation of the lowest floor (including basement), walk-out and look-out elevations and locations, and lowest adjacent grade shall be shown on the submitted plans and the development will be subject to the requirements of §§ 152.080 through 152.087.

(C) Upon receipt of a development permit application, the Administrative Department shall compare the elevation of the site to the base flood or 100-year frequency flood elevation.

(1) Any development located on land that can be shown to have been higher than the base flood elevation as of the sites first Flood Insurance Rate Map identification is not in the SFHA and, therefore, not subject to the requirements of this chapter.

(2) The Administrative Department shall maintain documentation of the existing ground elevation at the development site and certification that this ground elevation existed prior to the date of the site's first Flood Insurance Rate Map identification.

(D) A soil erosion and sedimentation control plan for disturbed areas shall be submitted. This plan shall include a description of the sequence of grading activities and the temporary sediment and erosion control measures to be implemented to mitigate their effects. This plan shall also

include a description of final stabilization and revegetation measures, and the identification of a responsible party to ensure post-construction maintenance. All erosion and sediment control requirements of the Village of Frankfort Design Standards Section 2 and NPDES II shall also apply.

(E) The Administrative Department shall be responsible for obtaining from the applicant, copies of all other local, state and federal permits, approvals or permit-not-required letters that may be required for this type of activity. The Administrative Department shall not issue a permit unless all other local, state and federal permits have been obtained.

(F) Adequate protection is required for fill slopes exposed to flood waters with expected velocities during the occurrence of the base flood of 5 fps or less by covering them with vegetation undergrowth (grass, vines, etc.).

(G) Adequate protection is required for fill slopes exposed to flood waters with expected velocities during the occurrence of the base flood greater than 5 fps by covering them with stone or rock slope protection or other material acceptable to the Village.

(H) A floodplain development permit or approval shall become invalid unless the work authorized by such permit is commenced within 180 days after its issuance, or if the work authorized is suspended or abandoned for a period of 180 days after the work commences. Extensions for periods of not more than 180 days each shall be requested in writing and justifiable cause shall be demonstrated.

§ 152.017 PREVENTING INCREASED DAMAGES.

(A) No development in the flood fringe shall create a threat to public health and safety.

(B) If fill is being used to elevate the site above the base flood or 100-year frequency flood elevation, the applicant shall submit sufficient data and obtain a letter of map revision (LOMR) from FEMA for the purpose of removing the site from the flood plain.

§ 152.018 COMPENSATORY STORAGE.

(A) Whenever any portion of a flood plain is authorized for use, the volume of space which will be occupied by the authorized fill below the base flood or 100-year frequency flood elevation shall be compensated for and balanced by a hydraulically equivalent volume of excavation taken from below the base flood or 100-year frequency flood elevation. Detention volume and associated berming within the SFHA shall be considered as fill if it occupies volume that was previously occupied by the base flood.

(B) The excavation volume shall be at least equal to 1.5 times the volume of storage lost due to the fill or structure.

(C) In the case of streams and watercourses, such excavation shall be made opposite or adjacent

to the areas so filled or occupied.

(D) All flood plain storage lost below the existing 10-year flood elevation shall be replaced below the proposed 10-year flood elevation. All flood plain storage lost above the existing 10-year flood elevation shall be replaced above the proposed 10-year flood elevation.

(E) All such excavations shall be constructed to drain freely and openly to the watercourse and shall be located adjacent to the development.

(F) The fill material shall be homogeneous and isotropic and compacted to at least 95% (Standard Proctor).

(G) Finished grade shall be 4:1 maximum and 1% minimum. Retaining walls, excluding control structures, are not permitted below the BFE.

§ 152.019 CONSTRUCTION OF A BUILDING UNDER A LOMR BASED ON FILL

A person who has obtained a Letter of Map Revision Based on Fill that removes a site in the floodplain due to the use of fill to elevate the site above the BFE, may apply for a permit from the Village to construct the lowest floor of a building below the BFE in the floodplain. The Administrative Department shall not issue such a permit unless the applicant has complied with all the criteria set forth in the following subsection and maintain the documentation verifying such compliance.

(A) Compensatory storage shall be provided per Section 152.018.

(B) The elevation of the lowest opening in the basement wall (i.e., window wells, access ways) shall be at or above the Flood Protection Elevation (FPE).

(C) The lowest adjacent grade to the foundation shall be at or above the FPE, for a minimum distance of ten (10) feet beyond the outside face of the structure. However, if site conditions are such that this requirement cannot be met, the Administrative Department may waive the ten (10) foot minimum setback if an Illinois Licensed P.E. certify that an alternative method to protect the building from damage due to hydrostatic pressures has been met. The certifications shall be in the form of a detailed soils and structural design analysis, which shall be submitted to the Administrative Department for review. The Administrative Department may require such additional documentation as necessary to prove that the proposed shorter setback distance will keep the structure reasonably safe. In no case shall the setback distance be less than four (4) feet.

(D) The grade around the perimeter of the structure, measured at a distance of twenty (20) feet from the structure, shall be above the BFE. However, if site conditions are such that this requirement cannot be obtained, the Administrative Department may waive the twenty (20) foot minimum setback distance if an Illinois Licensed P.E. certifies that an alternative method to protect the building from damages due to hydrostatic pressures have been met. A detailed soils analysis and structural design proving that a shorter setback distance will keep the structure

reasonably safe from flooding, shall be submitted to the Village for review. In no case shall the setback distance be less than four (4) feet.

(E) The ground around the building shall be compacted fill that meets all requirements of this subsection and is at least five (5) feet thick under the basement floor slab. Nothing in this subsection shall be interpreted to require the removal or replacement of fill that was placed as part of a LOMR-F, if such fill consists of material, including soils of similar classification and degree permeability, such as those classified as CH, CL, SC or ML according to ASTM standard D-2487, Classification of Soils for Engineering Purposes.

(F) The fill material must be homogeneous and isotropic; that is, the soil must be all of one material, and the engineering priorities must be in the same direction.

(G) All fill material and compaction shall be designed, certified and inspected by an Illinois Licensed P.E., as warranted by the site conditions.

(H) The basement floor shall be at an elevation that is no more than five (5) feet below the BFE.

(I) There shall be a granular drainage layer beneath the floor slab, and minimum of one quarter (¼) horsepower sump pump with a backup power supply shall be provided to remove seepage flow. The pump shall be rated at four (4) times the estimated seepage rate and shall discharge above the BFE and away from the building in order to prevent flooding of the basement or uplift of the floor under the effect of the seepage pressure.

(J) The drainage system shall be equipped with a positive means of preventing backflow.

(K) All foundation elements shall be designed to withstand hydrostatic pressure in accordance with accepted engineering practices.

(L) If the applicant is unable to meet all of the requirements set forth in the preceding paragraphs of this subsection, the Administrative Department may allow the construction of a basement below the BFE only if the applicant demonstrates that the proposed fill and structure meet the guidelines and requirements set forth in FEMA Technical Bulletin 10-01 and are reasonably safe from flooding. In order to demonstrate that the proposed structure is reasonably safe from flooding, the applicant shall submit a detailed engineering analysis of the proposed fill and foundation wall. The engineered basement study shall be completed in accordance with the latest edition of FEMA Technical Bulletin 10-01, with the analysis of the fill being prepared by an Illinois Licensed P.E.

(M) In order to provide the required compensatory storage on site, in no case shall the depth of excavation in the front and side yards of the lot exceed eighteen (18) inches, as measured from the previously existing natural grade. The rear yard shall be permitted to have a greater depth of excavation, if necessary. All such excavation shall be constructed to drain freely and openly to the watercourse or storm sewer system. The use of mechanical means to drain the compensatory storage area will not be permitted.

OCCUPATION AND USE OF IDENTIFIED FLOODWAY

§ 152.025 USES AND STRUCTURES PERMITTED IN FLOODWAYS TO BE REGULATED.

This section applies to proposed development, redevelopment, site modification or building modification within a regulatory floodway. The regulatory floodway for Hickory Creek, Hickory Creek Tributaries 1, 2, 3, A; Jackson Creek, Jackson Creek Tributary 2; and Forked Creek shall be as delineated on the regulatory floodway maps designated by IDNR-OWR according and referenced in § 152.002. Only those uses and structures will be permitted which meet the criteria in this subchapter. All floodway modifications shall be the minimum necessary to accomplish the purpose of the project. Any encroachment, fill, new construction, substantial improvement and other development within the regulatory floodway is prohibited unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels during the occurrence of the base flood discharge. The development shall also meet the requirements of §§ 152.080 through 152.087.

§ 152.026 DEVELOPMENT PERMIT.

(A) No person, firm, corporation or governmental body not exempted by state law shall commence any development in a floodway without first obtaining a development permit from the Administrative Department.

