

Chapter 25
STORMWATER MANAGEMENT

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25.01 STORMWATER MANAGEMENT

The stormwater management regulations of the Village heretofore adopted are continued in full force and effect. The Village of Prairie Grove Stormwater Management Ordinance, as identified on attached Exhibit A, is hereby adopted by reference and made a part of this Chapter 25, and shall take effect on July 28, 2006.

25.02 STORM SEWER DESIGN STANDARDS

All storm sewers within subdivisions and planned developments shall comply with the following minimum design standards:

1. Method of Calculation: Minor stormwater systems shall be sized to convey runoff from the tributary watershed under fully developed conditions consistent with the design requirements of the Village.
 - a. ILLUDUS
 - b. Rational Method
 - c. TR-55 (SCS Method)

2. Minimum Coefficients: Coefficients for each method shall be as follows:

- a. ILLUDUD:

| | |
|---|----|
| Residential districts by average lot size: | |
| 1/8 acre or less | 90 |
| 1/4 acre | 83 |
| 1/3 acre | 81 |
| 1/2 acre | 80 |
| 1 acre | 79 |
| 2 acres | 77 |
| Multiple family residential, including townhouses | 90 |
| Commercial, business, office-research, industrial, institutional and public buildings | 94 |

- b. Rational Method:

| | |
|---|-----------|
| Single Family = > 1 acre | C = 0.30* |
| Single Family < 1 acre | C = 0.40* |
| Multiple family, including townhouses | C = 0.45* |
| Commercial, business, office-research, industrial, institutional and public buildings | C = 0.85* |
| *Precedent rainfall condition not considered | |

- c. TR-55 (SCS Method) (Same as ILLUDUS). The Village Engineer will review coefficients for all drainage areas at the time of preliminary subdivision/plan development.
3. Minimum Intensities: The minimum intensity for the design of storm sewers and inlets shall be 10-year rainfall intensity with an initial concentration time of 20 minutes for the rational method or its equivalent. The maximum velocity acceptable through the sewer is 8 feet/second. All stormwater management system designs shall be routed through the entire subdivision/planned development.
 4. Capacity of Drainage Structure Frames and Grates: Calculations shall be provided as part of the final engineering plans to assure that drainage structure grates have adequate capacity to accommodate the design flows at the designed intensity and runoff coefficients. The design calculation shall be performed and revised in accordance with the Civil Engineering Standard C-35 to check grate capacity. The formula used shall be:

$$Q = AC \sqrt{2gh}$$

Q = Calculated grate capacity (CFS)
A = Area of frame opening (square feet)
c = Entrance coefficient (0.8 for rounded edges) (0.6 for sharp edges)
g = 32.2
h = depth of water allowed over grate (feet)

The head (h) for calculating grate capacity shall never be considered greater than 6 inches above the street centerline. At no time shall the water depth over the inlet in a yard or parking area be less than one foot below the lowest opening in an adjoining building where the water may have access to or flood such building.

25.03 FEES

The following fees shall be paid to the Village prior to the issuance of any permit required by this Chapter.

1. MINOR DEVELOPMENT FEES:

\$250.00 review fee, plus reimbursement of Village for the costs of all professional services incurred in connection with the review, administration and enforcement of the permit application and permit.
2. ALL OTHER MINOR DEVELOPMENT FEES:

\$750.00 review fee, plus reimbursement of Village for the costs of all professional services incurred in connection with the review, administration and enforcement of the permit application and permit.

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Exhibit A

VILLAGE OF PRAIRIE GROVE
STORMWATER MANAGEMENT
ORDINANCE

Adopted: July 18, 2006

Ordinance Outline

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INTRODUCTION

This Ordinance is required pursuant to the adopted McHenry County Comprehensive Stormwater Management Plan. It sets forth the minimum requirements for watershed development within McHenry County. The McHenry County Stormwater Committee (MCSC) is the corporate enforcement authority for the Ordinance. Illinois Compiled Statutes Chapter 55, Act 5, Section 5-1062 (55 ILCS 5/5-1062) states, “The purpose of this Section is to allow management and mitigation of the effects of urbanization on stormwater drainage... by consolidating the existing stormwater management framework into a united, countywide structure ...” The McHenry County Comprehensive Stormwater Management Plan, adopted by Ordinance by the McHenry County Board on June 16, 1997 states, “To provide a consistent level of protection and to provide equity throughout the county, a program for consistent countywide regulation and enforcement should be developed with standards established at the countywide level and, where appropriate, modified at the watershed level to meet watershed specific needs. A countywide regulatory program would involve development of a countywide watershed development ordinance that applies to both incorporated and unincorporated areas. ... the watershed development ordinance should be comprehensive (and) specify standards for stormwater drainage and detention, Floodplain management, soil erosion and sedimentation control, and stream and Wetland protection in a single document.” The MCSC has determined that uniform and consistent enforcement by municipalities that adopt the standards of the Watershed Development Ordinance will enhance the effectiveness of the program. The MCSC also understands that local conditions may sometimes require additional or more restrictive standards to meet the purpose of this Ordinance. In those instances where the requirements of this Ordinance are not stipulated in a municipal ordinance or are more restrictive than municipal requirements, this Ordinance shall prevail. The MCSC may develop a Technical Reference Manual which would be a recommended guide for users of this Watershed Development Ordinance.

This Ordinance is a duplicate of the original McHenry County Stormwater Management Ordinance, dated January 20, 2004, with the exception of various minor additions and clarifications (such as this paragraph) which are shown in bold/italics/underline text.

ARTICLE I. AUTHORITY AND PURPOSE

A. AUTHORITY

This Ordinance is enacted pursuant to the powers granted to McHenry County by 55 ILCS 5/5-1041, 1042, 1049, 1062, 1063, 1104, 12003 & 15001 et seq., (County) and by 65 ILCS 5, Sections 1-2-1, 11-12-12, 11-30-8, 11-30-2, 11-31-2 and 615 ILCS 5, Sections 5 et seq. including 18g (1994 State Bar Edition). The administration and enforcement of this Ordinance shall be performed by:

1. Certified communities, within their respective jurisdictions; and
2. The Stormwater Committee, its consultants, agents or employees in both incorporated and unincorporated areas of McHenry County.

B. PURPOSE

The purpose of this Ordinance is to establish reasonable rules and regulations for development of watershed integrity in order to:

1. Protect and preserve the quality and environmental values of land and water resources in McHenry County;
2. Encourage development in a manner that promotes the orderly, sustainable and cost-effective utilization of land and water resources;
3. Assure that development does not increase flood and drainage hazards, create unstable conditions susceptible to erosion or reduce water quality at or downstream of the site;
4. Minimize the need for additional expenditure of public funds for flood control projects, repairs to flood damaged public facilities and utilities, and flood related emergency operations;
5. Prevent additional disruption of governmental services and the economy due to flooding and drainage problems;
6. Maintain eligibility for the National Flood Insurance Program (NFIP) by equaling or exceeding Federal Floodplain development regulations (NFIP codified as 44 CFR 59-79, as amended) thereby making federally subsidized flood insurance available to residences in participating communities;
7. Protect the hydrologic, hydraulic, water quality and other beneficial functions of streams, lakes, Wetlands, Floodplains and flood prone areas;
8. Meet the requirements of The Rivers, Lakes and Streams Act, 615 ILCS 5/18g (1994 State Bar Edition) effective November 18, 1987;
9. Prevent additional harm due to periodic flooding including loss of life and property and threats and inconveniences to public health, safety and welfare; and
10. Protect buildings and improvements to buildings from flood damage.

ARTICLE II. DEFINITIONS

The following definitions are intended to be used with the Watershed Development Ordinance. Some definitions may be somewhat different than those used in other municipal ordinances. These definitions are intended to supersede any other definitions; however, they must be used when applying the standards of this Ordinance.

adequate downstream stormwater capacity: A downstream channel or stormwater management system with the ability to store and convey the anticipated 100-year Stormwater runoff without increasing flood height, flow, or damage to an adjacent or downstream building or structure.

ADID: Wetland Maps generated by an Advanced Identification (ADID) Wetland Study conducted in McHenry County by the U.S. Army Corps of Engineers and the United States Environmental Protection Agency in 1997.

applicant: Any person, firm, or governmental agency who owns property or its duly appointed representative and proposes to develop that property and executes the necessary forms to procure a permit to obtain authorization for such development from the MCSC or a Certified community.

appropriate use: The only development within the Regulatory Floodway that is permissible and will be considered for permit issuance. The appropriate uses are listed in the Floodway Standards section of this Ordinance.

base flood: The flood having a one percent statistical probability of being equaled or exceeded in any given year. The base flood is also known as the 100-year frequency flood event.

Base Flood Elevation (BFE): The water surface elevation that can be expected during the base flood. Determination of the BFE at any location is as described in the Floodplain management section of this Ordinance.

basement: Any area of a building having its floor below grade (below grade level) on all sides.

basin plan: A study and evaluation of an individual drainage basin's stormwater management, Floodplain management and flood control needs and capabilities.

Best Management Practice (BMP): Land planning and engineered practices designed to reduce soil erosion, sediment deposition, and water quality impacts, and enhance the environmental quality of the stormwater runoff.

buffer: An area of predominantly vegetated land located adjacent to channels, Wetlands, lakes or ponds for the purpose of, but not limited to, reducing contaminants in stormwater that flows to such areas.

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 installed on a site for more than 180 consecutive days.

certified community: A community which has petitioned the MCSC and has been found by the MCSC to be capable of enforcing an ordinance (or ordinances) which contain stormwater and regulatory Floodplain management rules and regulations which are consistent with or at least as stringent as the regulations of the McHenry County Watershed Development Ordinance.

channel: Any river, stream, creek, brook, branch, depression, ponded area, lakes, flow path, slough, ditch, conduit, culvert, gully, ravine, swale, wash, or drainageway, 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 and lining and significant removal of bottom or woody vegetation of the channel. Channel modification does not include the clearing of dead or dying vegetation, debris, or trash from the channel.

community: Any municipality (as defined at Ill. Rev. Stat., 1989, Ch. 24, 1-1-2 { 1 }) or the unincorporated county within McHenry County acting as a unit of local government.

compensatory storage: An excavated, hydraulically equivalent volume of storage used to offset the loss of existing flood storage volume when fill, materials or structures are placed within a Regulatory Floodplain and flood prone area.

Conditional Letter of Map Revision (CLOMR): A letter which indicates that the Federal Emergency Management Agency will revise the (BFE), flood insurance rate zones, flood boundaries or Regulatory Floodway as shown on an effective Flood Hazard Boundary & Floodway Map or Flood Insurance Rate Map, once the as-built grading plans are submitted and approved.

control structure: A structure designed to control the rate of flow.

critical duration: The duration of a storm event that results in the greatest peak runoff.

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.

damage: Reduction of value of a structure or a portion of a structure from any cause.

depressional storage area: A non-riverine depression where stormwater collects; only regulated when total storage exceeds 0.75 acre-feet.

design storm: A selected duration storm event, described in terms of the statistical probability of occurring once within a given number of years, for which stormwater or flood control improvements are designed and built.

designated Floodway See Regulatory Floodway.

detention facility (detention pond): A man made structure for the temporary storage of Stormwater runoff with a controlled release rate.

development: Any man-made change to real estate by private or public agencies including:

- A. Construction, reconstruction, repair, or placement of a building or any addition to a building;
- B. Installation of a manufactured home on a site, preparation of a site for a manufactured home, or the placement of a Recreational vehicle on a site for more than 180 consecutive days. If the travel trailer or Recreational vehicle is on the site for less than 180 days, it must be fully licensed and ready for highway use;
- C. Drilling, mining, installation of utilities, construction of roads, bridges, or similar projects;
- D. Demolition of a structure or redevelopment of a site;
- E. Clearing of land as an adjunct of construction;
- F. Construction or erection of levees, walls, fences, dams, or culverts; channel modification; other activities that might change the direction, height, volume or velocity of flood or surface water, including extensive removal of vegetation;
- G. Rehabilitative maintenance and in-kind replacement of bridges, culverts, dams and levees located in the Regulatory Floodplain.

Development does not include maintenance of existing buildings and facilities such as resurfacing of roadways that results in no increase in road elevation or gardening, plowing,

and similar agricultural practices that do not involve filling, grading, or the construction of levees.

drainage area: The land area above a given point that contributes runoff from rainfall and/or snowmelt.

dry detention facility: A dry detention facility is a detention facility designed to drain completely after temporary storage of stormwater and is normally dry over the majority of its bottom area.

elevation certificates: A form published by the Federal Emergency Management Agency that is used to certify the lowest floor (including the basement) elevation to which a building has been constructed.

enforcement officer: The MCSC chief engineer or the Certified community's development regulations officer.

erosion: The process whereby soil is detached.

fee-in-lieu of on-site detention: A fee assessed to contribute to the cost of the capital improvement component of a basin plan (i.e. regional detention site(s), flood control projects or improvements to downstream conveyance capacity) instead of constructing on-site detention.

FEMA: Federal Emergency Management Agency and its regulations codified as 44 CFR 59-79 effective as of October 1, 2001. This incorporation does not include any later editions or amendments.

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 of runoff of surface waters from any source.

flood damage: Reduction of value of a structure or a portion of a structure due to temporary, total, or partial inundation of the structure by overland flood water.

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 a Regulatory Floodplain located outside of the Regulatory Floodway (when a Floodway is designated).

Flood Insurance Rate Maps (FIRM): A map prepared by the Federal Emergency Management Agency or HUD that depicts the special flood hazard area (SFHA) within a community. This map includes insurance rate zones and Regulatory Floodplains and may or may not depict Regulatory Floodways.

Flood Insurance Study (FIS): A report published by FEMA for a community in conjunction with the community's Flood Insurance Rate Map. The study contains such background data as the base flood discharges and water surface elevations that were used to prepare the FIRM.

flood prone area: Any area inundated by the base flood that has a Tributary area greater than 20 acres and depressional storage areas or is shown on the United States Geologic Survey-Hydrologic Investigation Atlases Flood of Record Maps.

Flood Protection Elevation (FPE): The elevation of the BFE plus 2 feet of freeboard.

Floodplain (regulatory): See also Regulatory Floodplain. Any land area susceptible to being inundated by flood waters from any source during the base flood.

floodplain management: An overall program of corrective and preventive measures for avoiding or reducing future flood damage.

floodproofing: Any combination of structural and non-structural additions, changes or adjustments to structures or 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 the Federal Emergency Management Agency that is used to certify that a building has been designed and constructed to be structurally dry floodproofed to the FPE.

Floodway (regulatory): See also Regulatory Floodway. That portion of the Regulatory Floodplain or flood prone area adjacent to a stream or channel which is needed to store and convey the existing and anticipated future critical duration 100 year frequency flood discharge with no more than a 0.1 foot 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 height added to the BFE to provide a factor of safety for uncertainties in calculations, unknown local conditions, wave actions and unpredictable effects such as those caused by ice or debris jams.

functional assessment: An assessment of a Wetlands flood storage, water quality and other beneficial functions.

HEC-1: Hydrograph producing hydrologic computer model created by the U.S. Army Corps of Engineers in the Hydrologic Engineering Center.

HEC-2: Hydraulic step backwater computer model created by the U. S. Army Corps of Engineers in the Hydrologic Engineering Center.

HEC-RAS: Windows™ based hydraulic step backwater computer model created by the U.S. Army Corps of Engineers in the Hydrologic Engineering Center.

High Functional Value Wetland (HFVW): Any Waters of the United States or Isolated Waters of McHenry County identified as such in the USEPA Advanced Identification Study of McHenry County (ADID) or any Waters of the United States or Isolated Waters of McHenry County that, through a functional assessment, meets the criteria defined in that study for determining high functional value, related specifically to hydrological and water quality functions.

High Quality Aquatic Resources (HQARs): Waters of the United States or Isolated Waters of McHenry County that are determined to be critical due to their uniqueness, scarcity, function and/or value as defined in Appendix C of this Ordinance; or meets the criteria defined in Appendix C through a functional assessment.

High Quality Habitat Sites (HQHS): Waters of the United States or Isolated Waters of McHenry County that are identified as having high quality wildlife habitat, high floristic quality or high quality aquatic habitat based on the McHenry County ADID study; or meets the criteria defined in that study through a functional assessment.

highest adjacent grade: the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

historic structure: A “historic structure” is any structure that is:

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

hydraulically equivalent compensatory storage: Compensatory storage 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 floodplain fill.

hydrologic and hydraulic calculations: Engineering analysis which determines expected flood flows and flood elevations based on land characteristics and rainfall events.

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

IDNR: Illinois Department of Natural Resources IEPA: Illinois Environmental Protection Agency

impervious surface, impervious area: Any hard-surfaced, compacted area that does not readily absorb or retain water, including but not limited to building roofs, parking and driveway areas, graveled areas, building pads, sidewalks and paved recreation areas.

Index of Biotic Integrity (IBI): Ecologically based water quality score calculated from multiple types of fish data utilized to classify streams.

in-kind replacement (culvert): An in-kind culvert replacement has an equivalent cross-sectional area, shape, roughness coefficient, and inlet and outlet elevations; or the replacement may be shown to have an equivalent hydraulic capacity using appropriate engineering calculations.

Isolated Waters of McHenry County (IWMC): All waters such as lakes, ponds, streams (including intermittent streams), farmed wetlands, and wetlands that are not under U. S. Army Corps of Engineers jurisdiction.

- A. The limits of the Isolated Waters of McHenry County extend to the ordinary high water mark or the delineated wetland boundary.
- B. Isolated Waters of McHenry County exclude permitted excavations created for such purposes as stormwater conveyance, detention/retention areas constructed as part of a stormwater management system, recreation, mining, stock watering, irrigation, settling basins or wastewater treatment systems and roadside ditches.
- C. Compensatory wetland mitigation created to meet the requirements of this Ordinance or Section 404 of the Clean Water Act is not excluded.

inspect: To check or to review a site and as-built plans for compliance with this Ordinance, permitted plans and permit conditions.

lake: A body of water encompassing an area of two or more acres which retains a normal water level throughout the year.

Letter of Map Amendment (LOMA): An official determination by FEMA that a specific structure or parcel of land is above the BE and was inadvertently included in a Special Flood Hazard Area provided that the topography has not been altered since the effective date of the first NFIP map. A LOMA amends the effective Floodplain limits on a Flood Hazard Boundary Map (FHBM) or Flood Insurance Rate Map (FIRM). A LOMA does not modify a Floodway limit or the BE.

Letter of Map Revision (LOMR): Letter issued by FEMA or IDNR/OWR that revises base flood elevations, flood insurance rate zones, flood boundaries or Regulatory Floodways as shown on an effective FHBM, FIRM, or Flood Boundary & Floodway Map.

low opening elevation: The elevation at which water could enter a structure through any non-watertight opening such as a doorway threshold, a window sill, or a basement window well.

lowest floor: Lowest floor of the lowest enclosed area, including basement.

manufactured home (or mobile home): A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. The term manufactured homes also include park trailers, Recreational vehicles and other similar vehicles installed on site for more than 180 consecutive days.

manufactured home park (mobile home park , trailer park) or subdivision: A parcel (or contiguous parcels) of land that two or more manufactured homes are harbored, either for free of charge, rent or for sale.

MCCD: McHenry County Conservation District

MCSC: McHenry County Stormwater Management Committee. See “Stormwater Committee”

MCSC Chief Engineer: A Registered Professional Engineer representing the McHenry County Stormwater Committee as the County’s Enforcement officer of the Watershed Development Ordinance.

minimum floor elevation: The lowest elevation for the construction, erection or the placement of any floor including the basement.

mitigation: Measures taken to offset negative impacts from development activities, such as construction in Wetlands, Regulatory Floodplain or a flood prone area. Wetland mitigation typically involves Wetland creation or augmentation. Floodplain and flood prone area mitigation typically involves compensatory storage and created conveyance capacity.

native vegetation: Generally, all warm season, deep rooted (4’ to 15’), grass and forb species believed to have grown naturally in the pre-settlement landscape of northern Illinois and southern Wisconsin.

new impervious area: Impervious surface area created after the effective date of this Ordinance.

NGVD: National Geodetic Vertical Datum of 1929. Reference surface set by the National Geodetic Survey deduced from a Continental adjustment of all existing sea level adjustments in 1929. Mean Sea Level for 1929 (MSL adj. 1929), is an equivalent.

no feasible alternative: A development activity resulting in a direct or indirect site impact that cannot be avoided by site planning, engineering, or construction alternatives; or development activity that could not occur at another on-site or off-site location not resulting in site impacts.

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

NRCS: United States Department of Agriculture – Natural Resource Conservation Service.

online detention: Any detention facility that has runoff from off-site Tributary area draining through it.

on-stream detention: Any detention facility that restricts the flow of a stream.

ordinary high water mark: The point on the bank or shore at which the presence and movement of surface waters are continuous so as to leave a distinctive mark, such as by erosion, destruction or prevention of terrestrial vegetation, predominance of aquatic vegetation, or other such recognized characteristics.

overland flow path: The route that stormwater will travel based on the topography of the land. Overland flow routes are typically viewed without consideration of infiltration, evaporation or underground drainage structures.

Parcel Identification Number (PIN): Permanent index number used to identify properties.

perennial water resource: a water course which intersects the groundwater table continuously and flows throughout the year.

permanent erosion control: Permanent features of a development site designed to control soil erosion and sedimentation.

pond: A body of water of less than two acres which retains a normal water level year round.

public bodies of water: All open public rivers, streams, and lakes specifically designated by IDNR/OWR. A list of the IDNR/OWR public waters is in Appendix A of this Ordinance. Generally, public bodies of water are capable of being navigated by watercraft, in whole or in part, for commercial uses and purposes, or which in their natural condition were capable of being improved and made navigable, or 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, submerged lands and lakes that are open to the main channel or body of water and directly accessible thereto.

public flood control project: A flood control project which will reduce flood damage to an existing building or structure and constructed by a governmental entity.

recreational vehicle(RV): Unit primarily designed as temporary living quarters for recreational, camping, or travel use, which either has its own mode of power or is mounted on or drawn by another vehicle. The “Recreational vehicle” shall include the following types (1) travel trailer, (2) motor home, (3) pick up coach/truck camper, (4) camping trailer, (5) park trailer.

redevelopment: The process of developing land previously developed.

Registered Land Surveyor: A surveyor registered in the State of Illinois, under the Illinois Professional Land Surveyor Act of 1989 225 ILCS 330/1, et seq.(1994 State Bar Edition).

Registered Professional Engineer: An engineer registered in the State of Illinois, under the Professional Engineering Practice Act of 1989 225 ILCS 325/1, et seq. (1994 State Bar Edition).

Regulatory Floodplain: A flood prone area is a Regulatory Floodplain if the area is indicated as a Special Flood Hazard Area on the FEMA Flood Insurance Rate Map (“FIRM”) listed in Appendix D, and is located with the best available topography to be inundated by the base flood. A flood prone area that is not shown as a Special Flood Hazard Area is a

Regulatory Floodplain if the tributary drainage area is one square mile or greater. ***It shall be assumed that all areas shown as SFHA on the current FIRM (listed in Appendix D) are in the Regulatory Floodplain until information to the contrary is approved by the enforcement officer.***

Regulatory Floodway: Those portions of the floodplain depicted as floodway on maps recognized by IDNR-OWR for regulatory purposes ***listed in Appendix D.***

rehabilitative maintenance (roadway): Rehabilitative maintenance is repair or maintenance that does not increase the impervious area and may involve changes to the roadway elevation. Rehabilitative maintenance does not include changes to roadway elevations within a Regulatory Floodplain or a flood prone area.

repair, remodeling or maintenance: Development activities which do not result in any changes in the outside dimensions of a building, any changes to the dimensions of a structure or increase in impervious area.

retention facility (retention pond): A facility designed to completely retain a specified amount of stormwater runoff without release except by means of evaporation or infiltration.

riverine: Relating to, formed by, or resembling a stream (including creeks and rivers).

sediment trap: A structure or area that allows for the temporary deposition of sediment materials from Stormwater runoff.

sedimentation: The processes that deposit soils, sediment, debris, and other materials.

sedimentation or sediment basin: A structure that temporarily detains stormwater to allow most of the sediment load to settle out into an excavated area at the base of the structure.

silt fence: A temporary barrier of entrenched geotextile fabric (filter fabric) stretched across and attached to supporting posts used to intercept sediment laden runoff from small drainage areas of disturbed soil.

Special Flood Hazard Area (SFHA): Any area subject to inundation by the base flood from a river, creek, stream, or any other identified channel or ponding and shown on the Regulatory Floodplain map as listed in ***Appendix D.***

Stormwater Committee (MCSC): The McHenry County Stormwater Committee established and existing under 55 ILCS 5/5 1062 (1994 State Bar Edition) for the purposes of developing, revising and implementing a countywide stormwater management plan and ordinance.

stormwater facility maintenance: Activities required to restore facilities to their original design or permitted condition.

stormwater management: A set of actions taken to control Stormwater runoff with the objectives of providing controlled surface drainage, flood control and pollutant reduction in runoff.

stormwater management system: The collection of facilities which define the stormwater management for a development.

stormwater runoff: Precipitation that flows off of permeable and impermeable surfaces.

stream: A course of running water flowing in a channel (includes creeks and rivers).

Ephemeral Stream: An ephemeral stream has flowing water only during and for a short duration after, precipitation events in a typical year. Ephemeral streambeds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Intermittent Stream: An intermittent stream has flowing water during certain times of the year when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. During wet seasons when the groundwater table is high, groundwater is the primary source of stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Perennial Stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the streambed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

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; installing a manufactured home on a site; preparing a site for a manufactured home or installing a Recreational vehicle or travel trailer on a site for more than 180 consecutive days.

substantial improvement: Any repair, reconstruction or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure either,

- a) before the improvements or repair is started, or
- b) if the structure has been damaged, and is being restored, before the damage occurred.

For the purposes of this definition, “substantial improvement” is considered to begin 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.

The term does not, however, include:

- 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 a State Inventory of Historic Places.

sub-watershed: A sub-section of a larger watershed. For the purpose of the ordinance, sub-watersheds would include the drainage areas of named streams within a given watershed, such as Rush, Lawrence, and Mokeler Creeks within the Piscasaw Watershed.

temporary erosion control: erosion control measures used to control soil erosion and sedimentation during the construction phase of a development.

TR-20: Technical Release 20 is a hydrograph producing hydrology computer model created by the Natural Resources Conservation Service (NRCS, formerly SCS).

TR-55: Technical Release 55 (NRCS, June 1986) is a document that presents simplified procedures for estimating runoff and peak discharges in small watersheds.

transition section: Reaches of the stream where water flows from a narrow cross-section to a wide cross-section and vice-versa.

tributary area: All of the land surface that contributes runoff to a given point.

tributary stream: A stream that discharges to a larger stream at a point. A stream will typically have more than one tributary stream.

USACE: United States Army Corps of Engineers

variance: A grant of relief by a community from the terms of this Ordinance.

violation: The failure of a structure or other development subject to the provisions of this Ordinance to be fully compliant with this Ordinance.

water dependent facilities: Structures or facilities relating or requiring access to the water or shoreline. Examples include shoreline protection, pumping and boating facilities and improvements.

watershed: A geographic area within a drainage basin that collects, concentrates and contributes surface runoff from precipitation to a given point on a waterway. For the purpose of the ordinance, and as listed in Appendix B, the watersheds found in McHenry County include:

1. Piscasaw Creek
2. Nippersink Creek
3. Kishwaukee River
4. Upper Fox River
5. Lower Fox River
6. Coon Creek

watershed benefit: A decrease in flood damages to a structure upstream or downstream of the development site created by installation of the stormwater management system. The benefit must be beyond the benefit provided by meeting the minimum requirement of the Watershed Development Ordinance.

watershed development permit: A permit established by this Ordinance shall be issued by the MCSC or certified communities prior to the approval of a building permit. Issuance of a Watershed Development Permit signifies conformance with provisions of this Ordinance.