(B) Application for a development permit shall be made on a form provided by the Administrative Department. The application shall include the following information:

- (1) Name and address of applicant;
- (2) Site location (including legal description) of the property, drawn to scale, on the regulatory floodway map, indicating whether it is proposed to be in an incorporated or unincorporated area;
- (3) Name of stream or body of water affected;
- (4) Description of proposed activity;
- (5) Statement of purpose of proposed activity;
- (6) Anticipated dates of initiation and completion of activity;
- (7) Name and mailing address of the owner of the subject property if different from the applicant;

- (8) Signature of applicant or the applicant's agent;
- (9) If the applicant is a corporation, the president or other authorized officer shall sign the application form;
- (10) If the applicant is a partnership, each partner shall sign the application form; and
- (11) If the applicant is a land trust, the trust officer shall sign the name of the trustee by him or her as trust officer. A disclosure affidavit shall be filed with the application, identifying each beneficiary of the trust by name and address and defining the respective interests therein.
- (12) Plans of the proposed activity shall be provided which include as a minimum:
 - (a) A vicinity map showing the site of the activity, name of the waterway, boundary lines, names of roads in the vicinity of the site, graphic or numerical scale, and north arrow;
 - (b) A plan view of the project and engineering study reach showing existing and proposed conditions including principal dimensions of the structure or work, elevations in mean sea level (1988 adjustment) datum or NAVD, adjacent property lines and ownership, drainage and flood control easements, location of any channels and any existing or future access roads, distance between proposed activity and navigation channel (when the proposed construction is near a commercially navigable body of water), regulatory floodway limit, flood plain limit (as determined by both the scaled limit on the FIRM and the calculated or FIS profile elevation), specifications and dimensions of any proposed channel modifications, location and orientation of cross-sections, north arrow, and a graphic or numerical scale;
 - (c) Cross-section views of the project and engineering study reach showing existing and proposed conditions including principal dimensions of the work as shown in plan view, existing and proposed elevations, normal water elevation, 10-year frequency flood elevation, 100-year frequency flood elevation, and graphic or numerical scales (horizontal and vertical);
 - (d) A soil erosion and sedimentation control plan for disturbed areas. This plan shall include a description of the sequence of grading activities and the temporary sediment and erosion control measures to be implemented to mitigate their effects. This plan shall also include a description of final stabilization and revegetation measures, and the identification of a responsible party to ensure post-construction maintenance; all erosion and sediment control requirements of the Village of Frankfort Design Standards Section 2 and NPDES II shall also apply.

- (e) A copy of the regulatory floodway map, marked to reflect any proposed change in the regulatory floodway location.
 - (f) A copy of the Flood Insurance Study profile with project limits identified.
- (13) Any and all other local, state and federal permits or approval letters that may be required for this type of development.
- (14) Engineering calculations and supporting data shall be submitted showing that the proposed work will meet the permit criteria of § 152.028
- (15) If the regulatory floodway delineation, base flood or 100-year frequency flood elevation will change due to the proposed project, the application will not be considered complete until FEMA and IDNR-OWR have indicated conditional approval of the regulatory floodway map change. No structures may be built until a Letter of Map Revision has been approved by FEMA.
- (16) The application for a structure shall be accompanied by drawings of the site, drawn to scale showing property line dimensions and existing ground elevations and all changes in grade resulting from any proposed excavation or filling, and flood plain and floodway limits; sealed by a registered professional engineer, licensed architect or registered land surveyor; the location and dimensions of all buildings and additions to buildings; and the elevation of the lowest floor (including) basement) of all proposed buildings subject to the requirements of §§ 152.080 through 152.087.
- (17) If the proposed project involves a channel modification, the applicant shall submit the following information:
- (a) A discussion of the purpose of and need for the proposed work;
 - (b) A discussion of the feasibility of using alternative locations or methods to accomplish the purpose of the proposed work;
 - (c) An analysis of the extent and permanence of the impacts the project would have on the physical and biological conditions of the body of water affected;
 - (d) An analysis of the extent and permanence of the impacts each feasible alternative identified in § 152.088(B) would have on the physical and biological conditions of the body of water affected;
 - (e) An analysis of the impacts of the proposed project, considering cumulative effects on the physical and biological conditions of the body of water affected.

§ 152.027 DUTIES OF ADMINISTRATIVE DEPARTMENT IN REGARDS TO PERMITS.

The Administrative Department shall be responsible for obtaining from the applicant copies of all other local, state, and federal permits and approvals that may be required for the type of activity described in § 152.026.

- (1) The Administrative Department shall not issue the development permit unless all required federal and state permits have been obtained.
- (2) A registered professional engineer, under the employ or contract of the Village shall review and approve applications reviewed under this subchapter.

§ 152.028 PREVENTING INCREASED DAMAGES; LIST OF APPROPRIATE USES.

(A) The only development in a floodway which will be allowed are Appropriate Uses, which will not cause a rise in the BFE, and which will not create a damaging or potentially damaging increase in flood heights or velocity or be a threat to public health and safety and welfare or impair the natural hydrologic and hydraulic functions of the floodway or channel, or permanently impair existing water quality or aquatic habitat. Construction impacts shall be minimized by appropriate mitigation methods as called for in this chapter. All buildable residential and nonresidential lots must be outside the SFHA and floodway for new development to minimize flood risk associated with base flood and higher-magnitude floods. Subdivisions and Planned Unit Developments are required to obtain a Letter of Map Revision from FEMA in accordance with § 152.091.

(B) Only those appropriate uses listed in 17 Ill. Adm. Code, Chapter I, IDNR Part 3708 (Floodway Construction in Northeastern Illinois) will be allowed. Appropriate uses do not include the construction or placement of any new structures, fill, buildings, building additions, buildings on stilts, excavation or channel modifications done to accommodate otherwise non-appropriate uses in the floodway, fencing (including landscaping or planting designed to act as a fence) and storage of materials except as specifically defined below as an appropriate use. The approved appropriate uses are as follows:

- (1) Flood control structures, dikes, dams and other public works or private improvements relating to the control of drainage, flooding, erosion, or water quality or habitat for fish and wildlife;
- (2) Structures or facilities relating to the functionally water dependent uses of, or requiring access to, the water or shoreline, such as existing pumping and treatment facilities, and facilities and improvements related to recreational boating, commercial shipping and other functionally water dependent uses (except for additions to habitable structures on the site);
- (3) Storm sewer and treated sanitary treatment plant outfalls;

- (4) Underground and overhead utilities;
- (5) Recreational facilities such as playing fields and trail systems including any related fencing (at least 50% open when viewed from any one direction) built parallel to the direction of flood flows, and including open air pavilions and toilet facilities (4 stall maximum) that will not block flood flows nor reduce floodway storage;
- (6) Sheds, boat houses or other non-habitable accessory structures without toilet facilities to existing buildings that will not block flood flows, nor reduce floodway storage; Storage of hazardous material is further prohibited in these structures;
- (7) Bridges, culverts, roadways, driveways, sidewalks, railways, runways and taxiway required for crossing the floodway or for access to other appropriate uses in the floodway and any modification thereto;
- (8) Parking lots and any modifications thereto and aircraft parking aprons built at or below ground elevation provided that;
 - (a) The depth of flooding at the 100-year frequency flood event will not exceed 1.0', or
 - (b) The parking lot is accessory to short-term outdoor recreational facilities and the owner agrees to restrict access during periods of inundation and agrees to accept liability for all damage caused by vehicular access during flooding events.
- (9) Regulatory floodway regrading, without fill, to create a positive non-erosive slope toward a watercourse;
- (10) Flood proofing activities to protect previously existing lawful structures including the construction of water tight window wells, elevating structures, or construction of floodwalls around residential, commercial or industrial principal structures where the outside toe of the floodwall or berm shall be no more than ten feet away from the exterior wall of the existing structure, and, which are not considered substantial improvements to the structure;
- (11) Aircraft parking aprons built at or below ground elevation where the depth of flooding at the 100-year frequency flood event will not exceed 1.0 foot;
- (12) Modifications to existing buildings above the BFE that do not increase the building's footprint, and which will not block flood flows. These modifications include fireplaces, bay windows, decks, patios and second story addition. No enclosed floor areas may be built on stilts. If the building is improved to fifty (50%) percent or more of the market value before the modification occurred (i.e., a substantial improvement), the building will be protected from flooding to the flood protection elevation.

(13) The replacement, reconstruction or repair of a damaged building, provided that the outside dimensions of the building are not increased and, provided that, if the building is damaged to 50% or more of the building's market value before it was damaged, the building will be protected from flooding to or above the 100-year frequency flood elevation.

ENGINEERING AND MITIGATION CRITERIA FOR APPROPRIATE USES

§ 152.035 APPROPRIATE USES SHALL MEET ENGINEERING AND MITIGATION CRITERIA.

Within the regulatory floodway as identified on the regulatory floodway maps designated by IDNR-OWR, the construction of an appropriate use, will be considered permissible provided that the proposed project meets the following engineering and mitigation criteria and is so stated in writing with supporting plans, calculations and data by a registered professional engineer and provided that any structure meets the protection requirements of §§ 152.080 through 152.087.

§ 152.036 PRESERVATION OF FLOOD CONVEYANCE SO AS NOT TO INCREASE FLOOD STAGES UPSTREAM.

(A) For appropriate uses other than bridge or culvert crossings, on-stream structures or dams, all effective regulatory floodway conveyance lost due to the project will be replaced for all flood events up to and including the 100-year frequency flood.

(B) In calculating effective regulatory floodway conveyance, the following factors shall be taken into consideration:

(1) *Regulatory floodway conveyance.*

$$K = [1.4863 A R_H^{2/3}] / n$$

Where:

- n = Manning's roughness factor.
- A = The effective area of the cross-section.
- R_H = The hydraulic radius (ratio of the wetted area to the wetted perimeter).

(Note: See *Open Channel Hydraulics*, Ven Te Chow, 1959, McGraw-Hill Book Company, New York)

(2) The same Manning's "n" value shall be used for both existing and proposed conditions unless a recorded maintenance agreement with a federal, state, or local unit of government can assure the proposed conditions will be maintained or the land cover is changing from a vegetative to a non-vegetative land cover or vice versa.

(3) Transition sections shall be provided and used in calculations of effective regulatory conveyance. The following expansion and contraction ratios shall be used unless an applicant's engineer can prove to IDNR-OWR through engineering calculations or model tests that more abrupt transitions may be used with the same efficiency:

(a) When water is flowing from a narrow section to a wider section, the water should be assumed to expand no faster than at a rate of one foot horizontal for every four feet (4:1 expansion) of the flooded stream's length.

(b) When water is flowing from a wide section to a narrow section, the water should be assumed to contract no faster than at a rate of one foot horizontal for every one foot (1:1 contraction) of the flooded stream's length.

(c) When expanding or contracting flows in a vertical direction, a minimum of one foot vertical transition for every ten feet (10:1 vertical transition) of stream length shall be used.

(d) Transition sections shall be provided between cross-sections with rapid expansions and contractions and when meeting the regulatory floodway delineation on adjacent properties. Transition sections must be used to determine the effective conveyance areas on adjacent properties. Cross sections shall extend at least 100' upstream and downstream of the project limits.

(e) All cross-sections used in the calculations shall be located perpendicular to flood flows.

§ 152.037 COMPENSATORY STORAGE; PRESERVATION OF FLOODWAY STORAGE SO AS NOT TO INCREASE DOWNSTREAM FLOODING.

(A) Hydraulically equivalent compensatory storage shall be provided for any regulatory floodway storage lost due to the proposed work from the volume of fill or structures placed and the impact of any related flood control projects.

(B) Compensatory storage for fill or structures shall be equal to at least 1.5 times the volume of flood plain storage lost.

(C) Artificially created storage lost due to a reduction in head loss behind a bridge shall not be required to be replaced.

(D) The compensatory regulatory floodway storage shall be placed between the proposed normal water elevation and the proposed 100-year flood elevation. All regulatory floodway storage lost below the existing 10-year flood elevation shall be replaced below the proposed 10-year flood elevation. All regulatory floodway storage lost above the existing 10-year flood elevation shall be replaced above the proposed 10-year flood elevation. All such excavations

shall be constructed to drain freely and openly to the watercourse and preferably located adjacent to the development.

(E) If the compensatory storage will not be placed at the location of the proposed construction, the applicant's engineer shall demonstrate to IDNR-OWR through a determination of flood discharges and water surface elevations that the compensatory storage is hydraulically equivalent.

(F) Finally, there shall be no reduction in floodway surface area as a result of a floodway modification, unless such modification is necessary to reduce flooding at existing structure.

(G) The fill material shall be homogeneous and isotropic and compacted to at least 95% (Standard Proctor).

(H) Finished grade shall be 4:1 maximum and 1% minimum. Retaining walls, excluding control structures, are not permitted below the BFE.

(I) Adequate protection is required for fill slopes exposed to flood waters with expected velocities during the occurrence of the base flood of 5 fps or less by covering them with vegetation undergrowth (grass, vines, etc.).

(J) Adequate protection is required for fill slopes exposed to flood waters with expected velocities during the occurrence of the base flood greater than 5 fps by covering them with stone or rock slope protection or other material acceptable to the Village.

§ 152.038 PRESERVATION OF FLOODWAY VELOCITIES SO AS NOT TO INCREASE STREAM EROSION OR FLOOD HEIGHTS.

(A) For all appropriate uses, except bridges or culverts or on stream structures, the proposed work will not result in an increase in the average channel or regulatory floodway velocities or stage for all flood events up to and including the 100-year frequency event.

(B) However in the case of bridges or culverts or on stream structures built for the purpose of backing up water in the stream during normal or flood flows, velocities may be increased at the structure site if scour, erosion and sedimentation will be avoided by the use of rip-rap or other design measures.

§ 152.041 ON-STREAM STRUCTURES BUILT FOR THE PURPOSE OF BACKING UP WATER.

(A) Any increase in upstream flood stages greater than 0.0 foot when compared to the existing conditions, for all flood events up to and including the 100-year frequency event shall be contained within recorded easements or the channel banks (or within existing vertical extensions of the channel banks) such as within the design protection grade of existing levees or flood walls or within recorded flood easements. A permit or letter indicating a permit is not required must

be obtained from IDNR-OWR for any structure built for the purpose of backing up water in the stream during normal or flood flow. All dams and impoundment structures as defined in § 152.002 shall meet the permitting requirements of 17 Ill. Adm. Code, Chapter I, IDNR Part 3702 (Construction and Maintenance of Dams).

(B) If the proposed activity involves a modification of the channel or floodway to accommodate an impoundment, it shall be demonstrated that:

- (1) The impoundment is determined to be in the public interest by providing flood control, public recreation, or regional stormwater detention;
- (2) The impoundment will not prevent the migration of indigenous fish species, which require access to upstream areas as part of their life cycle, such as for spawning;
- (3) The impoundment will not cause or contribute to degraded water quality or habitat conditions. Impoundment design should include gradual bank slopes, appropriate bank stabilization measures, and a pre-sedimentation basin;
- (4) A non-point source control plan has been implemented in the upstream watershed to control the effects of sediment runoff as well as minimize the input of nutrients, oil and grease, metals, and other pollutants. If there is more than one municipality in the upstream watershed, the municipality in which the impoundment is constructed should coordinate with upstream municipalities to ensure comprehensive watershed control;
- (5) The project otherwise complies with the requirements of §§ 152.025 through 152.056.

§ 152.042 FLOOD PROOFING OF EXISTING HABITABLE, RESIDENTIAL AND COMMERCIAL STRUCTURES.

(A) If construction is required beyond the outside dimensions of the existing building, the outside perimeter of the floodproofing construction shall be placed no further than 10 feet from the outside of the building.

(B) Compensation of lost storage and conveyance will not be required for floodproofing activities.

§ 152.043 EXCAVATION IN THE FLOODWAY.

(A) When excavation is proposed in the design of bridges and culvert openings, including the modifications to and replacement of existing bridge and culvert structures, or to compensate for lost conveyance for other appropriate uses, transition sections shall be provided for the excavation.

(B) The following expansion and contraction ratios shall be used unless an applicant's engineer can prove to IDNR-OWR through engineering calculations or model tests that more abrupt

transitions may be used with the same efficiency:

- (1) When water is flowing from a narrow section to a wider section, the water should be assumed to expand no faster than at a rate of one foot horizontal for every four feet (4:1 expansion) of the flooded stream's length;
- (2) When water is flowing from a wide section to a narrow section, the water should be assumed to contract no faster than at a rate of one foot horizontal for every one foot (1:1 contraction) of the flooded stream's length;
- (3) When expanding or contracting flows in a vertical direction, a minimum of one foot vertical transition for every ten feet (10:1 vertical transition) of stream length shall be used;
- (4) Erosion/scour protection shall be provided inland upstream and downstream of the transition sections.

§ 152.044 CHANNEL MODIFICATION.

If the proposed activity involves a channel modification, it shall be demonstrated that:

(A) There are no practicable alternatives to the activity which would accomplish its purpose with less impact to the natural conditions of the body of water affected. Possible alternatives include levees, bank stabilization, flood proofing of existing structures, removal of structures from the flood plain, clearing the channel, high flow channel, or the establishment of a stream side buffer strip or green belt. Channel modification is acceptable if the purpose is to restore natural conditions and improve water quality and fish and wildlife habitat;

(B) Water quality, habitat, and other natural functions would be significantly improved by the modification and no significant habitat area may be destroyed, or the impacts are offset by the replacement of an equivalent degree of natural resource values;

(C) The activity has been planned and designed and will be constructed in a way which will minimize its adverse impacts on the natural conditions of the body of water affected, consistent with the following criteria:

- (1) The physical characteristics of the modified channel shall match as closely as possible those of the existing channel in length, cross-section, slope and sinuosity. If the existing channel has been previously modified, restoration of more natural physical conditions should be incorporated into channel modification design, where practical.
- (2) Hydraulically effective transitions shall be provided at both the upstream and downstream ends of the project, designed such that they will prevent erosion.
- (3) One-sided construction of a channel shall be used when feasible. Removal of

streamside (riparian) vegetation should be limited to one side of the channel, where possible, to preserve the shading and stabilization effects of the vegetation.

(4) Clearing of vegetation shall be limited to that which is essential for construction of the channel.

(5) Channel banks shall be constructed with a side slope no steeper than 4:1 horizontal to vertical, wherever practicable. Natural vegetation and gradual side slopes are the preferred methods for bank stabilization. Where high velocities or sharp bends necessitate the use of alternative stabilization measures, natural rock or rip-rap are preferred materials. Artificial materials such as concrete, gabions, or construction rubble should be avoided unless there are no practicable alternatives.

(6) All disturbed areas associated with the modification shall be seeded or otherwise stabilized as soon as possible upon completion of construction. Erosion blanket or an equivalent material shall be required to stabilize disturbed channel banks prior to establishment of the vegetative cover.

(7) If the existing channel contains considerable bottom diversity such as deep pools, riffles, and other similar features, such features shall be provided in the new channel. Spawning and nesting areas and flow characteristics compatible with fish habitat shall also be established, where appropriate.

(8) A sediment basin shall be installed at the downstream end of the modification to reduce sedimentation and degradation of downstream water quality.

(9) New or relocated channels should be built in the dry and all items of construction, including vegetation, should be completed prior to diversion of water into the new channel.

(10) There shall be no increases in stage or velocity as the channel enters or leaves the project site for any frequency flood unless necessitated by a public flood control project or unless such an increase is justified as part of a habitat improvement or erosion control project.

(11) Unless the modification is for a public flood control project, there shall be no reduction in the volume of floodwater storage outside the floodway as a result of the modification; and

(12) The project otherwise complies with the requirements of §§ 152.025 through 152.056.

§ 152.045 SEEDING AND STABILIZATION PLAN.

For all activities located in a floodway, a seeding and stabilization plan shall be submitted by the

applicant.

§ 152.046 RESERVED – INTENTIONALLY DELETED

§ 152.047 PUBLIC FLOOD CONTROL PROJECTS.

For public flood control projects, the permitting requirements of this section will be considered met if the applicant can demonstrate to IDNR-OWR through hydraulic and hydrologic calculations that the proposed project will not singularly or cumulatively result in increased flood heights outside the project right-of-way or easements for all flood events up to and including the 100-year frequency event.

§ 152.048 GENERAL CRITERIA FOR ANALYSIS OF FLOOD ELEVATIONS.

(A) The flood profiles, flows and floodway data in the regulatory floodway study, referenced in § 152.004, must be used for analysis of the base conditions. If the study data appears to be in error or conditions have changed, IDNR-OWR shall be contacted for approval and concurrence on the appropriate base conditions data to use.