Waters of the United States (WOTUS): For the purpose of this Ordinance, the term Waters of the United States refers to those areas that are under the U. S. Army Corps of Engineers (USACE) regulatory jurisdiction.

wet detention facility (detention pond): A wet detention facility designed to maintain a permanent pool of water after the temporary storage of Stormwater runoff.

Wetland: A wetland is considered a subset of the definition of the Waters of the United States. Wetlands are land that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, under normal conditions, a prevalence of vegetation adapted for life in saturated soil conditions (known as hydrophytic vegetation). A wetland is identified based upon the three attributes: 1) hydrology, 2) soils and 3) vegetation as mandated by the current Federal wetland determination methodology.

Wetland creation: The introduction of wetlands to an area where none existed historically.

Wetland enhancement: The improvement in wetland functional value of an area currently meeting the technical definition of a wetland.

Wetland Impact: Isolated Waters of McHenry County or Waters of the U. S. that are hydrologically disturbed or otherwise adversely affected by flooding, filling, excavation, or drainage which results from implementation of a development activity, or any development activity within the boundary of a delineated wetland. For those areas regulated by the U. S. Environmental Protection Agency and the U.S. Army Corps of

Engineers impacts are defined based on 33 CFR Part 230 – Section 404(b)(1) and 33 CFR Parts 320 through 330 as amended.

Wetland Mitigation: Compensation for impacts to wetlands through the restoration, creation, enhancement, or preservation of wetlands.

Wetland mitigation banking: The process of purchasing “credits” from a financial institution established by a third party to compensate for permitted losses.

Wetland preservation: The permanent preservation of an area currently meeting the technical definition of a wetland.

Wetland restoration: The re-introduction of wetlands to an area where wetlands existed historically, but not prior to the mitigation activity.

Wetland restoration activities: Those restoration activities in Isolated Waters of McHenry County (IWMC) or adjacent buffer areas determined to be necessary and beneficial to the preservation, maintenance, or restoration of wetland plant communities, wildlife habitat and ecosystems native to McHenry County. All excavation and grading quantities under this category are limited to less than 500 square feet of disturbance or 40 cubic yards of material.

ARTICLE III: PROCEDURE AND ENFORCEMENT

In Certified Communities, the appropriate development regulations officer shall be the Enforcement officer for this Ordinance. In all other areas of McHenry County, the MCSC chief engineer shall be the Enforcement officer. One of the primary duties of the Enforcement officer shall be to review all watershed development applications and issue permits for those projects that are in compliance with the provisions of this Ordinance. The Enforcement officer shall be responsible for the administration and enforcement of this Ordinance.

A. Certification Criteria

The Municipalities of McHenry County and Unincorporated McHenry County may be certified by MCSC to enforce the provisions of this Ordinance. Upon certification, the community’s designated Enforcement officer shall enforce all provisions of this Ordinance within the community’s jurisdiction. The criteria and process for certification follow:

1. The community is participating in the regular phase of the National Flood Insurance Program or is not required to participate in the NFIP.
2. The community has adopted and is enforcing the provisions of this Ordinance or an ordinance that is at least as stringent and contains all the criteria of this Ordinance.
3. The community forwards appropriate portions of the Regulatory Floodway Development applications to MCSC for transmittal to IDNR/OWR for concurrent review and approval.
4. The community maintains records and provides MCSC with certain portions of these records as described in Enforcement and Records.
5. The community requires that all engineering information and plans prepared by a Registered Professional Engineer to be reviewed by or under the supervision of a Registered Professional Engineer, under the employ or contract with the community, for conformance with this Ordinance prior to permit issuance. The

review and design engineers shall not have the same employer or be employed at the same company.

6. A community which will not have sufficient capacity to implement all provisions of this Ordinance by JANUARY 1, 2005, but intends to develop full capacity (with MCSC staff support) within a reasonable period of time, may petition the MCSC for Provisional Certification. After an interagency agreement is approved by the MCSC, Provisional Certification will be issued. The interagency agreement will define the partial level of Ordinance implementation by the community, the process of interaction between the community and the MCSC and a timetable for full Ordinance implementation.

B. Certification Process

1. Communities desiring certification may submit a letter of intent to petition for Certification.
2. A petition for Certification or Provisional Certification shall be submitted to the MCSC indicating how the community meets the criteria for certification. A copy of the community's adopted ordinance shall be included with the petition.
3. Within 90 days of receipt of the petition and in conjunction with the next regularly scheduled MCSC meeting, the staff recommendation shall be presented.
4. The MCSC shall approve the petition as submitted, shall approve the petition with conditions or shall deny the petition. A notice of the MCSC action shall be submitted to the petitioning community.
5. Certified Communities shall petition for recertification every three (3) years. Communities with Provisional Certification shall petition for Certification as stipulated in the interagency agreement but no more than one (1) year from receiving Provisional Certification.

C. Committee Review of Performance

1. Within the three (3) year certification period, the MCSC or the MCSC chief engineer may periodically review the community's Ordinance enforcement records and performance and make remedial recommendations to the community, if necessary. Review findings will be used in the assessment of petitions for recertification from Certified Communities and petitions for Certification from communities with Provisional Certification.
2. The MCSC shall rescind a community's certification or provisional certification for the following reasons:
 - a. The community is no longer a participant in the National Flood Insurance Program.
 - b. The community adopts a Watershed Development Ordinance or amends its ordinance so that its ordinance is less restrictive than the MCSC Watershed Development Ordinance.
 - c. The community fails to enforce the provisions of the Watershed Development Permit or issues a permit not in accordance with the Watershed Development Ordinance.

3. The MCSC chief engineer may immediately rescind a community's certification or provisional certification for the above reasons until the MCSC can discuss the reasons at the next regularly scheduled meeting.
4. If the community issues a regulatory Floodway development permit not in accordance with the Watershed Development Ordinance, MCSC shall rescind the community's authority to administer the IDNR/OWR regulatory Floodway permit program.

D. Enforcement and Records

This section describes the requirements and duties of a community and its designated Enforcement officer. Certain requirements and duties are specified by FEMA and IDNR/OWR for the purposes of that community obtaining or maintaining eligibility for participation in the National Flood Insurance Program and the delegation of state permit authority:

1. In Certified Communities, the appropriate development regulations officer shall be the Enforcement officer for this Ordinance. In all other areas of McHenry County, the MCSC chief engineer shall be the Enforcement officer. One of the primary duties of the Enforcement officer shall be to review all watershed development applications and issue permits for those projects that are in compliance with the provisions of this Ordinance. The Enforcement officer shall be responsible for the administration and enforcement of this Ordinance.
2. The Enforcement officer shall determine for each development if it is in a Special Flood Hazard Area (SFHA) using the criteria specified in the Floodplain management section of this Ordinance. If a site is in a SFHA, a determination is required as to whether it is in a Regulatory Floodway, a Regulatory Floodplain on which a detailed study has not been conducted, a flood prone area with a tributary drainage area equal to or greater than 640 acres, or a flood prone area with greater than 20 acres.
3. The Enforcement officer shall ensure that an IDNR/OWR Dam Safety permit is obtained or a letter stating that no Dam Safety permit is required if the development includes a dam before the issuance of a watershed development permit. All dams shall follow dam safety guidelines set forth by IDNR/OWR. If the Enforcement officer finds a dam which is believed to be in an unsafe condition, the Enforcement officer shall immediately notify the owner of the dam and the Illinois Emergency Management Agency (IEMA), and IDNR/OWR.
4. Adopted Basin plans may be the basis for additional or more restrictive standards. These additional or more restrictive standards will apply only in the specific study area of the Basin plan and supersede those of this Ordinance. These standards shall be effective only upon amendment to the Watershed Development Ordinance and approval of the basin plan by MCSC, IDNR/OWR and FEMA (if required).
5. The Enforcement officer may require deed restrictions, performance bonds or sureties, as-built certification, or maintenance guarantees as stipulated in this Ordinance to assure projects are built and maintained according to permitted plans. The amount of such performance bond, surety or other such security shall be up to 150, ***but not less than 110 percent***, percent of the estimated cost to complete construction of the stormwater management system as required by the Watershed Development Permit. The estimated probable cost shall be signed and sealed by a Registered Professional Engineer and approved by the Enforcement

officer. An additional performance bond, security or surety shall not be required for the stormwater management system by another community provided that a copy of both the estimate of probable cost and bond, surety, or security is submitted to MCSC.

6. A Registered Professional Engineer in the employ or under contract with MCSC or a certified community shall review or supervise the review of any plans, calculations or analyses submitted by a Registered Professional Engineer pursuant to this Ordinance. The review and design engineers shall not have the same employer or be employed at the same firm.
7. A wetland specialist, approved by the MCSC, shall review or supervise the review of all plans, calculations, or analyses involving wetland submittal requirements. The wetland specialist shall be in the employ or under contract with the MCSC or a certified community.
8. Proposed amendments to this Ordinance and appendices must be done in accordance with applicable local, state and federal law. All proposed amendments shall be approved by IDNR/OWR and FEMA and reviewed by MCSC with a recommendation forwarded to the County Board.
9. Prior to the issuance of a Watershed Development Permit, the Enforcement officer shall ensure that the applicant has obtained and provided copies of any and all required federal, state and local permits for all development in the Regulatory Floodplain.
10. The Enforcement Officer may inspect site development at any stage in the construction process. For major developments, the Enforcement Officer shall conduct site inspections, at a minimum, upon completion of installation of sediment and runoff control measures, and after final stabilization and landscaping, prior to removal of sediment controls. Construction plans approved by the Enforcement Officer shall be maintained at the site during the progress of work. The Permittee's Engineer shall indicate that the project is completed in accordance with the permitted plans approved under the Watershed Development Ordinance.
11. IDNR/OWR or MCSC has retained permit review and approval authority over the following:
 - a. IDNR/OWR
 - (1) Illinois Department of Natural Resources projects and dams;
 - (2) All other state or federal units of government projects, including projects of the MCSC, that are located in the Regulatory Floodway;
 - (3) Development within or over a public water; and
 - (4) Any proposed changes in the BFE or Regulatory Floodway locations;
 - (5) Determination that the development, located in a Regulatory Floodway or in a channel that drains 640 acres or more, is a public flood control project.
 - b. MCSC

- (1) The review and approval of hydrologic and hydraulic analysis and BEF determinations for channels that have a Tributary area greater than 100 acres but less than 640 acres.
 - c. Both agencies; unless specifically indicated by IDNR/OWR in an intergovernmental agreement that MCSC is designated to review these items:
 - (1) Determination that an existing bridge or culvert crossing is or is not a source of flood damage and the review of bridge and culvert hydraulic analysis indicating the existing and proposed flood profile;
 - (2) The review and approval of alternative transition sections and hydraulically equivalent compensatory storage;
 - (3) BEF determinations where no published data currently exist for channels that drain 640 acres or more; and
 - (4) Determination that the development is a public flood control project.
12. The Enforcement officer shall require that the applicant obtain a LOMR from FEMA with concurrence from IDNR/OWR for a development or a request that involves proposed revisions to the BEF, a Flood Insurance Study or for a proposed relocation of a Regulatory Floodway boundary. The Enforcement officer shall require the applicant to submit CLOMR data and documentation to the MCSC prior to issuance of a permit.
13. The Enforcement officer shall submit reports to the IDNR/OWR or FEMA as required for the National Flood Insurance Program.
14. IDNR/OWR and FEMA require that data be maintained on file for development in the Regulatory Floodplain and flood prone areas. Furthermore the McHenry County Stormwater Committee should maintain a repository of stormwater and management data for the County. In order to fulfill this requirement, the Enforcement officer shall:
 - a. Maintain records of every Watershed Development Permit application, permit variance, hydrologic and hydraulic data, and enforcement action and shall allow periodic inspections of the records by MCSC, FEMA, or IDNR/OWR personnel.
 - b. Maintain an Elevation Certificate and a Flood Proofing Certificate in a file to certify the elevation of the lowest floor (including basement) of a residential or non-residential building or the elevation to which a non-residential building has been floodproofed, for all buildings constructed in the Regulatory Floodplain and flood prone areas.
 - c. Maintain for public inspection and provide copies upon request of; Base flood data and maps, variance documentation, Conditional Letters of Map Revision, Letters of Map Revision, Letters of Map Amendment, elevation and flood proofing certificates, detention reports and other watershed development permit related materials, available “as-built” elevation and flood proofing records for all buildings constructed subject to the provisions of this Ordinance.

- d. MCSC will compile information from the Certified Communities to maintain a “Master” map displaying the development location and file reference number of all Watershed Development Permits.
 - e. Copy to MCSC, at agreed-upon intervals, but no later than a 5-year period, hydrologic, hydraulic and detention reports and specified portions of the watershed development permit records.
15. The Enforcement officer shall notify adjacent upstream and downstream communities and the MCSC in writing 30 days prior to the issuance of a permit for the alteration or relocation of a channel in a Regulatory Floodplain.

ARTICLE IV. GENERAL PROVISIONS AND JURISDICTION

A. Regulated Development

No person, firm, corporation or governmental agency, unless specifically exempted, shall commence any regulated development on any lot or parcel of land without first obtaining a Watershed Development Permit from the Village, or if applicable, the MCSC. A Watershed Development Permit is required for regulated development, including finalization of a plat, replat, Planned Development (PD), Planned Unit Development (PUD) or Manufactured home park site plan. Development that meets any of the following criteria is considered regulated development:

- 1. Any development that is located partially or completely in a Regulatory Floodway; or
- 2. Any development that is located partially or completely in a Regulatory Floodplain; or
- 3. Any development that is located partially or completely in a flood prone area; or
- 4. Any development that results in an additional 5,000 square feet of impervious area from the original effective date of this Ordinance; or
- 5. Any development which hydrologically disturbs 5,000 square feet or more; or
- 6. Any development that results in change in the direction of stormwater runoff from a site; or
- 7. Any land disturbing activity that will affect an area in excess of 500 square feet if the activity is within 25 feet of a lake, pond, stream, or Wetland; or
- 8. Excavation, fill, or any combination thereof that will exceed 100 cubic yards; or
- 9. Any activity resulting in a wetland impact.