(B) If the 100-year regulatory floodway elevation at the site of the proposed construction is affected by backwater from a downstream receiving stream with a larger drainage area, the proposed construction shall be shown to meet:

- (1) The requirements of this section for the 100-year frequency flood elevations of the regulatory floodway conditions; and
- (2) Conditions with the receiving stream at normal water elevations.

(C) If the applicant learns from IDNR-OWR, local governments, or a private owner that a downstream restrictive bridge or culvert is scheduled to be removed, reconstructed, modified, or a regional flood control project is scheduled to be built, removed, constructed or modified within the next five years, the proposed construction shall be analyzed and shown to meet the requirements of this section for both the existing conditions and the expected flood profile conditions when the bridge, culvert or flood control project is built.

§ 152.049 CONDITIONAL LETTER OF MAP REVISION.

(A) If the appropriate use would result in a change in the regulatory floodway location or the 100-year frequency flood elevation, the applicant shall submit to IDNR-OWR and to FEMA all the information, calculations and documents necessary to be issued a conditional regulatory floodway map revision and receive from IDNR-OWR a conditional approval of the regulatory floodway change before a permit is issued. A public notice inviting public comment on the proposed change in BFE or location of the Regulatory Floodway will be issued by IDNR-OWR or its designee before a CLOMR is issued.

(B) However, the final regulatory floodway map will not be changed by IDNR-OWR until as-built plans or record drawings are submitted and accepted by FEMA and IDNR-OWR.

(C) In the case of non-government projects, the municipality in incorporated areas and the county in unincorporated areas shall concur with the proposed conditional regulatory floodway map revision before IDNR-OWR approval can be given.

(D) No filling, grading, dredging or excavating shall take place until a conditional approval is issued.

(E) No further development activities shall take place until a final Letter of Map Revision (LOMR) is issued by FEMA and IDNR-OWR

§ 152.050 PROFESSIONAL ENGINEER'S SUPERVISION.

All engineering analyses shall be performed by or under the supervision of a registered professional engineer.

§ 152.051 BUFFER STRIPS.

For all activities in the floodway involving construction within 25 feet as defined by the Village of Frankfort Design Standards of the channel, the following criteria shall be met:

(A) A natural vegetation buffer strip shall be preserved within at least 25 feet of the ordinary high water mark of the channel.

(B) Where it is impossible to protect this buffer strip during the construction of an appropriate use, a vegetated buffer strip shall be established upon completion of construction.

(C) The use of native riparian vegetation is preferred in the buffer strip. Access through this buffer strip shall be provided, when necessary, for stream maintenance purposes

§ 152.052 WHEN CONSTRUCTION MAY PROCEED; RESTRICTIONS.

After receipt of conditional approval of the regulatory floodway change and issuance of a permit and a Conditional Letter of Map Revision, construction as necessary to change the regulatory floodway designation may proceed but no buildings or structures or other construction that is not an appropriate use may be placed in that area until the regulatory floodway map is changed and a final Letter of Map Revision is received. The regulatory floodway map will be revised upon acceptance and concurrence by IDNR-OWR and FEMA of the “as built” plans.

§ 152.053 DEVELOPMENT ACTIVITIES IN DELEGATED COMMUNITIES REQUIRING STATE REVIEW.

For those projects listed below located in a regulatory floodway, the following criteria shall be

submitted to IDNR-OWR for their review and concurrence and/or permit prior to the issuance of a permit by a community or county delegated state permitting authority in the floodway:

- (A) An engineer's analysis of the flood profile due to a proposed bridge pursuant to § 152.088.
- (B) An engineer's determination that an existing bridge or culvert crossing is not a source of flood damage and the analysis indicating the proposed flood profile, pursuant to § 152.489.
- (C) Alternative transition sections and hydraulically equivalent storage pursuant to §§ 152.0036, 152.037, and 152.043.
- (D) The construction of any IDNR/OWR projects, dams (as defined in § 152.002) and all other state, federal or local units of government projects, including projects of the municipality or county.
- (E) An engineer's determination that a proposed bridge affected by backwater from a downstream receiving stream may be built with a smaller opening.
- (F) Projects which revise or establish the floodway and/or flood profiles.
- (G) Projects in public bodies of water.

§ 152.054 OTHER PERMITS.

- (A) In addition to the other requirements of this chapter, a development permit for a site located in a floodway shall not be issued unless the applicant first obtains a permit or written documentation that a permit is not required from IDNR-OWR, issued pursuant to 615 ILCS 5, § 5 et seq.
- (B) No correspondence from IDNR-OWR shall be required if the project meets the requirements of Regional Permit 3.
- (C) No permit from IDNR-OWR shall be required if the IDNR-OWR has delegated this responsibility to the Village.

§ 152.055 PERMITS FOR DAMS.

- (A) Any work involving the construction, modification or removal of a dam as defined in § 152.002 per 17 Ill. Adm. Code, Chapter I, IDNR Part 3702 (Rules for Construction of Dams) shall obtain an IDNR Dam Safety permit prior to the start of construction of a dam.
- (B) If the Code Enforcement Official finds a dam that does not have an IDNR-OWR permit, the Code Enforcement Official shall immediately notify the IDNR-OWR Bartlett office
- (C) If the Code Enforcement Official finds a dam which is believed to be in unsafe condition,

the Code Enforcement Official shall immediately notify the owner of the dam, the IDNR-OWR Bartlett Office and the Illinois Emergency Management Agency (IEMA).

§ 152.056 ACTIVITIES THAT DO NOT REQUIRE A REGISTERED PROFESSIONAL ENGINEER'S REVIEW.

The following activities may be permitted without a registered professional engineers review. Such activities shall still meet the other requirements of this chapter, including the mitigation requirements.

Regional Permit 3, which authorizes, for example, underground and overhead utilities, storm and sanitary sewer outfalls, sidewalks, patios, athletic fields, playground equipment and streambank protection activities; may be permitted without a licensed P.E.'s review. Such activities shall still meet the other requirements of this Ordinance, including the mitigation requirements.

OCCUPATION AND USE OF SFHA AREAS WHERE FLOODWAY ARE NOT IDENTIFIED

§ 152.065 DEVELOPMENT IN SFHA OR REGULATED FLOODPLAIN

(A) In SFHA or flood plains, where no floodway have been identified and no base flood or 100-year frequency flood elevations have been established by FEMA, and draining more than a square mile, development must meet the requirements of the IDNR-OWR, and no development shall be permitted unless the cumulative effect of the proposals, when combined with all other existing and anticipated uses and structures, shall not significantly impede or increase the flow and passage of the floodwaters nor significantly increase the base flood or 100-year frequency flood elevation.

(B) The applicant shall obtain approval from the IDNR-OWR for all development any portion of which is located partially or completely within the Regulatory Floodplain (without a delineated Regulatory Floodway) with a tributary drainage area of 1 square mile or more.

(C) The development shall not singularly or cumulatively result in an obstruction of flood flows or potential flood damages outside the site due to an increase in flood heights, velocities, or loss of floodplain area storage.

(D) No new structures or buildings with basements are permitted within the SFHA as determined by elevation from an FIS or detailed flood study. All buildable residential and nonresidential lots must be outside the SFHA for new development to minimize flood risk associated with base flood and higher-magnitude floods. Subdivisions and Planned Unit Developments are required to obtain a Letter of Map Revision from FEMA in accordance with § 152.091.

§ 152.066 DEVELOPMENT PERMIT.

(A) No person, firm, corporation, or governmental body, not exempted by state law, shall

commence any development in a SFHA or flood plain without first obtaining a development permit from the Administrative Department. Application for a development permit shall be made on a form provided by the Administrative Department. The application shall be accompanied by drawings of the site, drawn to scale showing:

- (1) Property line dimensions;
 - (2) Existing grade elevations and all changes in grade resulting from excavation or filling, sealed by a licensed engineer or surveyor;
 - (3) The location and dimensions of all buildings and additions to buildings; and
 - (4) The elevation of the lowest floor (including basement) and walk-out and look-out elevations and locations, of all proposed buildings subject to the requirements of §§ 152.080 through 152.087.
- (B) The application for a development permit shall also include the following information:
- (1) A detailed description of the proposed activity, its purpose, and intended use;
 - (2) Site location (including legal description) of the property, drawn to scale, on the regulatory floodway maps, indicating whether it is proposed to be in an incorporated or unincorporated area;
 - (3) Anticipated dates of initiation and completion of activity;
 - (4) Plans of the proposed activity shall be provided which include as a minimum:
 - (a) A vicinity map showing the site of the activity, name of the waterway, boundary lines, names of roads in the vicinity of the site, graphic or numerical scale, and north arrow;
 - (b) A plan view of the project and engineering study reach showing existing and proposed conditions including principal dimensions of the structure or work, elevations in mean sea level (1988 adjustment) datum or NAVD, adjacent property lines and ownership, drainage and flood control easements, distance between proposed activity and navigation channel (when the proposed construction is near a commercially navigable body of water), flood plain limit, location and orientation of cross-sections, north arrow, and a graphical or numerical scale;
 - (c) Cross-section views of the project and engineering study reach showing existing and proposed conditions including principal dimensions of the work as shown in plan view, existing and proposed elevations, normal water elevation, 10-year frequency flood elevation, 100-year frequency flood elevation, and graphical

or numerical scales (horizontal and vertical); and

(d) A soil erosion and sedimentation control plan for disturbed areas. This plan shall include a description of the sequence of grading activities and the temporary sediment and erosion control measures to be implemented to mitigate their effects. This plan shall also include a description of final stabilization and revegetation measures, and the identification of a responsible party to ensure post-construction maintenance. All erosion and sediment control requirements of the Village of Frankfort Design Standards Section 2 and NPDES II shall also apply.

(5) Engineering calculations and supporting data shall be submitted showing that the proposed work will meet the criteria of § 152.069.

(6) Any and all other local, state and federal permits or approvals that may be required for this type of development.

§ 152.067 ELEVATION OF DEVELOPMENT SITE TO BE COMPARED TO BASE FLOOD ELEVATION.

(A) Based on the best available existing data according to federal, state or other sources, the Administrative Department shall compare the elevation of the site to the base flood or 100-year frequency flood elevation. Should no elevation information exist for the site, the developer's engineer shall calculate the elevation according to § 152.004. Any development located on land that can be shown to have been higher than the base flood elevation as of the site's first Flood Insurance Rate Map Identification is not in the SFHA and, therefore, not subject to the requirements of this chapter. The Administrative Department shall maintain documentation of the existing ground elevation at the development site and certification that this ground elevation existed prior to the date of the site's first Flood Insurance Rate Map identification. The Administrative Department shall be responsible for obtaining from the applicant copies of all other federal, state, and local permits, approvals or waivers that may be required for this type of activity. The Administrative Department shall not issue the development permit unless all required federal, state, and local permits have been obtained.

(B) All National Flood Insurance Program Map determinations done by the Village shall be assessed a fee in a sum to be determined from time to time by the Board of Trustees

§ 152.068 DUTIES OF ADMINISTRATIVE DEPARTMENT IN REGARD TO PERMITS.

The Administrative Department shall be responsible for obtaining from the applicant copies of all other local, state, and federal permits, approvals or permit-not-required letters that may be required for this type of activity. The Administrative Department shall not issue the development permit unless all required local, state and federal permits have been obtained.

§ 152.069 PREVENTING INCREASED DAMAGES.

(A) No development in the SFHA, where a floodway has not been determined shall create a damaging or potentially damaging increase in flood heights or velocity or threat to public health, safety and welfare or impair the natural hydrologic and hydraulic functions of the floodway or channel, or impair existing water quality or aquatic habitat. Construction impacts shall be minimized by appropriate mitigation methods as called for in this chapter. No new structures or buildings with basements are permitted within the SFHA as determined by elevation from an FIS or detailed flood study. All buildable residential and nonresidential lots must be outside the SFHA for new development to minimize flood risk associated with base flood and higher-magnitude floods. Subdivisions and Planned Unit Developments are required to obtain a Letter of Map Revision from FEMA in accordance with § 152.091.

§ 152.070 DEVELOPMENT STANDARDS FOR RIVERINE SFHA.

Within all riverine SFHA's where the floodway has not been determined, the following standards shall apply:

(A) The developer shall have a registered professional engineer state in writing and show through supporting plans, calculations, and data that the project meets the engineering requirements of §§ 152.036 through 152.047 for the entire flood plain as calculated under the provisions of § 152.004. As an alternative, the developer should have an engineering study performed to determine a floodway and demonstrate that the proposed development will maintain the existing conditions conveyance, will not increase flood velocities, will not increase flood profiles and will compensate for any lost floodplain storage and then submit engineering studies to IDNR-OWR for acceptance as a regulatory floodway. Upon acceptance of their floodway by the department, the developer shall then demonstrate that the project meets the requirements of §§ 152.080 through 152.087 for the regulatory floodway. The floodway shall be defined according to the definition in § 152.002.

(B) A development permit shall not be issued unless the applicant first obtains a permit from IDNR-OWR or written documentation that a permit is not required from IDNR-OWR.

(C) No permit from IDNR-OWR shall be required if the IDNR-OWR has delegated permit responsibility to the Village per 17 Ill. Adm. Code, Chapter I, IDNR Part 3708 (Floodway Construction in Northeastern Illinois) for regulatory floodway, per IDNR-OWR's statewide permit entitled "Construction in Flood Plains with No Designated Floodway in Northeastern Illinois."

§ 152.071 PERMITS FOR DAMS.

(A) Any work involving the construction, modification or removal of a dam or an on-stream structure to impound water as defined in § 152.002 per 17 Ill. Adm. Code Part 3702 (Rules for Construction of Dams) shall obtain an IDNR-OWR permit or letter indicating a permit is not required prior to the start of construction of a dam.

(B) If the Administrative Department finds a dam that does not have an IDNR-OWR permit, the Administrative Department shall immediately notify the Dam Safety Section of IDNR-OWR Bartlett office.

(C) If the Administrative Department finds a dam which is believed to be in unsafe condition, the Administrative Department shall immediately notify the owner of the dam and the Illinois Emergency Services and Disaster Agency (ESDA), and the IDNR-OWR Bartlett Office and the Illinois Emergency Management Agency (IEMA).

§ 152.072 ACTIVITIES PERMITTED WITHOUT REVIEW.

The following activities may be permitted without a registered professional engineer's review or calculation of a base flood elevation and regulatory floodway. Such activities shall still meet the other requirements of this chapter:

- (A) Bridge and culvert crossings of streams in rural areas meeting conditions of IDNR/OWR Statewide Permit No. 2
- (B) Barge fleeting facilities meeting conditions of IDNR/OWR Statewide Permit No. 3;
- (C) Aerial utility crossings meeting conditions of IDNR/OWR Statewide Permit No. 4 .
- (D) Minor boat docks meeting conditions of IDNR/OWR Statewide Permit No. 5; gravel.
- (E) Minor, non-obstructive activities meeting conditions of IDNR/OWR Statewide Permit No. 6; activities (not involving fill or positive change in grade) are covered by this permit; .
- (F) Outfall structures and drainage ditch outlets meeting conditions of IDNR/OWR Statewide Permit No. 7;
- (G) Underground pipeline and utility crossings meeting the conditions of IDNR/OWR Statewide Permit No. 8;
- (H) Bank stabilization projects meeting the conditions of IDNR/OWR Statewide Permit No. 9; :
- (I) Accessory structures and additions to existing residential buildings meeting the conditions of IDNR/OWR Statewide Permit No. 10;
- (J) Minor maintenance dredging activities meeting conditions of DNR/OWR Statewide Permit No. 11;
- (K) 802.3.11 Bridge and culvert replacement structures and bridge widenings meeting conditions of IDNR/OWR Statewide Permit No. 12;

(L) Temporary construction activities meeting conditions of IDNR/OWR Statewide Permit No. 13;

(M) Special Uses of Public Waters meeting conditions of IDNR/OWR Statewide Permit No. 14; and

(N) Any development determined by IDNR/OWR to be located entirely within a flood fringe area shall be exempt from State Floodway permit requirements.

§ 152.073 FLOOD-CARRYING CAPACITY TO BE MAINTAINED.

The flood carrying capacity within any altered or relocated watercourse shall be maintained.

§ 152.074 COMPENSATORY STORAGE.

(A) Whenever any portion of a flood plain is authorized for use, the volume of space which will be occupied by the authorized fill or structure below the base flood or 100-year frequency flood elevation shall be compensated for and balanced by a hydraulically equivalent volume of excavation taken from below the base flood or 100-year frequency flood elevation. Detention volume and associated berming within the SFHA shall be considered as fill if it occupies volume that was previously occupied by the base flood.

(B) The excavation volume shall be at least equal to 1.5 times the volume of storage lost due to the fill or structure. In the case of streams and watercourses, such excavation shall be made opposite or adjacent to the areas so filled or occupied.

(C) All flood plain storage lost below the existing 10-year flood elevation shall be replaced below the proposed 10-year flood elevation. All flood plain storage lost above the existing 10-year flood elevation shall be replaced above the proposed 10-year flood elevation. All such excavations shall be constructed to drain freely and openly to the watercourse and shall be located adjacent to the development.

(D) The fill material shall be homogeneous and isotropic and compacted to at least 95% (Standard Proctor).

(E) Finished grade shall be 4:1 maximum and 1% minimum. Retaining walls, excluding control structures, are not permitted below the BFE.

(F) Adequate protection is required for fill slopes exposed to flood waters with expected velocities during the occurrence of the base flood of 5 fps or less by covering them with vegetation undergrowth (grass, vines, etc.).

(G) Adequate protection is required for fill slopes exposed to flood waters with expected velocities during the occurrence of the base flood greater than 5 fps by covering them with stone or rock slope protection or other material acceptable to the Village.

PERMITTING REQUIREMENTS APPLICABLE TO ALL FLOODPLAIN AREAS

§ 152.080 ADDITIONAL PERMIT REQUIREMENTS FOR ALL FLOODPLAIN AREAS.

In addition to the requirements found in Chapter 152: Flood Regulations, all properties shall comply with the Will County Stormwater Management Ordinance (latest version).

In addition to the requirements found in §§ 152.015 through 152.018, 152.025 through 152.056, 152.065 through 152.074 for development in flood fringes, regulatory floodways, and SFHA or flood plains where no floodways have been identified (Zones A, AO, AH, AE, A1-A30, A99, VO, V1-30, VE, V, M or E), the following requirements shall be met.

§ 152.081 PUBLIC HEALTH STANDARDS.

(A) No developments in the SFHA shall include locating or storing chemicals, explosives, buoyant materials, animal wastes, fertilizers, flammable liquids, pollutants, or other hazardous or toxic materials below the FPE.

(B) New and replacement water supply systems, wells, and sanitary sewer lines may be permitted providing all manholes or other above ground openings located below the FPE are watertight.

(C) New on-site waste disposal systems, such as septic systems, are allowed in the Regulatory Floodplain only if they meet all of the following conditions:

- (1) The invert of any wastewater distribution lines shall be a minimum of 2' above the water surface elevation of the base flow of any perennial stream;
- (2) The lateral distance from a ditch, creek, or other riverine source to the wastewater distribution lines shall be a minimum of 75';
- (3) The elevation of any areas which are to receive wastewater distribution shall be above the ordinary high-water mark;
- (4) The soil of the receiving field shall be of a type suitable for septic fields;
- (5) The tank shall be placed out of the floodplain with the invert of the outlet above the BFE.
- (6) A permit for the disposal system is approved by the appropriate jurisdictional authority, namely the County Public Health Department, IEPA or other.