B. Exempted Development

- 1. Development that is part of a court decree or court order is not subject to the provisions of this Ordinance, provided that the court decree or court order specifically exempts the development from the requirements of this Ordinance.
- 2. Development that is undertaken by a statutorily created entity that possesses the statutory authority to engage in such activities shall be subject to the provisions of this Ordinance only to the extent of those activities that are outside the limits of their statutory authority.
- 3. Landscape or stormwater facility maintenance.

4. Exempted development must meet and obtain the required permits for all minimum state, federal and local watershed development regulations, stormwater regulations and Floodplain regulations.
5. A development is not subject to the provisions of this Ordinance if the following approvals were issued prior to **January 1, 2005** provided that the development is completed within 5 years of the approval:
 - a. An approved building permit;
 - b. Any of the following approvals that result in no increase in the impervious surface area or the development includes an approved drainage study that is consistent with stormwater and Floodplain ordinances in effect at the time of the approval by the appropriate municipality:
 - (1) An approved preliminary or tentative plat; or
 - (2) Replat of an industrial or commercial subdivision.
 - c. In the case of a public road development project:
 - (1) An awarded construction contract; or
 - (2) An approved preliminary engineering plan, including a drainage component, which is consistent with the regulations in effect at the time of the approval by the appropriate jurisdictional authority.
 - d. Existing earth extraction and mining operations shall be exempt beyond the 5 year period from wetland jurisdiction provided a reclamation plan is submitted and approved.
6. A Public Road Development that is located in a Regulatory Floodway and obtained a permit from the Illinois Department of Transportation / Division of Highways is exempt from the Floodway Requirements of this Ordinance.

C. Development Classification

All activities requiring a Watershed Development Permit shall be classified as a minor, intermediate, major, or public road development. Major development may also be classified as Floodplain and floodprone development. The definition for each classification follows:

1. Minor Development

A minor development is defined as regulated development that:

- a. Is not partially or completely located in a depressional storage area, flood prone area, a Regulatory Floodplain; or a Regulatory Floodway; or is not adjacent to a perennial water resource; and
- b. Consists of hydrologic disturbance of less than 20,000 square feet; and
- c. Is not a Public Road Development.

2. Intermediate Development

Intermediate development is defined as regulated development that:

- a. Is not partially or completely located in a depressional storage area, flood prone area, a Regulatory Floodplain; or a Regulatory Floodway; and
- b. Consists of hydrologic disturbance between 20,000 square feet and 5 (five) acres; and

- c. Is not a Public Road Development.
- 3. Public Road Development

Public Road Development is defined as regulated development that:

 - a. Takes place in a public right-of-way or part thereof; and
 - b. Does not include the construction of a building; and
 - c. Consists of culverts, bridges, roadways, sidewalks, bike paths and related construction.
- 4. Major Development

A major development is defined as all other development that is not defined by the above criteria and is not partially or completely located in a depressional storage area, flood prone area, a Regulatory Floodplain; or a Regulatory Floodway.
- 5. Special Flood Hazard Area Development

Special Flood Hazard Area development is defined as regulated development that:

 - a. Is partially or completely located in a depressional storage area, flood prone area, a Regulatory Floodplain, or a Regulatory Floodway, and
 - b. Can otherwise be classified as minor, intermediate, or major if area of development was not in the SFHA.

D. Approval Prior to Permitting

Prior to the issuance of a watershed development permit, the applicant may request a Conditional Approval. Conditional approval of the Regulatory Floodplain, flood prone area Regulatory Floodway delineation, overland flow path, Wetland delineation and the detention and bypass computations for a development may be granted by the Enforcement officer. The conditional approval will be based on conformance with the performance standards, and the submittal of the appropriate application requirements as listed in this Ordinance. A letter will be sent to the applicant stating the results of the review and the conditions placed on any approvals.

E. Fees and Application Review Times

- 1. A review, permit, variance, appeals and site inspection fee schedule in accordance with the provisions of this Ordinance shall be established by separate resolution of the Village.
- 2. A fee schedule may be developed and implemented by certified communities.
- 3. Permit applications shall be reviewed within 15 business days of receipt to determine if the application package is complete. A completed application package shall be approved or denied within 45 business days of the latest item submitted.

F. Permit Terms, Conditions and Extensions

- 1. The term of a Watershed Development Permit shall be from the issue date to the expiration date which is two years after the issue date.
- 2. Special Conditions may be added to a permit by the Enforcement officer to clarify the purpose or authorization granted by the permit. Special conditions may also specify other restrictions and constraints of the authorized work.

3. If the permitted work is not completed within the term of the permit, the permittee may request, in writing, an extension of time on the permit. The Enforcement officer may extend the permit for an additional six months. The Enforcement officer may amend or add special conditions to the permit at the time of the extension. Permit Extension requests may not be made prior to 90 days of the permit expiration date.
4. A permit may be terminated during its term or a permit extension may be denied for, but not limited to, any of the following reasons:
 - a. Noncompliance with any condition of the permit;
 - b. The permittee's failure to disclose fully all relevant facts in the application process or the permittee's misrepresentation of any relevant facts at any time, or
 - c. If the authorized work is suspended or abandoned for a period of six months after the time of commencing the work.

G. Countywide Permits

The MCSC will issue countywide permits pertaining to specific types of development in an effort to expedite the permit process. Each countywide permit will specify the terms, conditions and fee for a specific type of development to assure compliance with the purpose and intent of this Ordinance. Subsequent to the issuance of a countywide permit, individual permit applications are required if specified in the special conditions and authorization may be given if the applicant agrees with the terms and conditions of the countywide permit. A countywide permit will be issued only after notice and opportunity for public review and comment and approval from IDNR/OWR and FEMA. Countywide Permits shall indicate an expiration date not to exceed 4 years from the date it is issued.

H. Letters of Understanding

The MCSC will, in coordination with the IDNR/OWR and FEMA, enter into letters of understanding with various governmental agencies that perform development activities in McHenry County. The purpose of the letter of understanding is to expedite the permit process for routine and minor projects that are undertaken by various government agencies. The intergovernmental agreement will describe the terms, conditions and fees for specific development activities to assure compliance with the purpose and intent of this Ordinance. After the Letter of Understanding is issued, the government agency will only submit a fee and notice for the authorized development. A Letter of Understanding will be issued after notice and opportunity for public review and comment and approval from the IDNR/OWR and FEMA.

ARTICLE V. PERFORMANCE STANDARDS

A. GENERAL

The following performance standards and provisions apply to all regulated development.

1. The performance standards for all development shall be utilized in site planning and addressed in the drainage plan component of subdivisions, plats, re-plats, manufactured home parks, Planned Unit Developments (PUDs) and Planned Developments (PDs).
2. Subdivisions, plats, replats, manufactured home parks, PUDs and PDs shall:
 - a. Show the BFE, Regulatory Floodplain or flood prone area limits,

Regulatory Floodway limits, and perennial water sources or wetlands within one hundred (100) feet.

- b. The plats, replats, manufactured home parks, PUDs, PDs or engineering plans and studies shall include a signed statement by a Registered Professional Engineer that accounts for changes in the drainage of surface waters in accordance with the Plat Act (765 ILCS 205/2).
3. All plats and subdivisions which border on or include public bodies of water as defined by IDNR/OWR shall be submitted by the applicant to IDNR/OWR for review and approval.
4. A community will not approve of any PUD, PD, Plat of Subdivision located outside its corporate limits but within its extraterritorial jurisdiction if such PUD, PD, or Plat fails to meet the minimum performance standards of this Ordinance.
5. Stormwater management systems for erosion control, sedimentation control and Stormwater runoff control shall be installed prior to or concurrently with each phased portion of the development or hydrologically disturbed area. Permits for buildings within a phase of a development will not be issued until the appropriate stormwater management systems are fully operational within that phase.

B. Water Quality Protection.

The standards of this section shall apply to all regulated development.

1. Public Road developments that result in less than 1.5 acres of new impervious area or less than the rate of 1.5 acres of new impervious area per linear mile shall meet the water quality and buffer standards to the extent that is practicable due to limited site conditions as indicated in the countywide permit developed by the MCSC.

2. Water Quality

The development shall provide water quality treatment for runoff from increased impervious areas to minimize impacts of post-construction stormwater runoff on water quality. The site development plan shall include a description of the water quality protection measures incorporated into the site design. The following treatment methods shall be evaluated and incorporated wherever feasible to reduce pollution and stormwater volumes to the maximum extent practicable:

- a. Wet detention facilities (including stormwater wetlands),
- b. Sedimentation facilities, (basins and traps),
- c. Infiltration basins,
- d. Infiltration strips,
- e. Filter strips,
- f. Vegetated swales.

Alternative treatment methods may also be used with approval of the Enforcement officer, and shall be as effective as the above methods.

C. Buffer Areas

Buffer areas shall be required for all areas defined as Waters of the United States (WOTUS) and Isolated Waters of McHenry County (IWMC). The buffer area for all WOTUS and IWMC shall extend landward from the ordinary high water mark. The buffer

area for jurisdictional or mitigated wetlands shall extend from the edge of the delineated wetland. A property may contain a buffer area that originates from WOTUS or IWMC on another property. Buffer areas are divided into two types, linear buffers and water body buffers.

1. Linear buffers shall be designated along both sides of all channels meeting the definition of WOTUS or IWMC.
 - a. When the channel has a watershed greater than twenty (20) acres, the minimum buffer shall be thirty (30) feet on each side of the channel.
 - b. Channels with an Index of Biotic Integrity (IBI) greater than thirty five (35) shall have a minimum buffer width of one hundred (100) feet on each side of the channel. (Initial IBI based on MCCD, IDNR, IEPA data, or site specific assessment, whichever is most current.)
2. Water body buffers shall encompass all non-linear bodies of water meeting the definition of WOTUS and IWMC including wetlands, lakes, and ponds.
 - a. For all water bodies with a total surface area greater than one-quarter (0.25) acre but less than one (1) acre, a minimum buffer width of thirty (30) feet shall be established.
 - b. For all water bodies with a total surface area greater than one (1) acre but less than two and one-half (2.5) acres, a minimum buffer width of forty (40) feet shall be established.
 - c. For all water bodies with a total surface area greater than two and one-half (2.5) acres, a minimum buffer width of fifty (50) feet shall be established.
 - d. Non-linear water bodies that have been designated as HFVW, HQAR, or HQHS by the McHenry County ADID procedure shall have a minimum buffer width of one hundred (100) feet.
3. Additional Buffer Requirements
 - a. Areas having state or federal threatened and endangered species present or for Illinois Natural Area Inventory Sites, buffer widths shall be modified upon approval of the Enforcement Officer, to meet the terms and conditions specified during consultation with the Illinois Department of Natural Resources or United States Fish and Wildlife Service pursuant to state and federal laws and regulations.
 - b. Buffer Averaging: The buffer width for a development site may be varied to a minimum of one-half (½) of the buffer width required, upon approval of the Enforcement Officer, provided that the total buffer area required is achieved adjacent to WOTUS or IWMC being buffered. Buffer averaging may not be utilized where stormwater flows leaving stormwater management facilities will enter WOTUS or IWMC. The consultation process of the USACE, IDNR, or U.S. Fish & Wildlife Service may also override the ability to average buffer areas.
 - c. All roadside drainage ditches, existing excavated detention facilities (as of the amended date of this Ordinance), borrow pits, quarries and improvements to existing public road developments or alignments are exempt from buffer requirements.

- d. Filling WOTUS or IWMC to meet buffer requirements of this Ordinance or any other applicable regulatory program shall not be allowed.
 4. Buffer areas shall be located within special easements or covenants with adjacent stormwater facilities, ponds, lakes, or channels that are under the control of a local unit of government, homeowners association, not for profit land trust, or other entity acceptable to the Enforcement Officer. Any site development activity that requires the use of buffers shall:
 - a. Depict the surveyed location extent of any required buffers on the site plan.
 - b. Provide a written characterization of the current condition of the buffer area(s), including the existing plant community(s) present; a species list of plant species present characterized individually as native or non-native; any plant community management requirements to control non-native or invasive plants species; Soil Erosion and Sediment Control practices required to control any existing or potential channel, stream bank or shoreline stabilization problems; and provide representative photographs of the buffer area(s).
 - c. Include a copy of the recorded conservation easement / covenant language to be enacted for the buffer area(s). This document shall include the identification of the entity that will regulate the conservation easement / covenant.
 - d. Shall identify the source of any funding mechanism used to implement future land management activities proposed for the buffer area(s).
 - e. **Require that the buffer areas be physically delineated and identified on the site to reduce the likelihood of encroachment or future alteration of the buffer area. This may be accomplished using fencing, permanent signage or lot markers, walking paths, or other methods approved by the Enforcement Officer.**
5. Buffer areas not occupied by trails, water dependent structures, or other permissible use, shall be vegetated to 100 percent cover using the following criteria:
 - a. Existing communities of desirable, native plant species within proposed buffer areas shall be protected from any development impacts. Buffer areas hydrologically disturbed shall be revegetated using the Native Plant Guide for Streams and Stormwater Facilities in Northeastern Illinois, (NRCS, et al., as amended) as a minimum standard. Overseeding the buffer areas required to achieve a permanent 100 percent vegetative cover can only use non-native species in the one-third (1/3) of the buffer area furthest away from the ordinary high water mark.
 - b. Buffer areas shall be designed to withstand erosive forces due to wave action, streamflow, and changes in water level. Deep-rooted vegetation and gradual slopes are preferred for shoreline stabilization. Abrupt structural measures such as seawalls, gabion baskets, concrete blocks, retaining walls, or rip-rap armoring shall only be allowed if no feasible alternative exists.

- c. Mowing of buffer areas will only be allowed if timed to control the seed production of undesirable species, the growth of invasive, woody species, or to replicate the benefits of controlled burn management. The cut surface of any vegetation located within a buffer area can be no less than eight (8) inches in height above the ground surface, unless a site specific buffer management plan is approved by the Enforcement Officer.
 - d. Any maintenance requiring the selective application of herbicides shall utilize registered herbicides approved for use in or near aquatic environments in accordance with the manufacturer's guidelines, and shall only be applied by an herbicide applicator registered with the Illinois Department of Agriculture.
6. All buffer areas shall be maintained free from development including disturbance of the soil, dumping or filling, erection of structures and placement of impervious surfaces except as follows:
- a. Passive recreation (e.g., birdwatching, picnicking).
 - b. Pedestrian, bicycle, or equestrian trails running parallel to the axis of the buffer. The trail shall be no wider than twelve (12) feet and the runoff from such facilities is diverted away from the WOTUS or IWMC or enters the buffer area as sheet flow. Permeable surfaces are required, unless site runoff characteristics at specific locations warrant a non-erodible surface.
 - c. Pedestrian, bicycle, or equestrian trails running perpendicular to the axis of the buffer. The trail shall be no wider than six (6) feet. Only one such access path is allowed every one hundred (100) lineal feet of WOTUS or IWMC shoreline. Permeable surfaces are required, unless site runoff characteristics at specific locations warrant a non-erodible surface.
 - d. Minor structures relating to parks and recreation and accessory structures that are less than 300 square feet. Except for the case of water dependent facilities, a minimum buffer width of ten (10) feet shall be maintained between the proposed structure and the buffered water body.
 - e. Utility structures and maintenance of utilities including drainage facilities.
 - f. Anchoring and placement of boat docks, ramps and piers.
 - g. A single sand beach or canoe launch area less than 300 square feet.
 - h. Unimproved access through buffer areas for maintenance purposes.
 - i. Water quality management systems designed to: restore wetland hydrology to adjacent buffer areas, provide water quality filtering, contribute to aquatic habitat restoration, or other environmental benefits. A buffer of native vegetation shall be established between designed normal and high water levels around constructed water quality treatment basins.
7. The provision of additional buffer width extending outward from the edge of the stormwater detention area located within a water body buffer may be required by the Enforcement Officer. Proposed stormwater management features that require a buffer may not be located in such a way that the newly created buffer area

boundaries extend into an adjoining property unless a written agreement and recorded buffer easement is platted on the adjoining property prior to construction.

8. In the event the implementation of the buffer requirements of this Ordinance preclude an otherwise legally buildable parcel from being developed, the Enforcement Officer may allow the minimal amount of variance from the buffer requirements in order to restore the parcel to a buildable condition. The Enforcement Officer may require a “fee-in-lieu-of” payment or other arrangement to mitigate the environmental impacts of the loss of buffer area.

D. Streams and Channels

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

1. There are no practicable alternatives to the activity that 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 Floodplain, 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;
2. Water quality, habitat, and other natural functions would be 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;
3. Migration of fish and other aquatic organisms will not be adversely impacted, sediment bedload transport (a critical component of stream geomorphology and function) will not be impaired, temporary or permanent accumulation of sediment will not result, and that increases in stream water temperatures will not occur;
4. 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:
 - a. 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.
 - b. Hydraulically effective transitions shall be provided at both the upstream and downstream ends of the project, designed such that they will prevent erosion.
 - c. One-sided construction of a channel shall be used when feasible. For example, 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.
 - d. Clearing of stabilization vegetation shall be limited to that which is essential for construction of the channel.
 - e. Channel banks shall be constructed with a side slope no steeper than 3:1 horizontal to vertical, wherever practicable.

- f. All disturbed areas associated with the modifications shall be seeded or otherwise stabilized as soon as possible upon completion of construction to control erosion during normal and flood flows. Erosion blanket or an equivalent material shall be required to stabilize disturbed channel banks prior to establishment of the vegetative cover. Permanent stabilization shall be installed as soon as practical but not later than 10 days after the channel construction is complete.
- g. Temporary erosion control shall be installed prior to excavation associated with a channel modification and must be maintained throughout the construction period.
- h. 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.
- i. 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.
- j. There shall be no increases in stage or velocity as the channel enters or leaves the project or 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.
- k. 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.
- l. A channel maintenance easement is required along all channels draining 100 acres or more. The minimum width of the maintenance easement shall be 25 feet centered on the channel or the distance between the tops of banks plus 20 feet, whichever is greater.

E. Soil Erosion and Sedimentation Control

Soil erosion and sediment control related measures are required for all regulated development.

1. Sedimentation and Erosion Control Standards

The following standards must be met by all regulated development:

- a. Temporary and permanent soil stabilization measures shall be appropriate for the site conditions including the time of year, slope and soil type.
- b. All areas located downstream from disturbed areas of a development site shall be protected from potential increase of erosion and sedimentation resulting from upstream activities.
- c. Temporary crossings of waterways shall be constructed of non-erosive materials and shall be able to withstand the force from the 100-year flood prior to the commencement of land disturbance.
- d. Soil erosion and sediment control features shall be constructed and functional prior to or concurrently with the start of disturbance.

- e. Temporary and permanent stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased. But, in no case shall these measures be installed more than 14 days after the construction in the area temporarily or permanently ceases.

2. Sedimentation and Erosion Control Methods

The following Sedimentation and Erosion Control methods are based on the anticipated area tributary to the control device. The following does not preclude the use of other methods of sedimentation and erosion control. However, the use of other control methods must be approved by the Enforcement officer.

- a. Disturbed areas with drainage areas less than 25 feet long parallel to the flow direction may be protected by a vegetated filter strip.
- b. Disturbed areas with drainage areas less than 300 feet long perpendicular to the flow direction shall at least be protected by a filter barrier (including reinforced filter fences, vegetated filter strips or equivalent control measures) to control the sediment load from the disturbed area. Vegetated filter strips shall have a minimum width of 25 feet and consist of no less than 75% vegetative cover. This method may only be used if the runoff from the drainage area is expected to be sheet flow.
- c. Disturbed areas, with drainage areas that drain less than 2 acres to a single point and cannot or are not protected with a filter barrier, shall utilize at least a sediment trap or equivalent control measure to minimize the sediment load in the runoff. The sediment trap shall be maintained at a volume of no less than 134 cubic yards per tributary acre.
- d. Disturbed areas with drainage areas more than 2 acres shall drain to a control measure to remove sediment.
 - (1) Sediment storage may be incorporated into a proposed wet detention facility. In this case the sediment storage volume shall equal or exceed the anticipated sediment load for the duration of the construction.
 - (2) Sediment basins and sediment traps shall include both detention storage and sediment storage. The detention storage shall be composed of equal volumes of “wet” detention storage and “dry” detention storage and each shall be sized for the 2 year, 24 hour runoff from the site under maximum runoff conditions during construction. The release rate of the basin shall be that rate required to achieve minimum average detention times of at least 10 hours. The elevation of the outlet structure shall be placed such that it only drains the dry detention storage.
 - (3) The sediment storage shall be sized to store the estimated sediment load generated from the site over the duration of the construction period with a minimum storage equivalent to the volume of sediment generated in one year. For construction periods exceeding 1 year, the 1-year sediment load and sediment removal schedule may be substituted. The anticipated sediment load shall be based on the Revised Universal Soil Loss Equation.

- e. All storm sewer structures that receive runoff during construction shall include inlet protection to prevent debris and excessive sediment from entering the storm sewer piping system. These protective measures shall be properly installed, maintained, and removed in their entirety after the area tributary to the storm structure is stabilized.
- f. Discharges from dewatering operations shall enter or be routed to a sediment and erosion control system or device.
- g. All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization is achieved or after the temporary measures are no longer needed. Trapped sediment shall be properly stabilized or disposed.
- h. For **Major Developments, Intermediate Developments and other locations required by the Enforcement Officer**, a stabilized construction entrance shall be located at any point where traffic will be entering or leaving a construction site, consistent with the current standards set forth in the Illinois Urban Manual. The stabilized construction entrance shall be periodically maintained to remove mud and debris and shall consist of:
 - (1) Asphalt or concrete with the quality and subgrade materials to withstand the construction traffic;
 - (2) An acceptable non-erosive durable surfacing material; or
 - (3) An appropriate geotextile fabric covered with at least six inches of clean stone that is at least two inches in diameter.
- i. Temporary earthen embankments, grade transitions and berms shall be constructed with side slopes no steeper than 3H:1 V, unless permanent structural measures are incorporated into the design. Side slopes below normal water level shall be no steeper than 2H:1 V. More gradual slopes may be required for soils that easily erode.

3. Maintenance

All temporary measures and permanent erosion and sediment control must be maintained in an effective working condition as identified by required inspections. This includes, but is not limited to, the following:

- a. Repair, replace or maintain erosion and sediment control structures after a singular or cumulative rainfall event(s) of 0.5 inches or more over a 24-hour period.
- b. Make adjustments to the sedimentation and erosion control plan and methods, as needed, to accomplish the intended purpose.

4. Inspections

Plans for upgrading, stripping, excavating, and filling work bearing the stamp of approval of the Enforcement officer shall be maintained at the site during the progress of the work. The permittee shall make inspections and maintain on-site records of such inspections at the intervals specified below.

- a. Upon completion of installation of sediment and runoff control measures (including perimeter controls and diversions), prior to proceeding with any other earth disturbance or grading;

- b. After rough grading;
- c. After final grading, and
- d. Weekly and after each rainfall event of 0.5 inches or more over a 24-hour period.

Any necessary repairs to soil erosion and sediment control measures shall be made and reported in the on-site inspection records. Copies of the inspection records shall be submitted to the Enforcement officer in a monthly inspection report.

5. Notifications

To facilitate inspections by the Enforcement officer and to ensure compliance with the approved erosion and sediment control plan, the grading or building permit, and this Ordinance, the permittee shall notify the Enforcement officer within two (2) working days of the completion of the construction stages specified below:

For Intermediate and Major Developments:

- a. Upon completion of installation of sediment and runoff control (controls and diversions), prior to proceeding with any other earth disturbance or grading,
- b. After stripping and clearing,
- c. After rough grading,
- d. After final grading,
- e. After seeding and landscaping deadlines, and
- f. After final stabilization and landscaping, prior to removal of sediment controls.

If stripping, clearing, grading and/or landscaping are to be done in phases or areas, the permittee shall give notice at the completion of each of the above work stages in each phase or area.

For Minor Developments only a, c, and f of the above requirements shall apply.

6. Special Precautions

- a. If at any stage of the grading of any development site the Enforcement officer determines by inspection that the nature of the site is such that further work authorized by an existing permit is likely to imperil any property, public way, stream, lake, Wetland, or drainage structure, the Enforcement officer may require, as a condition of allowing the work to be done, that such reasonable special precautions be taken as is considered advisable to avoid the likelihood of such peril. "Special Precautions" may include, but shall not be limited to, a more level exposed slope, construction of additional drainage facilities, berms, terracing, compaction, or cribbing, installation of plant materials for erosion control, and
- b. Recommendations of a registered soils engineer and/or engineering geologist which may outline requirements for further work.

- c. Where it appears that storm damage may occur due to incomplete grading at site, work may be stopped and the permittee required to install temporary structures or take such other measures as may be required to protect adjoining property or the public safety. On large developments or where unusual site conditions prevail, the Enforcement officer may specify the start and end dates for grading operations or may require that the operations be conducted in specific stages so as to insure completion of protective measures or devices prior to the advent of seasonal rains.

F. Stormwater management

The provisions of this section apply to intermediate and major developments and the storm sewers and swales and overland flow paths subsections apply to all regulated developments.

Public Road developments that result in less than 1.5 acres of new imperviousness or less than the rate of 1.5 acres of new imperviousness per linear mile shall meet the stormwater management standards to the extent that is practicable due to limited site conditions as indicated in the Countywide permit developed by the MCSC. The detention facility for the adjacent development shall include the public roadway improvements that are required as part of the development.

- 1. An applicant shall choose a strategy to meet the release rate requirements that minimizes the increase in runoff volumes and rates from the development and addresses the water quality treatment requirements in Article V.B., of this Ordinance. The applicant shall use appropriate best management practices as presented in the Technical Reference Manual and the following hierarchy in preparing a drainage plan suitable for the development site:
 - a. Preservation of natural resource features of the development site (e.g. floodplains, wetlands, Isolated Waters of McHenry County, prairies and woodlands);
 - b. Preservation of the existing natural streams, channels and drainage ways;
 - c. Minimizing impervious surfaces created at the site (e.g. narrowing road width, minimizing driveway length and width, clustering homes and shared driveways);
 - d. The use of natural landscaping as an alternative to turf grass;
 - e. The use of open vegetated channels, filter strips, and infiltration to convey, filter, and infiltrate stormwater runoff;
 - f. Preservation of the natural infiltration and storage characteristics of the site (e.g. disconnection of impervious cover and on-lot bioretention facilities);
 - g. Structural measures that provide water quality and quantity control;
 - h. Structural measures that provide only quantity control and conveyance.

2. Runoff Calculations

These runoff calculation standards may be superseded by the runoff calculation standards in the Floodplain Management section of this Ordinance.

- a. TR-20, HEC-1, HEC-HMS, or an MCSC approved hydrograph producing hydrologic model shall be used for the following:

- (1) To determine peak runoff rates for areas with a drainage area of 100 acres or greater; and
 - (2) To confirm the stormwater storage requirements for stormwater facilities that have a drainage area of 10 acres or more.
- b. TR-55 may be used to calculate discharges for areas that drain less than 100 acres. TR-55 with a pond routing program such as TR-20 or HEC-1 may be used to confirm stormwater storage requirements.
 - c. The Rational Method may be used to calculate discharges for drainage areas of less than 20 acres and storm sewer design. The Rational Method or the Modified Rational Formula shall not be used to determine detention storage requirements.
 - d. Sectional rainfall data as presented in the Illinois State Water Survey Bulletin 70 shall be used for all hydrologic analysis.
 - e. Rainfall should be distributed using the appropriate Huff rainfall distribution except that SCS Type II distribution is acceptable with TR-55.
 - f. Runoff calculations for all offsite tributary land shall be based on either the anticipated future land use conditions or existing land use conditions. Anticipated future land use conditions will be based on future land use and existing offsite storage facilities.