(D) New, substantially improved or replacement wastewater treatment plants shall have

watertight openings for those openings located below the FPE. Such facilities should be located to avoid impairment to the facility or contamination of floodwaters during the base flood.

(E) Public utilities and facilities such as sewer, gas and electric shall be located and constructed to minimize or eliminate flood damage.

(F) Public sanitary sewer systems and water supply systems shall be located and constructed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters.

(G) All other activities defined as development shall be designed so not to alter flood flows or increase potential flood damages.

§ 152.082 CARRYING CAPACITY AND NOTIFICATION.

For all projects involving channel modification, fill or stream maintenance (including levees), the flood carrying capacity of the watercourse shall be maintained. In addition, the Village shall notify adjacent communities and the State Coordinating Office in writing 30 days prior to the issuance of a permit for the alteration or relocation of the watercourse.

§ 152.083 PROTECTING BUILDINGS.

(A) All existing buildings located within and immediately adjacent to a 100-year flood plain also known as a SFHA, shall be protected from flood damage below the flood protection elevation. No new structures or buildings with basements are permitted within the SFHA as determined by elevation from an FIS or detailed flood study. All buildable residential and nonresidential lots must be outside the SFHA for new development to minimize flood risk associated with base flood and higher-magnitude floods. Subdivisions and Planned Unit Developments are required to obtain a Letter of Map Revision from FEMA in accordance with § 152.091.

However, existing buildings located within a regulatory floodway shall also meet the more restrictive appropriate use standards included in §§ 152.025 through 152.056.

(B) This building protection criteria applies to the following situations:

(1) Construction or placement of a new building;

(2) Substantial improvements or structural alterations made to an existing building that increase the floor area by more than twenty percent (20%) or equal or exceed the market value by fifty percent (50%). Alteration shall be figured cumulatively during the life of the building. If substantially improved, the existing structure and the addition must meet the flood protection standards of this section;

(3) Installing a manufactured home on a new site or a new manufactured home on an existing site. This building protection requirements does not apply to returning a mobile

home to the same site it lawfully occupied before it was removed to avoid flood damage;
and

(4) Installing a travel trailer on a site for more than 180 days. This building protection requirement may be met by one of the following methods set forth in §§ 152.084 through 152.086.

(5) Repetitive loss to an existing building.

(6) Repairs made to a substantially damaged building. These repairs shall be figured cumulatively during the life of the building. If substantially damaged the entire structure must meet the flood protection standards of this section.

§ 152.084 SITE GRADING, FILL, AND BUILDINGS ADJACENT TO SFHA.

A new residential or non-residential building with a basement may not be constructed on permanent land fill. New residential or non-residential buildings within the SFHA, within shaded Zone X and adjacent to SFHA shall be constructed in accordance with the following:

(A) The lowest floor, (including basement), and openings for walk-out and look-out foundations, shall be at or above the flood protection elevation. An attached garage for a structure shall be at least 1.0' above the BFE.

(B) Attendant utility and sanitary facilities for non-residential structures, shall be designed so that below the FPE, the structures are 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.

(C) The fill shall be placed in layers no greater than six inches deep before compaction and should extend at least ten feet beyond the foundation of the building before sloping below the flood protection elevation. The top of the fill shall be at or above the flood protection elevation. The fill shall be protected against erosion and scour. The fill shall be composed of rock or soil and not incorporated debris or refuse materials. The fill shall not adversely affect the flow or surface drainage from or onto neighboring properties.

§ 152.085 ELEVATING BUILDINGS.

An existing residential or non-residential building, substantial improvement, and associated additions within the SFHA meeting all other criteria of this chapter may be designed, modified, anchored, or elevated to prevent flotation, collapse, or lateral movement of the structure in accordance with the following:

(A) The building or improvements shall be elevated on crawl space, stilts, piles, walls, or other foundation that is permanently open to flood waters and not subject to damage by buoyancy or hydrostatic pressures of the base flood or 100-year frequency flood by allowing the automatic

entry and exit of flood waters. Designs must either be certified by a licensed professional engineer or by having a minimum of one (1) permanent opening on each wall shall be no more than one-foot above grade and consists of a minimum of two openings. The openings must have a total net area of not less than one square inch for every one square foot of enclosed are subject to flooding below the Base Flood Elevation.

(B) The foundation and supporting members shall be anchored and aligned in relation to flood flows and adjoining structures so as to minimize exposure to known hydrodynamic forces such as current, waves, ice and floating debris.

(C) All areas below the flood protection elevation shall be constructed of materials resistant to flood damage. The lowest floor (including basement, crawlspaces, and walk-out basements) and all electrical, heating, ventilating, plumbing, air conditioning equipment, utility meters, and other service facilities shall be designed and/or located at or above the flood protection elevation and to prevent water from entering or accumulating within the components during conditions of flooding. Water and sewer pipes, electrical and telephone lines, submersible pumps, and other waterproofed service facilities may be located below the flood protection elevation.

(D) No area below the flood protection elevation shall be used for storage of items or materials.

(E) Manufactured homes and travel trailers to be installed on a site for more than 180 days, shall be elevated on a permanent foundation to or above the flood protection elevation and securely anchored to an adequately anchored foundation system; and, shall be anchored to resist flotation, collapse, or lateral movement by being tied down in accordance with the Rules and Regulations from the Illinois Mobile Home Tie-Down Act issued pursuant to 77 Ill. Adm. Code 870. Methods of anchoring may include, but are not to be limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable State and local anchoring requirements for resisting wind forces.

(F) Recreational vehicles shall be located outside of all regulatory floodplain and floodway.

(G) The building may be constructed with a crawlspace located below the flood protection elevation provided that the above conditions are met as well as the following conditions:

(1) The interior grade of the crawlspace below the flood protection elevation must not be more than two (2) feet below the lowest adjacent exterior grade.

(2) The interior height of the crawlspace measured from the interior grade of the crawl to the top of the foundations wall must not exceed four (4) feet at any point.

(3) 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.

(4) Utility systems within the crawlspace must be elevated above the flood protection elevation.

§ 152.086 FLOODPROOFING OF PROPOSED AND EXISTING BUILDINGS.

(A) New buildings adjacent to the SFHA and within shaded Zone X shall be elevated to the FPE. Dry floodproofing for new buildings is not permitted in lieu of compliance with the FPE requirements.

(B) Accessory structures, such as tool sheds, which are not substantial improvements on an existing single-family lot, may be constructed with the lowest floor below the FPE in accordance with all of the following criteria.

(1) The building shall not be used for human habitation, nor have water or sanitary sewer service.

(2) All areas below the FPE shall be constructed with waterproof material. Structures located in a Regulatory Floodway shall meet §§ 152.025 through 152.056.

(3) The structure shall be anchored to prevent flotation and movement.

(4) Service facilities such as electrical and heating equipment shall be elevated or flood proofed to the FPE.

(5) The building shall be no greater than 600 square feet in floor size. The building shall meet permanent opening criteria as established by the Will County Stormwater Ordinance.

(6) The building shall be used only for the storage of vehicles or tools and may not contain basements or other rooms, workshops, greenhouses, storage of hazardous materials, or similar uses.

(7) If located in a designated floodway, the structure shall be constructed and placed on a building site so as not to block flood flows nor reduce floodway storage and shall also meet the Appropriate Use criteria of Section 152.028 B. 6. and all other applicable requirements of this ordinance.

(C) Any modification to an existing structure with dry floodproofing shall provide the following:

(1) A registered professional engineer or structural engineer shall certify that the building has been structurally dry floodproofed below the FPE; the elevation to which the structure was floodproofed, and the structure and attendant utility facilities are watertight and capable of resisting the effects of the BFE. Fully enclosed areas below the lowest floor that are usable solely for parking of vehicles, building access or storage in an area other than a basement and are subject to flooding, shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered

professional engineer or architect or meet or exceed the following criteria: A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

(2) The building design shall take into account flood velocities, duration, rate of rise, hydrostatic and hydrodynamic forces, the effects of buoyancy, and impacts from debris or ice.

(3) Flood proofing measures shall be operable without human intervention and without an outside source of electricity.

(4) Levees, berms, floodwalls and similar works are not considered floodproofing for the purpose of this section.

(D) Construction of new or substantially improved critical facilities shall be located outside the limits of the floodplain. Construction of new critical facilities shall be permissible within the floodplain if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor (including basement) elevated or structurally dry floodproofed to the 500-year flood frequency elevation or 3' above the level of the 100-year flood frequency elevation, whichever is greater. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Access routes elevated to or above the level of the BFE shall be provided to all critical facilities.

§ 152.087 NON-CONFORMING STRUCTURES.

Existing buildings located within a designated floodway shall also meet the more restrictive Appropriate Use standards. Non-conforming structures located in a regulatory floodway may remain in use, but may not be enlarged, replaced or structurally altered. A non-conforming structure damaged by flood, fire, wind or other natural or man-made disaster may be restored unless the damage equals or exceeds 50% of its market value before it was damaged, in which case it shall conform to this chapter.

§ 152.088 CONSTRUCTION OF NEW BRIDGES OR CULVERT CROSSINGS AND ROADWAY APPROACHES.

(A) The proposed structure shall not result in an increase of upstream flood stages greater than 0.1 foot when compared to the existing conditions for all flood events up to and including the 100-year frequency event; or the upstream flood stage increases will be contained within the channel banks (or within existing vertical extensions of the channel banks) such as within the design protection grade of existing levees or flood walls or within recorded flood easements. If the proposed construction will increase upstream flood stages greater than 0.1 feet, the developer must contact IDNR-OWR Dam Safety Section for a Dam Safety permit or waiver.

(B) The engineering analysis of upstream flood stages must be calculated using the flood study flows, and corresponding flood elevations for tailwater conditions for the flood study specified in § 152.004. Bridges and Culverts must be analyzed using any commonly accepted FEMA approved hydraulic models.

(C) Lost floodway storage must be compensated for per § 152.037.