Existing land use conditions will be based on existing land use and existing offsite storage facilities.
 - g. Peak runoff rates shall be based on critical storms for drainage areas of 100 acres or more. For drainage areas less than 100 acres, peak run off rates shall be based on either the critical duration storm, or the 24 hour NRCS (SCS) Type II distribution.
 - h. **To account for soil compaction, the soil classification of all disturbed areas shall be lowered by one grade in NRCS soil classification (A to B, B to C, C to D).**
3. Release Rates and Discharges
- a. Release rates shall not exceed 0.04 cubic feet per second per acre for the 2-year, 24-hour storm event nor 0.15 cubic feet per second per acre for the 100-year, 24-hour storm event. The release rate requirement shall apply to the hydrologically disturbed area of the ownership parcel.
 - b. If the MCSC adopts a Basin plan that includes more restrictive release rates than the rates indicated above, those release rates in the adopted Basin plan shall prevail.
 - c. Release rates shall not exceed the existing conditions peak discharge from the 2 year or 100 year storm if the existing release rates are less than the rates as indicated in Section V.F.3.a and there is inadequate downstream stormwater capacity for the release rates specified in Section V.F.3.a.
 - d. Where a single pipe outlet or orifice plate is to be used to control discharge, it shall have a minimum diameter of four (4) inches. If this minimum size permits release rates greater than those specified in this

Section, alternative outlet designs shall be utilized which incorporate self-cleaning flow restrictors.

- e. All concentrated stormwater discharges leaving a site must be conveyed into an existing channel, storm sewer, or overland flow path with adequate downstream stormwater capacity and will not result in increased erosion, flood damage or other drainage hazard.
- f. The design of stormwater management systems shall not result in any inter-basin transfer of water unless no reasonable alternative exists as determined by the Enforcement officer.
- g. Compensatory storage, that is required due to the proposed filling of a depressional storage area, shall be maintained on-site or added to the required on-site detention volume. This combined volume shall be released at a rate no greater than the release rates specified in Article V.F.3.a.
- h. Concentrated stormwater discharge shall not be connected to an existing field tile or any other drainage tile system unless the applicant submits a maintenance agreement, recorded easement and a report that indicates the existing system from the connections to the discharge point in an open channel has adequate hydraulic capacity and structural integrity. The recorded easement and maintenance agreement must extend from the connection to the discharge point in an open channel. The recorded easement and maintenance agreement must be approved by the MCSC Enforcement Officer prior to issuance of a Watershed Development Permit.

4. Detention Facilities

- a. Detention will be required for projects that involve the creation of 20,000 square feet of new impervious area. **Detention may be required by the Enforcement Officer for projects that involve the creation of 10,000 square feet to 20,000 square feet of impervious surface based on specific site, watershed, and storm sewer conditions.**
- b. All stormwater infiltration, retention and detention facilities shall be provided with an emergency overflow structure or path capable of passing the inflow from a critical duration 100 year storm without damages to any structures on adjacent property. The emergency overflow structure shall have an invert elevation at or above the design high water elevation.
- c. Single pipe outlets shall have a minimum inside diameter of 12 inches. Control devices such as perforated risers, weirs and orifices may be used to meet restricted release rates. The outlet pipe and control devices shall be designed to minimize maintenance requirements and prevent tampering.
- d. In no case shall the restricted release rate exceed that described in the Release Rates and Discharge section for the entire Tributary area of the facility.
- e. Online detention facilities shall meet the following requirements:

- (1) Online detention shall not be permissible on perennial streams. This shall include all streams exhibiting year round flow and depicted as a solid blue line on the USGS 7.5 minute quadrangle maps.
 - (2) Online detention shall not be permissible with an off-site to on-site drainage area ratio greater than 10:1 except for development providing a Watershed benefit.
 - (3) Online detention shall not be permissible if the drainage area is greater than 640 acres except for development that provides a Watershed benefit.
 - (4) The release rate shall be 0.04 cfs per acre of the total Tributary area (on-site and off-site) at the elevation created by impoundment of the on-site 2 year storm volume and 0.15 cfs per acre at the elevation created by impoundment of the on-site 100 year storm volume. This release rate calculation shall be used unless other on-site or off-site conditions warrant further analysis and modifications from this standard. The on-site storm volumes (2 year and 100 year) shall be calculated using the critical duration storm and the on-site drainage area, assuming no offsite flow.
 - (5) A stable overflow structure capable of passing the 100-year, critical duration offsite flow rate shall be provided. The offsite flow rates shall be calculated assuming existing conditions or future conditions with detention required per this Ordinance, whichever is greater.
 - (6) Modifications to the intermittent stream to accommodate on-line detention shall meet the standards of Article V.D.
 - (7) The water quality protection standards in Article V.B.1 shall be met prior to discharge to on-line detention facilities.
 - (8) All permitting requirements of USACE and IDNR/OWR.
 - (9) On-line detention volume shall be in addition to the existing floodplain storage.
- f. Inlet and Outlet Orientation: To the extent feasible, the distance between detention inlets and outlets should be maximized. If possible, they should be at opposite ends of the basin. There shall be no low flow bypass between the inlet and outlet and paved low flow channels shall not be used.
 - g. Side slopes: The side slopes at the shoreline of wet and Wetland detention basins (from at least six inches below to at least six inches above normal water level) shall be no steeper than 10:1 to prevent shoreline erosion due to wave action and fluctuating water levels. Above shoreline areas, or in dry bottom portions, the maximum side slope shall be 4:1.
 - h. Safety shelf: A safety shelf with a minimum eight foot width shall be constructed no more than one foot below normal water level.
 - i. Bank Erosion Protection: The shoreline of wet detention basins shall be protected from erosion. The preferred method of shoreline stabilization is

native Wetland and wet prairie vegetation with deep root system to stabilize the soils.

- j. Off-site flow may be diverted around a proposed detention facility provided that the other applicable standards regarding Regulatory Floodplain or flood prone areas are met.
- k. Any development involving the construction, modification or removal of a dam as defined in 92 Ill. Adm. Code 702 (Rules for Construction of Dams) shall obtain an IDNR/OWR Dam Safety permit or a letter stating no permit is required prior to the start of such activity.
- l. Berms for stormwater infiltration, retention and detention facilities shall not be constructed in a Regulatory Floodplain or a flood prone area unless approved by the Enforcement officer. If a berm is constructed in a Regulatory Floodplain or a flood prone area, the development must meet the requirements of the Floodplain management section of this Ordinance. The volume inside the stormwater facility shall not be considered available for compensatory storage unless the volume is in addition to the required detention volume and is available at the appropriate storage interval
- m. If the depressional storage volume is filled or drained, the volume must either be replaced as a depression or the volume can be added to the 2-year detention storage volume. Existing depressional storage volume shall be no more than the volume at an elevation 0.5 feet above the overflow elevation or the volume during the critical duration storm event. For the purpose of establishing the existing depressional storage volume the critical duration shall not exceed the 240-hour duration.
- n. Stormwater detention volume verification shall be required for detention facilities that either have a Tributary area of 10 acres or more or the required release rate is different than that on the MCSC approved Detention Volume vs. Percent Impervious Chart. **Release by infiltration into the ground shall be excluded from verification calculation.**
- o. The MCSC approved Detention Volume vs. Percent Impervious Chart may be used for stormwater detention facilities that have a Tributary area less than 10 acres provided that required **surface** release rates are the same as those shown on the chart.
- p. Detention facilities may connect to existing drain tiles or storm sewers only if the applicant submits a maintenance agreement, recorded easement and a report that indicates the existing system from the connection to the discharge point in an open channel has adequate hydraulic capacity and structural integrity. The recorded easement and maintenance agreement must extend from the connection to the discharge point in an open channel. The recorded easement and maintenance agreement must be approved by the **Enforcement Officer** prior to issuance of a Watershed Development Permit.
- q. Infiltration basins may be used as detention facilities subject to the following:

- (1) The basin must be designed to dewater within 72 hours following the end of the critical duration storm.
- (2) The underlying soils must have an infiltration rate of at least 0.5 inches per hour as determined by a geotechnical engineer.
- (3) Pretreatment facilities must be provided to prevent obstruction.
- (4) The basin must be at least 100 feet away from any water supply wells.
- (5) Runoff from the areas that have water quality concerns or subject to frequent winter deicing must not be routed to the infiltration facility.
- (6) The bottom of the infiltration basin must be at least four (4) feet above the seasonal high groundwater elevation.

r. **Depth of detention over parking areas shall not exceed 6".**

s. **Retention basins that do not qualify as infiltration basins shall not be allowed. A release structure with a minimum capacity of 0.05 cfs/ac must be extended downstream to a suitable surface release point.**

t. **Dams and Impoundment Structures: Dam for water impoundments, pools, ponds, reservoirs shall be planned, designed and constructed under the supervision of a registered professional engineer and/or registered structural engineer and shall meet the approval of the Village Engineer. Minimum requirements for earth dams capable of impounding water shall be as follows:**

(1) **Foundations: A minimum depth of at least twenty four inches (24") of an impervious clay layer or equivalent thereof is required for dams up to twelve feet (12') in height. Additional depth of at least two inches (2") per each additional foot in height is required over twelve feet (12'). The entire area in which the dam is to be founded shall be free from all topsoil, roots, vegetation, stones, rock or debris, and shall be plowed and roughened to provide an interlocking tight bond with the new fill.**

(2) **Clay Core: A clay core shall be constructed within the middle third of the dam, and shall extend into a ten foot (10') wide trench excavated at least twelve inches (12") into impervious clay. The clay core shall be compacted to ninety five percent (95%) standard density.**

(3) **Crest: The crest shall be at least ten feet (10') wide and shall have sufficient height above the water surface (free board) to prevent waves from going over the dam. The height of the free board shall not be less than one and one-half feet (1-1/2') above the high water level.**

(4) **Emergency Overflow: The emergency overflow shall be located one foot (1') below the crest.**

(5) **Outlet Control Structures: Outlet control structures shall be designed to require no, or as little, maintenance as is reasonably**

possible for proper operation. Each stormwater storage area shall be provided with a method of emergency overflow in the event that a storm in excess of a 100-year frequency storm occurs. This emergency overflow facility shall be designed to function without maintenance and shall be part of the "natural" or surface channel system. Hydraulic calculations shall be submitted to the Village Engineer to substantiate all design features. Both the outlet control structures and emergency overflow facilities shall be designed and constructed to fully protect the public health, safety, and welfare. Stormwater runoff velocities shall be kept at a minimum and turbulent conditions at an outfall control structure shall be protected against erosion with rip-rap or similar measures.

(6) Materials: All materials, equipment and construction methods shall conform to the requirements of the "Standard Specifications for Road and Bridge Construction," State of Illinois.

5. Drainage/Detention into Wetlands

Drainage into, or detention within, Wetlands classified as Waters of the United States (WOTUS) may be allowed, subject to obtaining regulatory permitting or written clearance from U.S. Army Corps of Engineers.

Drainage into Isolated Wetlands of McHenry County (IWMC) is allowed, provided no wetland impacts result from complying with other stormwater conveyance, retention/detention, or water quality requirements of this Ordinance and the IWMC is not designated as HQAR, HQHS, or HFVW.

The provision of stormwater detention capacity within Isolated Wetlands of McHenry County is allowed, but is considered a wetland impact, subject to the wetland mitigation requirements of this Ordinance.

In addition to the other requirements of this Ordinance, the following requirements shall be met for all developments whose drainage flows into Waters of the United States (WOTUS) or Isolated Wetlands of McHenry County (IWMC).

- a. The water quality standards of Article V.B.
- b. The 2 year discharge rate to the WOTUS or IWMC shall not exceed 0.04 cfs/acre (the 2-year detention volume must be provided upstream of the WOTUS or IWMC).
- c. The existing depressional storage of the WOTUS or IWMC shall be maintained and the volume of detention storage provided to meet the discharge rate requirements shall be in addition to the existing depressional storage.
- d. The site drainage patterns shall not be altered to substantially decrease or increase the area tributary to the WOTUS or IWMC.

6. Non-detention Impact Fee in Lieu of On-Site Detention

- a. The Village Board may require, or the applicant may request, the payment of a non-detention impact fee in lieu of on-site detention to fulfill all or

part of on-site detention requirements for a development. The **Village Board** will request a non-detention impact fee in lieu of on-site detention or will reject its use within 21 days of receipt of a complete request including engineering studies and an estimated fee.

- b. Non-detention impact fees in lieu of on-site detention shall be based on the approved **Village Board** rates. The **Village Board** shall establish a fee rate for both impervious and pervious areas based on the following:
 - (1) A fee that is computed for each acre-foot of storage that is not being provided on site, or
 - (2) The estimated cost, as approved by the **Village Board**, of the applicant's proposed and approved on-site detention, including land costs, if the **Village Board** would require or allow its construction.
- c. A fund will be maintained by the **Village Board** for each major watershed for the purpose of identifying and controlling all revenues derived from nondetention impact fees in lieu of on-site detention. All nondetention impact fees received from each watershed shall be deposited in the respective major watershed fund. Disbursements for costs to mitigate stormwater and Floodplain impacts shall be made from the appropriate major watershed fund.
- d. Criteria
 - (1) The following requirements must be met before a non-detention impact fee in lieu of on-site detention will be utilized for a development that results in 20,000 square feet or greater of hydrologically disturbed area:
 - (a) The downstream stormwater management system has adequate downstream stormwater capacity; and
 - (b) The elimination of on-site detention facilities is consistent with an approved **Village Board** Master Plan or an adopted Basin plan or the applicant's engineer and the **Enforcement Officer** determine that such an exemption will not result in an increased erosion, flood or drainage hazard.

7. Storm Sewers and Swales

- a. The 10-year critical duration storm shall be used as a minimum for the design of storm sewers, minor swales, and appurtenances. Storm sewer design shall be based on full flow conditions; otherwise, hydraulic grade line calculations shall be performed that demonstrate that rims are not inundated at the design storm.
- b. Storm sewers and swales shall not connect to sanitary sewers.
- c. Storm sewers and swales may connect to existing drain tiles or storm sewers only if the applicant submits a maintenance agreement, recorded easements and a report that indicates the existing system from the connection to the discharge point in an open channel has adequate hydraulic capacity and structural integrity. The recorded easement and

maintenance agreement must extend from the connection to the discharge point in an open channel. The recorded easement and maintenance agreement must be approved by the MCSC chief engineer prior to issuance of a Watershed Development Permit.