(D) Velocity increases must be mitigated per § 152.038.

(E) If any work is proposed in, near or over a public body of water, a permit or letter indicating a permit is not required must be obtained from IDNR-OWR.

(F) The hydraulic analysis for the backwater caused by the bridge showing the existing condition and proposed regulatory profile must be submitted to IDNR-OWR for concurrence that a CLOMR is not required by § 152.028.

(G) All excavations for the construction of the crossing shall be designed per § 152.043.

(H) For modification or replacement of existing structures, the existing structure must first be evaluated in accordance with IDNR-OWR Rules to determine if the existing structure is a source of flood damage. If the structure is a source of flood damage, the applicant's engineer shall submit justification to allow the damage to continue and evaluate the feasibility of relieving the structure's impact. Modifications or replacement structures shall not increase flood stages compared to the existing condition for all flood events up to and including the base flood event. The evaluation must be submitted to IDNR-OWR, for review and concurrence before a permit is issued. The Village shall be copied on all related correspondence.

(I) Construction vehicles shall cross streams by the means of existing bridges or culverts. Where an existing crossing is not available, a temporary crossing that has been issued a permit or waiver by IDNR-OWR shall be constructed in which:

(1) The approach roads will be 0.5' or less above the existing grade.

(2) The crossing will allow stream flow to pass without backing up the water above the stream bank vegetation line or above any drainage tile or outfall.

(3) The top of the roadway fill in the channel will be at least 2' below the top of the lowest bank. Any fill in the channel shall be non-erosive material, such as rip-rap or gravel.

(4) The access road and temporary crossings will be removed within one year after installation, unless an extension of time is granted by the Village.

§ 152.089 RECONSTRUCTION OR MODIFICATION OF EXISTING BRIDGES, CULVERTS, AND APPROACH ROADS.

(A) The bridge or culvert and roadway approach reconstruction or modification shall be constructed with no more than 0.1 foot increase in backwater over the existing flood profile for all flood frequencies up to and including the 100-year event, if the existing structure is not a source of flood damage.

(B) If the existing bridge or culvert and roadway approach is a source of flood damage to buildings or structures in the upstream flood plain, the applicant's engineer shall evaluate the feasibility of redesigning the structure to reduce the existing backwater, taking into consideration the effects on flood stages on upstream and downstream properties.

(C) The determination as to whether or not the existing crossing is a source of flood damage and should be redesigned must be prepared in accordance with the 17 Ill. Adm. Code, Chapter I, IDNR Part 3708 (Floodway Construction in Northeastern Illinois) and submitted to the Division IDNR-OWR for review and concurrence before a permit is issued.

§ 152.090 DETENTION FACILITIES WITHIN AND ADJACENT TO THE FLOODPLAIN

(A) Detention facilities located within the regulatory floodplain are strongly discouraged but may be considered under the following considerations:

(1) Be located above the calculated 10-year flood elevation (including the normal water level and lower restrictor). On stream or on-line detention facilities will only be permitted when the precedence has been established for the upstream portion of the SFHA and a net watershed benefit is demonstrated by detailed hydrologic and hydraulic analysis. Any structure constructed across the channel to impound water to meet detention requirements shall be prohibited on any perennial stream unless part of a public flood control project with a net watershed benefit. Those streams appearing as blue on a USGS Quadrangle Map shall be assumed perennial unless better data is obtained. All cross stream structures for the purpose of impounding water to provide detention in all cases on perennial and intermittent streams must demonstrate that they will not cause short term or long term stream channel instability.

(2) Store the required amount of site runoff to meet the release rate requirement under all stream flow and backwater conditions in the receiving stream up to the 10-year flood elevation; and

(3) Comply with the Village of Frankfort Design Standards Section 4.03 E-10 updated July 2007 or as amended from time to time.

(B) Detention facilities located adjacent to the regulatory floodplain shall:

- (1) Be located above the calculated 10-year flood elevation (including the normal water level and lower restrictor).
- (2) Store the required amount of site runoff to meet the release rate requirement under all stream flow and backwater conditions in the receiving stream up to the 10-year flood elevation; and
- (3) Comply with the Village of Frankfort Design Standards Section 4.03 E-10 updated July 2007 or as amended from time to time.

§ 152.091 LETTER OF MAP CHANGES

- (A) All buildable residential and nonresidential lots must be outside the SFHA for new development.
- (B) Subdivisions and Planned Unit Developments are required to obtain a Letter of Map Revision prior to the Village issuing building permits for lots identified as lying inside an SFHA based on FEMA's current effective FIRM.
- (C) All Final Plats of Subdivision and Final Plats of PUD shall list all lots lying inside the SFHA based on FEMA's current effective FIRM and as being permit restricted until the LOMR is approved and copy provided to the Village.
- (D) Under certain conditions, when engineered earthen fill is placed within an SFHA to raise the surface of the ground to or above the BFE, a request may be submitted to FEMA to revise the FIRM to indicate that the filled land is outside of the SFHA.

OTHER DEVELOPMENT REQUIREMENTS

§ 152.100 FLOOD HAZARDS TO AFFECT LAND MANAGEMENT.

The Board of Trustees shall take into account flood hazards, to the extent that they are know in all official actions related to land management, use and development.

§ 152.101 DEVELOPMENT PROJECTS TO BE REVIEWED FOR COMPLIANCE WITH THIS CHAPTER.

New development, buildings including homes, subdivisions, manufactured home parks, annexation agreements, and Planned Unit Developments (PUDs) within the SFHA shall be reviewed to assure that the proposed developments are consistent with §§ 152.015 through 152.087 and the need to minimize flood damage. Plats or plans for new subdivisions, mobile home parks and Planned Unit Developments (PUDs) shall include a signed statement by a registered professional engineer that the plat or plans account for changes in the drainage of surface waters in accordance with the Plat Act (765 ILCS 205, § 2).

§ 152.102 PROPOSALS TO INCLUDE FLOOD ELEVATION DATA.

Proposals for new subdivisions, manufactured home parks, travel trailer parks, planned unit developments (PUDs) and additions to manufactured home parks and additions to subdivisions shall include base flood or 100-year frequency flood elevation data and floodway delineations. Where this information is not available from existing adopted study, the applicant's engineer shall be responsible for calculating the base flood or 100-year floodway delineation per the definition in § 152.002 and submitting it to the State Water Survey and IDNR-OWR for review and approval as best available regulatory data. At a minimum, the following material shall be submitted for engineering review for all projects including or in close proximity to regulatory floodplain:

(A) FIRM with scaled project limits.

(B) FIS profile with project limits.

(C) The Grading Plan, Topographic Workmap or a Floodplain Exhibit and the Preliminary and Final Plats shall include all of the following:

(1) Regulatory Floodplain shall be delineated from the current FEMA FIRM, FBFM or LOMR.

(2) Regulatory Floodway as delineated on the current effective regulatory maps scaled using references common to both the map and the plan.

(3) Existing BFE by Elevation (determined by FIS profile, flows and data; elevation or depth from AH or AO zones; or detailed site specific flood study).

(4) Proposed BFE by Elevation (determined by detailed flood study).

(5) All plats shall list all lots lying inside the SFHA based on FEMA's current effective FIRM and as being permit restricted until the LOMR is approved and copy provided to the Village.

(6) Village benchmark used and correlation equation to FEMA datum (NAVD 1988).

(7) All existing and/or proposed buildings and structures with lowest floor (including basements) and openings (walk-out and look-out) locations and elevations indicated within the project limits and within 100' offsite.

(8) Existing and proposed contours and spot elevations.

(9) Existing and proposed drainage and utility easements.

(10) Erosion and Sedimentation Control Plan/Stormwater Pollution Prevention Plan.

(D) The plan set shall also include:

- (1) Cross section locations.
- (2) 10-year and 100-year existing and proposed flood elevations.

(E) The Detailed Site Specific Flood Study shall include, but not be limited to:

- (1) Hydrologic Analysis (Input and Output) using TR-20 or Pond Pack as developed by Haestad Methods, Inc. If an existing regulatory model uses the ACOE computer model, HEC-1, that model can be used.
- (2) Drainage Area Exhibit utilizing best available contour information (with location of Time of Concentration path, soil types and runoff coefficients).
- (3) Existing and Proposed Hydraulic Analysis (Input and Output) using HEC-2, HEC-RAS, or WSP-2.
- (4) Existing and Proposed Model Cross Sections.
- (5) Existing and Proposed Detailed Cross Sections.
- (6) Tabular summary of 100-year flood elevations and discharges for existing and proposed conditions.

(F) Where compensatory storage is permitted, the calculation shall include:

- (1) Cross Sections with existing and proposed 10-year and 100-year elevations labeled.
- (2) Areas of cut and fill above and below the 10-year elevation.
- (3) Tabular calculation of total fill, required compensatory storage and provided compensatory storage.

(G) Design computations shall be made by the Design Engineer for all phases of the project when such computations are required to facilitate review by the Village Engineer. Said computations shall be neat and legible and in a form considered acceptable by the Village Engineer. Said computations shall include, but not necessarily be limited to those listed in this section of the chapter.

(H) Performance Security as required by the Village.

(I) Maintenance and Monitoring Plan as required by the Village.

(J) Copy of correspondence and permits relating to floodplain areas and/or required by Federal or State law, including, but not limited to those issued by FEMA, IDNR-OWR and ACOE (Section 404).

§ 152.103 NATURAL FEATURES TO BE PRESERVED AND UTILIZED WHENEVER POSSIBLE.

Streets, blocks, lots, parks and other public grounds shall be located and laid out in such a manner as to preserve and utilize natural streams and channels. Wherever possible, the flood plains shall be included within parks, outlots or other public grounds.

§ 152.104 PLANNED UNIT DEVELOPMENTS.

The Board of Trustees shall not approve any Planned Unit Development (PUD) or plat of subdivision located outside the corporate limits unless such agreement or plat is in accordance with the provisions of this chapter.