- d. Field tile systems disturbed during development must be reconnected by those responsible for their disturbance unless the approved drainage plan includes provisions for the system. All abandoned field tiles shall be removed in their entirety.
- e. All storm sewers and minor swales shall be located in a public road right-of-way, a maintenance easement or a covenant running with the land of sufficient size to maintain and re-construct the conveyance system.
- f. Design practices intended to minimize erosion shall be provided at the inlets and outlets for all pipes, transitions and channels.
- g. The minimum storm sewer size shall be 12 inches for the first pipe reach and 12 inches for subsequent reaches unless approved by the Enforcement officer. **Driveway culverts shall be 15" or larger. Roadway culverts shall be 18" or larger.**
- h. The minimum design velocity for a storm sewer shall be 2.5 feet per second. The maximum design velocity for a storm sewer shall be 8.0 feet per second.
- i. **Storm Sewer, Pipe Culvert And Structure Standards: Materials permitted for use as storm sewers, pipe culverts and related structures shall meet the following minimum standards for materials and size:**
 - (1) **Storm Sewer Materials: Materials may be either:**
 - (a) **Reinforced concrete culvert, storm drain and sewer pipe conforming to Article 740.03 of the current IDOT Standard Specifications for Road and Bridge Construction in the right-of-way.**
 - (b) **Polyvinyl chloride pipe (PVC) conforming to Article 740.14 of the current IDOT Standard Specifications for Road and Bridge and Construction acceptable in rear yard.**
 - (c) **Ductile iron pipe or other water main quality pipe is acceptable, conforming to ANSI/AWWA C 150/a21.50 and A21.51.**
 - (2) **Structure Materials: Manholes, catch basins, frames, grates, end sections and headwalls shall conform to the following minimum standards and Village:**
 - (a) **Manholes and catch basins conforming to Section 602 of the IDOT Standard Specifications for Road and Bridge Construction, shall have offset cones.**
 - (b) **End sections conforming to Section 542.07 of the IDOT Standard Specifications for Road and Bridge Construction.**

- (c) Frames and grates may be gray iron or ductile iron conforming to Section 604 of the IDOT Standard Specifications for Road and Bridge Construction.
 - (d) Headwalls shall conform to Section 542.07 of the IDOT Standard Specifications for Road and Bridge Construction.
 - (3) Pipe Culvert Materials: Pipe culvert materials shall be reinforced concrete culvert pipe conforming to Article 740.03 of the current IDOT Standard Specifications for Road and Bridge Construction.
8. Overland flow paths
- a. All areas of development must provide an overland flow path that will pass the 100-year flood flow (including offsite tributary flow) without damage to structures or property. If the drainage area is less than 20 acres, the storm sewer pipe and inlet may be sized for the 100-year flow instead of providing an overland flow path.
 - b. The overland flow path shall be protected from any development, such as fencing, landscaping, storage sheds, or other obstructions which could impair its function by impeding flow. This protection shall be established through a properly recorded covenant running with the land restricting the use of the overland flow path area.
 - c. Structures adjacent to an overland flow path shall have the following lowest opening elevation for the following tributary areas:
 - (1) 0.5 (one-half) foot above the overflow elevation for Tributary areas of 20 acres or less.
 - (2) 1 (one) foot above the overflow elevation for Tributary areas between 20 acres and 100 acres.
 - (3) At or above the FPE for Tributary areas of 100 acres or greater.
 - d. All runoff surfaces shall have the following minimum slopes: Grass 2%, Ditch Invert 1% and Parking Lot 1%.
 - e. Depth of flow over or standing water on streets shall not exceed curb height by 1" or centerline elevation by 4" and shall not remain on the street for longer than 8 hours for all events through and including the 100-year storm.
9. For all Intermediate and Major Developments, a plan for the ongoing maintenance of all stormwater management system components including Wetlands and buffer areas is required prior to plan approval. The plan shall include:
- a. Maintenance tasks.
 - b. The party responsible for performing the maintenance tasks.
 - c. A description of all permanent public or private access maintenance easements and overland flow paths, and compensatory storage areas.
 - d. A description of dedicated sources of funding for the required maintenance.

G. FLOODPLAIN MANAGEMENT

This Section applies to all development located in a flood prone area, depressional storage area, Regulatory Floodplain and Regulatory Floodway.

1. Regulatory Floodplain, Base Flood Elevation (BFE) and Regulatory Floodway Locations:

- a. The Regulatory Floodplain or a flood prone area is the land area with the ground elevation at or below the BFE. The BFE should be delineated onto the site topography to establish the Regulatory Floodplain or the flood prone area limits.
- b. The BFE shall be as noted below;
 - (1) The elevation as indicated in the flood profiles in the FEMA Flood Insurance Studies listed in Appendix D, or
 - (2) In the case of FEMA delineated “AH Zones” the elevation noted on the map shall be the BFE. In the case of FEMA delineated “AO Zones” the BFE shall be the depth number shown on the map added to the highest adjacent grade, or at least two feet above the highest adjacent grade if no depth number is provided, or
 - (3) When no BFE information exists, the BFE shall be determined by a Registered Professional Engineer using appropriate hydrologic and hydraulic models as follows:

Hydrologic models:

Drainage area less than 20 acres: HEC-HMS, TR-20, HEC-1, TR-55, rational formula. Drainage area 20 acres or more and less than 100 acres: HEC-HMS, TR-20, HEC-1, TR-55. Drainage area 100 acres or more: HEC-HMS, TR-20, HEC-1.

Hydraulic models:

HEC-2, HEC-RAS

Or a technique approved by the MCSC and the IDNR/OWR.

- (a) The BFE determination shall be submitted to MCSC and approved prior to issuance of a Watershed Development Permit.
- (b) For non-riverine, depressional floodplain with less than 20 acres of tributary drainage area, the above analysis shall be submitted to the Enforcement Officer in certified communities to review and approve.
- (c) Where a channel has a tributary drainage area of 640 acres or more, the above analyses shall be submitted to MCSC for approval and forwarded to the IDNR/OWR for concurrent approval.
- (d) For a non-riverine Regulatory Floodplain or a flood prone area, the historic flood of record plus three feet may be used for the BFE instead of performing a detailed hydrologic and hydraulic study.

(4) *If no topographic data is available or no BFE has been established, it shall be assumed that all areas shown as SFHA on the current FIRM maps listed in Appendix D, including any effective letters of map revisions are in the floodplain. When a party disagrees with this floodplain determination, he may finance a new engineering or topographical study meeting the requirements above.*

- c. The location of the Regulatory Floodway boundary shall be scaled onto the site plan using references common to both the map and the plan (typically the centerlines of adjacent roadways). Where an interpretation is needed to determine the exact location of the Regulatory Floodway boundary, IDNR/OWR should be contacted.

Note: If an area is located in the Regulatory Floodway that is higher than the BFE, that area is subject to the Floodway Standards, including the appropriate use criteria, of this section until such time as a Letter of Map Amendment (LOMA) is received from the IDNR/OWR and FEMA.

- d. Nothing contained herein shall prohibit the application of these regulations to land that can be demonstrated by a topographic survey to lie within any Regulatory Floodplain or a flood prone area. Conversely, any lands (except for those located in a Regulatory Floodway) that can be demonstrated by a topographic survey certified by a Registered Professional Engineer or Registered Land Surveyor to lie beyond the Regulatory Floodplain or a flood prone area, and show to the satisfaction of the Enforcement officer, to have been higher than the BFE as of the effective date of the first Floodplain mapping denoting the site to be in a Special Flood Hazard Area, shall not be subject to the Floodplain management regulations except for the flood protection standards in V.G.4.

2. The general performance standards of this section applicable to all development in a Regulatory Floodplain, and flood prone areas shall apply except when superseded by more stringent requirements in the subsequent sections.
- a. No development shall be allowed in the Regulatory Floodplain or floodprone areas that singularly or cumulatively creates a damaging or potentially damaging increase in flood heights or velocity or threat to public health, safety and welfare.
- b. For all projects involving a channel modification, fill, stream maintenance, or a levee, the flood conveyance of the Floodway and storage capacity of the Regulatory Floodplain and flood prone areas shall not be reduced except for public flood control projects.
- c. If the proposed development would result in a change in the Regulatory Floodplain or BFE as indicated in Appendix D, the applicant shall obtain a Letter of Map Revision (LOMR) from FEMA. No buildings may be built in the existing or proposed Regulatory Floodplain until the LOMR is obtained from FEMA unless the building meets all the Building Protection Standards. Proposed changes to the Regulatory Floodplain, Regulatory Floodway delineation and the BFE must be submitted to MCSC. IDNR/OWR concurrence is required for changes to the published BFE.

Regulatory Floodway delineation and LOMR requests for channels that drain more than one square mile.

- d. If the development is located in a public body of water, as defined by IDNR/OWR (Appendix C), a permit must also be received from IDNR/OWR.
- e. Any work involving construction, modification or removal of a dam shall obtain an IDNR/OWR Dam Safety Permit or letter indicating a permit is not required prior to the start of development activity.
- f. For public flood control projects, the Floodplain management standards will be considered met if the applicant can demonstrate to IDNR/OWR and MCSC that each of the following conditions are met:
 - (1) Demonstrate by hydraulic and hydrologic modeling that the proposed project will not singularly or cumulatively result in increased flood heights outside the project right-of-way or any increases will be contained in easements for all flood events up to and including the base flood event.
 - (2) Demonstrate that the project will be operated and maintained by a public agency.
 - (3) Demonstrate that the project will reduce flood damage to an existing building or structure.

These standards do not preclude the design, engineering, construction or financing, in whole or in part of a public flood control project by persons or parties who are not public agencies.

- g. **Plats of subdivision shall show the regulatory floodplain as they exist on the day the plat is recorded. It shall not be assumed that a property has been removed from the regulatory floodplain until the effective date of the LOMR.**

3. Public Health Protection Standards

- a. New and replacement water supply systems, wells and sanitary sewer lines may be permitted if all manholes or other aboveground openings located below the FPE are watertight.
- b. New on-site waste disposal systems, such as septic systems, shall not be constructed within the Regulatory Floodplain.
- c. 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.
- d. No development in the SFHA shall include locating or storing chemicals, explosives, fertilizers, flammable liquids, pollutants, or other hazardous or toxic materials below the FPE.

4. Building Protection Standards

The Building Protection Standards apply to all buildings located in a flood prone area that has at least 100 acres Tributary area or the Regulatory Floodplain;

however, it should be noted that most new and replacement buildings are not appropriate uses of the Regulatory Floodway.

- a. The lowest floor including basements of all new residential structures, substantially improved structures, and additions shall be elevated up to at least the FPE. An attached garage must be elevated up to at least 1/2 of one foot above the BFE.
 - (1) If placed on fill, the top of the fill for the residential structure shall be above the FPE and shall not adversely affect the flow. The top of fill for an attached garage shall be at least 1/2 of one foot above the BFE. The fill shall be placed at that elevation for a distance of ten feet out from the building unless the building design is certified by a registered structural engineer to be protected from damages due to hydrostatic pressures. Additionally, the fill shall not settle below the FPE for the residential structure and not below 1/2 of one foot above the BFE for an attached garage, and shall be adequately protected against erosion, scour and differential settlement.
 - (2) If elevated by means of walls, pilings, or other foundation, the building's supporting structure must be permanently open to flood waters and not subject to damage by hydrostatic pressures of the base flood. The permanent openings shall be no more than one foot above existing grade, and consist 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 area subject to flooding below the BFE. The lowest inside grade must not be below the lowest existing and proposed outside grade adjacent to the structure. The foundation and supporting members shall be anchored and aligned in relation to flood flows and adjoining structures so as to minimize exposure to hydrodynamic forces such as current, waves, ice and floating debris. All areas below the FPE shall be constructed of materials resistant to flood damage. The lowest floor (including basement) for the residential structure and all electrical, mechanical, heating, ventilating, plumbing, and air conditioning equipment and utility meters shall be located at or above the FPE. Water and sewer pipes, electrical and telephone lines, submersible pumps and other waterproofed service facilities may be located below the FPE. No area less than 1/2 foot above the BFE shall be used for storage of items or materials.
- b. A non-residential building may be structurally dry floodproofed (in lieu of elevation) provided that a Registered Professional Engineer or structural engineer shall certify that the building has been structurally dry floodproofed below the FPE and the structure and attendant utility facilities are watertight and capable of resisting the effects of the base flood. 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. Floodproofing measures shall be operable without human intervention and without an outside source of electricity. (Levees, berms, floodwalls and similar works are not considered floodproofing for the purpose of this subsection.)

- c. Manufactured homes and Recreational vehicles to be installed on a site for more than 180 days, shall be elevated to or above the FPE and shall be anchored to resist flotation, collapse, or lateral movement by being tied down in accordance with the Rules and Regulations for the Illinois Mobile home Tie-Down Act issued pursuant to 77 Ill. Adm. Code 870.
- d. Accessory structures, which are not substantial improvements on an existing single-family platted lot, may be constructed with the lowest floor below the FPE in accordance with the following criteria:
 - (1) The building shall not be used for human habitation.
 - (2) All areas below the base FPE shall be constructed with waterproof material. Structures located in a Regulatory Floodway shall meet the Floodway Standards.
 - (3) The structure shall be anchored to prevent flotation and movement.
 - (4) Service facilities such as electrical and heating equipment shall be elevated or floodproofed to the FPE.
 - (5) The building shall be used only for the storage of vehicles or tools and may not contain other rooms, workshops, greenhouses or similar uses.
 - (6) The structure shall be designed to allow automatic entry and exit of floodwaters.

Accessory structures that do not meet all of the above criteria may be constructed if they are dry floodproofed or elevated at least 1/2 of one foot above the BEF.

- e. A non-conforming structure damaged may be restored unless the damage meets or exceeds fifty percent (50%) of its market value before it was damaged, in which case it shall conform to the Floodplain Management standards of this Ordinance.