VARIANCES

§ 152.115 VARIANCES IN REGULATORY FLOODWAY PROHIBITED; OUTSIDE FLOODWAY EXCEPTED.

No variances shall be granted to any development located in a regulatory floodway as defined in § 152.002. However, when a development proposal is located outside of the regulatory floodway, and whenever the standards of this chapter place undue hardship on a specific development proposal, the applicant may apply to the Village for a variance. The Administrative Department shall review the applicant's request for a variance and shall submit its recommendation to the Board of Trustees.

§ 152.116 CONDITIONS FOR VARIANCE.

No variance shall be granted unless the applicant demonstrates that all of the following conditions are met:

- (A) The development activity cannot be located outside the SFHA;
- (B) An exceptional hardship would result if the variance were not granted;
- (C) The relief requested is the minimum necessary;
- (D) There will be no additional threat to public health, safety, beneficial stream uses and functions, especially aquatic habitat, or creation of a nuisance;

(E) There will be no additional public expense for flood protection, lost environmental stream uses and functions, rescue or relief operation, policing, or repairs to stream beds and banks, road, utilities, or other public facilities;

(F) The provisions of §§ 152.017 and 152.069 shall still be met;

(G) The activity is not in a regulatory floodway;

(H) The applicant's circumstances are unique and do not represent a general problem; and

(I) The granting of the variance will not alter the essential character of the area involved including existing stream uses.

(J) All other required state and federal permits or waivers have been obtained.

§ 152.117 APPLICANT TO BE NOTIFIED OF VARIANCE'S EFFECT ON PROBATION.

The Administrative Department shall notify an applicant in writing that a variance from the requirements of §§ 152.080 through 152.087 that would lessen the degree of protection to a building will:

(A) Result in increased premium rates for flood insurance up to amounts as high as \$25 for \$100 of insurance coverage;

(B) Increase the risks to life and property; and

(C) Require that the applicant proceed with knowledge of this risks and that he will acknowledge in writing that he assumes the risk and liability.

§ 152.118 VARIANCES MAY BE GRANTED FOR HISTORIC PRESERVATION.

Variations requested in connection with restoration of a site or building listed on the National Register of Historical Places or documented as worthy of preservation by the Illinois Historic Preservation Agency may be granted using criteria more permissive than the requirements of §§ 152.116 and 152.117, subject to the conditions that:

(A) The repair or rehabilitation is the minimum necessary to preserve the historic character and design of the structure; and

(B) The repair or rehabilitation will not result in the structure being removed as a certified historic structure.

ADMINISTRATION AND ENFORCEMENT

§ 152.125 DUTIES OF THE ENFORCEMENT OFFICIALS.

The Administrative Department shall be responsible for the general administration and enforcement of this chapter which shall include the following:

(A) *Determining the flood plain designation.* Check all new development sites to determine whether they are in a Special Flood Hazard Area (SFHA). If they are in a SFHA, determine whether they are in a floodway, flood fringe or in a flood plain on which a detailed study has not been conducted which drains more than one square mile. Check whether the development is potentially within an extended SFHA (with a drainage area less than one square mile), indicating that the development would have adverse impacts regarding storage, conveyance, or inundation which would be the basis for the applicant being required to delineate the floodplain and floodway and be subject to the remaining sections of this Ordinance.

(B) *Professional engineer review.* If the development site is within a floodway or in a floodplain on which a detailed study has not been conducted which drains more than one square mile then the permit shall be referred to a registered professional engineer (P.E.) under the employ or contract of the Village for review to ensure that the development meets the requirements of §§ 152.025 through 152.056. In the case of an appropriate use, the P.E. shall state in writing that the development meets the requirements of §§ 152.025 through 152.056.

(C) *Dam safety requirements.* Dams are classified as to their size and their hazard/damage potential in the event of failure. Permits for dams may be required from IDNR/OWR. Contact IDNR/OWR to determine if a permit is required. If a permit is required, a permit application must be made to IDNR/OWR prior to the construction or major modification of jurisdictional dams.

(D) *Other permit requirements.* Ensure that any and all required federal, state and local permits are received prior to the issuance of a flood plain development permit.

(E) *Plan review and permit issuance.* Ensure that all development activities within the SFHA's of the jurisdiction of the Village meet the requirements of this chapter and issue a floodplain development permit in accordance with the provisions of this chapter and other regulations of this community when the development meets the conditions of this chapter.

(F) *Inspection review.* Inspect all development projects before, during and after construction to assure proper elevation of the structure and to ensure they comply with the provisions of this chapter.

(G) *Elevation and floodproofing certificates.* Maintain in the permit files an Elevation Certificate certifying the elevation of the lowest floor (including basement, walk-out and look-out foundations) of a residential or non-residential building or the elevation to which a non-residential building has been floodproofed, using a Floodproofing Certificate, for all buildings

subject to §§ 152.080 through 152.087 for public inspection and provide copies of same.

(H) *Records for public inspection.* Maintain for public inspection and furnish upon request base flood data, SFHA and regulatory floodway maps, copies of federal or state permit documents, variance documentation, Conditional Letter of Map Revision, Letter of Map Revision, Letter of Map Amendment and “as built” elevation and floodproofing or elevation and floodproofing certificates for all buildings constructed subject to this chapter.

(I) *State permits.* Ensure that construction authorization has been granted by the IDNR-OWR, for all development projects subject to §§ 152.025 through 152.074, unless enforcement responsibility has been delegated to the Village. Upon acceptance of this chapter by IDNR-OWR and FEMA, responsibility is hereby delegated to the Village as per 17 Ill. Adm. Code, Chapter I, IDNR Part 3708 for construction in the regulatory floodway and flood plain when floodways have not been defined in §§ 152.025 through 152.074. However, the following review approvals are not delegated to the Village and shall require review or permits from IDNR-OWR:

(1) Organizations which are exempt from this chapter as per the Illinois Compiled Statutes;

(2) IDNR-OWR projects, dams or impoundment structures as defined in § 152.002 and all other state, federal or local unit of government projects, including projects of the Village and Will County, except for those projects meeting the requirements of § 152.056;

(3) Approval of the hydraulic calculation for bridges and culverts; An engineer's determination that an existing bridge or culvert crossing is not a source of flood damage and the analysis indicating the proposed flood profile, per § 152.089;

(4) An engineer's analysis of the flood profile due to § 152.088;

(5) Alternative transition sections and hydraulically equivalent compensatory storage as indicated in §§ 152.036, 152.037, 152.043;

(6) Permit for construction and other activities in public bodies of water pursuant to 17 Ill Admin Code 3708;

(7) Any changes in the Base Flood Elevation or floodway locations; and,

(8) An engineer's determination that a proposed bridge affected by backwater from a downstream receiving stream may be built with a smaller opening.

(J) *Cooperation with other agencies.* Cooperate with state and federal flood plain management agencies to improve base flood or 100-year frequency flood and floodway data and to improve the administration of this chapter. Submit data to the IDNR-OWR and FEMA for proposed revisions of a regulatory map within 6 months whenever a modification of the floodplain may

change the BFE or result in a change to the floodplain map. Submit reports as required for the National Flood Insurance Program. Notify FEMA of any proposed amendments to this chapter.

(K) *Promulgate regulations.* Promulgate rules and regulations as necessary to administer and enforce the provisions of this chapter, subject however to the review and approval of IDNR-OWR and FEMA for any chapter changes.

(L) *Damage Determinations.* Make damage determinations of all damaged buildings in the SFHA after a flood to determine substantially damaged structures.

§ 152.126 DISCLAIMER OF LIABILITY.

(A) The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on available information derived from engineering and scientific methods of study.

(B) Larger floods may occur or flood heights may be increased by man-made or natural causes.

(C) This chapter does not imply that development, either inside or outside of the SFHA, will be free from flooding or damage.

(D) This chapter does not create liability on the part of the Village or any officer, consultant or employee thereof for any flood damage that results from reliance on this chapter or any administrative decision made lawfully there under.

§ 152.127 ABROGATION AND GREATER RESTRICTIONS.

(A) This chapter is not intended to repeal, abrogate or impair any existing easements, covenants, or deed restrictions.

(B) Where this chapter and other ordinances, easements, covenants, or deed restrictions conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

(C) This chapter is intended to repeal the original ordinance or resolution which was adopted to meet the National Food Insurance Program regulations, but is not intended to repeal the resolution which the Village passed in order to establish initial eligibility for the program.

§ 152.998 VIOLATIONS.

(A) Failure to comply with the requirements of a permit or conditions of a variance resolution shall be deemed to be a violation of this Ordinance. Upon due investigation, the Administrative Department may determine that a violation of the minimum standards of this chapter exist. The Administrative Department shall notify the owner in writing of such violation.

(B) If such owner fails, after ten days notice, to correct the violation, the Village may make

application to the Circuit Court for an injunction requiring conformance with this chapter or make such other order as the Court deems necessary to secure compliance with the chapter.

(C) The Village may record a notice of violation on the title to the property.

(D) The Administrative Department 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.

(E) Nothing herein shall prevent the Village from taking such other lawful action to prevent or remedy any violations. All costs connected therewith shall accrue to the person or persons responsible.

§ 152.999 PENALTY.

No person shall construct, enlarge, alter, repair, or maintain any grading, excavation or fill, or cause the same to be done, contrary to or in violation of any terms of this ordinance. Any person violating any of the provisions of this ordinance shall be deemed guilty of a misdemeanor, and each day during which any violation of any of the provisions of this ordinance is committed, continued, or permitted shall constitute a separate offense. Upon conviction of any such violation, such person, partnership, or corporation shall be punished by a fine of not more than \$750 for each offense per day. In addition to any other penalty authorized by this section, any person, partnership, or corporation convicted of violating any of the provisions of this ordinance shall be required to restore the site to the condition existing prior to commission of the violation, or to bear the expense of such restoration.