5. Compensatory Storage Volume Standards

- a. Hydraulically equivalent compensatory storage volume requirements for development in a riverine Regulatory Floodplain or a flood prone area shall be at least 1.5 times the Regulatory Floodplain or a flood prone area storage total volume displaced. Hydraulically equivalent storage will only be required for areas draining greater than 100 acres. The storage volume displaced below the existing 10-year frequency flood elevation must be replaced below the proposed 10-year frequency flood elevation. The storage volume displaced above the 10-year existing frequency flood elevation must be replaced above the proposed 10-year frequency flood elevation. The additional storage volume (0.5 times the total volume displaced) may be provided at any elevation between normal water level and the BEF.
- b. Compensatory storage volume requirements for development in a non-riverine Regulatory Floodplain or a flood prone area that is also adjacent to a lake shall be at least 1.5 times the storage volume displaced.
- c. Compensatory storage volume requirements for development in a non-riverine Regulatory Floodplain or a flood prone area that is not adjacent to

a lake shall be at least equal to the storage volume displaced. This standard also applies to depressional storage areas.

- d. Compensatory storage areas shall be designed to drain freely and openly to the channel and shall be located adjacent to the development. This standard does not apply to depressional storage areas. (See Release Rates and Discharge in the Stormwater Management Section of the Ordinance.)
- e. A recorded covenant running with the land is required to maintain the compensatory storage volume in areas modified to provide compensatory storage volume.
- f. Fee-in-lieu of compensatory floodplain, flood prone area and depressional storage.

(1) The **Village Board** may require, or the applicant may request, the payment of a fee-in-lieu of providing excavated compensatory storage to fulfill all or part of the required compensatory storage volume resulting from a development. The **Village Board** will request a fee-in-lieu of compensatory storage or will reject its use within 21 days of a complete request including engineering studies and an estimated fee.

(2) Fee-in-lieu of compensatory storage shall be the greater of:

(a) A fee, as approved by the **Village Board**, that is computed for each cubic yard of compensatory storage that is not being provided by the development. This fee shall be established in accordance with the **Village Board** approved procedures and schedules; or

(b) The estimated cost, as verified by **Village Board**, of the applicant's proposed and approved on-site excavated compensatory storage volume, including land costs, had the **Village Board** required or allowed its construction.

(3) A fund will be maintained by the **Village Board** for each major watershed for the purpose of identifying and controlling all revenues derived from fee-in-lieu of compensatory storage. All fees received from each watershed shall be deposited in the respective major watershed fund. Disbursements for costs to mitigate stormwater and Floodplain impacts shall be made from the appropriate major watershed fund.

(4) Criteria

(a) Fee-in-lieu of compensatory storage volume shall not be allowed within the Regulatory Floodway.

(b) Fee-in-lieu of compensatory storage shall not be allowed if the fill would reduce the proposed riverine Floodplain or a flood prone area storage volume to less than 95% of the existing riverine Floodplain or a flood prone area storage volume in the project reach.

(c) Fee-in-lieu of compensatory Floodplain or a flood prone area storage shall not singularly or cumulatively allow

more than 20 (twenty) cubic yards of lost storage volume for a development site.

- (d) Fee-in-lieu of compensatory storage shall not be allowed for fill proposed in a regulatory Floodway.

6. Floodway Standards

The only development in a Regulatory Floodway which will be allowed are appropriate uses which will not cause an increase in flood heights for all flood events up to and including the base flood. Only those appropriate uses listed below will be allowed in the Regulatory Floodway. Appropriate uses do not include the construction or placement of any new structures, fill, building additions, buildings on stilts, fencing (including landscaping or planting designed to act as a fence) and storage of materials except as specifically defined below as an appropriate use. If the development is proposed for the Regulatory Floodway portion of the Regulatory Floodplain, the following standards apply in addition to the standards for the Regulatory Floodplain:

- a. Only the construction, modification, repair or replacement of the following appropriate uses will be allowed in the Regulatory Floodway:
 - (1) Public flood control structures and private improvements relating to the control of drainage and flooding of existing buildings, erosion, water quality or habitat for fish and wildlife;
 - (2) Structures or facilities relating to functionally water dependent uses such as additions, modifications, and improvements to existing wastewater treatment plants and facilities and improvements relating to recreational boating (this does not include new wastewater treatment plants);
 - (3) Storm and sanitary sewer outfalls;
 - (4) Underground and overhead utilities if sufficiently floodproofed;
 - (5) Recreational facilities such as playing fields, open pavilions, gazebos 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;
 - (6) Bridges, culverts and associated roadways, sidewalks and railways, necessary for crossing over the Regulatory Floodway or for providing access to other appropriate uses in the Regulatory Floodway and any modification thereto;
 - (7) Parking lots built at or below existing grade provided that either:
 - (a) The BFE is less than 1 foot above the proposed parking lot; or
 - (b) The parking lot will be used for short-term outdoor recreational use 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;

- (8) Regulatory Floodway grading, without fill, to create a positive non-erosive slope toward a channel;
 - (9) Flood proofing activities to protect previously existing lawful structures including the construction of water-tight window wells, elevating structures, or the construction of flood walls or berms around residential, commercial or industrial principal structures where the outside toe of the floodwall or berm shall be no more than ten (10) feet away from the exterior wall of the existing structure, and, which are not considered to be substantial improvements to the structure;
 - (10) The repair of a damaged building, provided that none of the outside dimensions of the building are increased and provided that the building repair cost is less than 50% of the building's market value before it was damaged. When damage is 50% or more (a substantial improvement), the activity shall conform to the Floodplain management Section of this Ordinance; or
 - (11) Modifications to an existing building that would not increase the enclosed floor area of the building below the BFE and which will not block flood flows. These modifications include fireplaces, bay windows, decks, patios and second story additions. No enclosed floor areas may be built on stilts. The modifications may not singularly or cumulatively reach or exceed 50% of the building's market value.
- b. Additions or changes to the above list of appropriate uses must be approved by MCSC and IDNR/OWR.
 - c. All development in the Regulatory Floodway shall require a Permit from the MCSC or Village and IDNR/OWR (if not delegated) and must be in accordance with all provisions of this Ordinance.
 - d. 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 prepared by a Registered Professional Engineer.
 - (1) All effective Regulatory Floodway conveyance lost due to the development of Appropriate uses, other than bridge or culvert crossings or on-stream structures or dams, shall be replaced for all flood events up to and including the base flood. In calculating effective Regulatory Floodway conveyance, the following factors shall be taken into consideration:
 - (a) Regulatory Floodway conveyance (K),

$$"K" = \frac{1.486}{n} \times AR^{2/3}$$
 where:
 - "n" is The Manning roughness coefficient,
 - "A" is the effective area of the cross-section in square feet, and "R" is the ratio of the area to the wetted perimeter in feet.

- (b) The same The Manning roughness coefficient shall be used for both existing and proposed conditions unless a recorded maintenance agreement with a federal, state, or local unit of government can ensure the proposed conditions will be maintained or the land cover is changing from a vegetative to a non-vegetative land cover.
- (2) The following expansion and contraction ratios shall be used to determine transition sections in calculations of effective Regulatory Floodway conveyance:
- (a) Water will expand no faster than at a rate of one foot horizontal for every four feet of the flooded stream's length.
 - (b) Water will contract no faster than at a rate of one foot horizontal for every one foot of the flooded stream's length.
 - (c) Water will not expand or contract faster than one foot vertical for every ten feet of flooded stream length.
 - (d) All cross-sections used in the calculations shall be located perpendicular to flood flows.
 - (e) Transition sections may be used to determine the effective conveyance areas on adjacent properties.
- (3) The development of all appropriate uses shall not result in an increase in the average channel or Regulatory Floodway velocities or stage, for all flood events up to and including the base flood event. 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.
- (4) On-Stream Structures for the purpose of backing up water.
- (a) Any increase in upstream flood stages when compared to the existing conditions, for all flood events up to and including the 100-year frequency event, shall be contained within the channel banks (or with 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.
 - (b) 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.
 - (c) All dams and impoundment structures as defined in Article II shall meet the permitting requirements of 17 IL. Adm. Code Part 3702 (Construction and Maintenance of Dams).
 - (d) If the proposed activity involves a modification of the channel or Floodway to accommodate an impoundment, it shall be demonstrated that:

- (i) The impoundment is determined to be in the public interest by providing flood control, public recreation, or regional stormwater detention;
 - (ii) 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 spawning;
 - (iii) 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;
 - (iv) A nonpoint source 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) If flood proofing construction is required beyond the outside dimensions of an existing habitable, residential or commercial building, the outside perimeter of the flood proofing construction shall be placed no further than 10 feet from the outside of the building. Compensation of lost storage and conveyance will not be required for flood proofing activities within the 10 foot perimeter provided flood damage to other buildings is not increased.
- (6) General criteria for analysis of flood elevations:
- (a) The flood profiles, flows and data in the study, referenced in the Floodplain management section, must be used for analysis of the base conditions. If the study data appears to be in error or conditions have changed, IDNR/OWR and MCSC shall be contacted for approval and concurrence on the appropriate base conditions data to use.
 - (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 section 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 section for both the existing conditions and the expected flood profile conditions when the bridge, culvert or flood control project is built.

If the appropriate use will result in a change in the Regulatory Floodway location or a change in the BFE, the applicant shall submit to MCSC the information required to be issued a Conditional Letter of Map Revision (CLOMR) from FEMA. A public notice inviting public comment on the proposed change in the BFE or location of the Regulatory Floodway will be issued by IDNR/OWR or its designee before a CLOMR is issued. Filling, grading, dredging or excavating may take place upon issuance of a conditional approval from FEMA or its designee and the local jurisdiction. No further development activities shall take place in the existing or proposed Floodplain until a Letter of Map Revision (LOMR) is issued by and FEMA and such development meets all the requirements of the Floodplain Management Section of this Ordinance.

- e. For those circumstances listed below and located in a Regulatory Floodway, the following information shall be submitted to the Village, MCSC and IDNR/OWR (unless solely delegated to MCSC through agreement with IDNR/OWR):
 - (1) Analysis of the flood profile due to a proposed bridge, culvert crossings and roadway approaches.
 - (2) An engineer's determination that an existing bridge or culvert crossing or approach road is not a source of flood damage and the analysis indicating the proposed flood profile.
 - (3) Alternative transition sections and hydraulically equivalent compensatory storage.
 - (4) Watershed Development Permits to local units of government for Regulatory Floodway and Floodplain development.
 - f. IDNR will retain permit authority for all jurisdictional dams, projects in public bodies of water and all state, federal or Village projects.
7. Riverine Floodplain and Floodprone area Standards
- a. These standards apply to Riverine Regulatory Floodplains and floodprone areas without Regulatory Floodways.
 - b. The Applicant, through MCSC, shall obtain approval from IDNR/OWR for all development located partially or completely within either the Regulatory Floodplain (without a delineated Regulatory Floodway) or a flood prone area with a tributary drainage area of 640 acres or more.
 - c. The development shall not singularly or cumulatively result in an obstruction of flood flows or potential flood damages outside the development right-of-way due to an increase in flood heights, velocities, or loss of Floodplain or flood prone area storage.
 - d. A Registered Professional Engineer shall submit a study that demonstrates one of the following;

- (1) Determine a Floodway which meets the definition of a Regulatory Floodway and demonstrate that the proposed development meets the Floodway Standards, or
 - (2) Determine a BFE 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 or flood prone area storage at a 1.5 to 1 ratio, or
 - (3) That for a range of flood elevations and flows, as approved by the MCSC, that the proposed development will maintain the existing conditions conveyance, will not increase flood velocities, will not increase flood profiles, and will compensate for all lost Floodplain or flood prone area storage at a 1.5 to 1 ratio.
- e. Show that the proposed development will meet the Floodplain Management requirements of this Ordinance.
8. Bridge and Culvert Standards
- a. These standards are for the Reconstruction, Modification or New Construction of Bridges, Culvert Crossings and Roadway Approaches located in the Regulatory Floodplain or flood prone areas.
 - b. A proposed new 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 base flood event unless contained within the channel banks or recorded easements. The evaluation must be submitted to the MCSC for review and concurrence before a permit is issued.
 - c. If the proposed new structure will increase upstream flood stages greater than 0.1 foot, the applicant must contact IDNR/OWR for a permit or waiver.
 - d. Lost Regulatory Floodplain or flood prone area storage must be replaced as required in compensatory storage Section of this Ordinance except that artificially created storage lost due to a reduction in head loss behind an existing bridge or culvert crossing shall not be required to be replaced, provided no flood damage will be incurred downstream.
 - e. Velocity increases must be mitigated by use of appropriate measures to avoid scour, erosion and sedimentation at the structure.
 - f. For modification or replacement of existing structures, the existing structure must first be evaluated in accordance with IDNR/OWR Rules 17 IL. Adm. Code Part 3708 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 (0.0 feet) 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 or its designee for review and concurrence before a permit is issued.

- g. 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.
- h. 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.
- i. Construction vehicles shall cross streams by the means of existing bridges or culverts. Where an existing crossing is not available, a temporary crossing shall be constructed in which:
 - (1) The approach roads will be 0.5 feet or less above 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 feet 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 Enforcement officer.
 - (5) All applicable state and federal permits are received prior to construction.

H. Wetland Provisions

In order to protect the wetland, lake, and stream resources of the Village and of wetland impacts to WOTUS and IWMC are prohibited by this Ordinance, unless no feasible alternatives exist and all applicable regulatory approvals or clearances are granted prior to the onset of the development activity.

- 1. Jurisdictional areas include:
 - a. Waters of the United States (WOTUS). Wetland impacts to WOTUS on or adjacent to a development site will require regulatory approval or clearance from the USACE, the IDNR/OWR and the IEPA.
 - b. Isolated Waters of McHenry County (IWMC). Wetland impacts to IWMC on or adjacent to a development will require issuance of a permit under this Ordinance.
 - c. Buffer Areas (as defined in Article V.C) to WOTUS and IWMC required by the USACE and/or the MCWDO.
- 2. Non -jurisdictional areas are appropriate wetland restoration activities requiring minor earthmoving or grading in Isolated Waters of McHenry County or adjacent buffer areas. These activities are exempt upon receiving written approval from the Enforcement Officer prior to the onset of the activity.
- 3. Applicability: A stormwater management permit is required for any development:
 - a. that proposes wetland impact(s) within an area(s) defined as Waters of the United States; or

- b. within buffer area(s) adjacent to Waters of the United States required by the regulatory authority of the USACE; or
 - c. that proposes wetland impact(s) with a total and cumulative impact area of one-quarter (0.25) acre in size or greater to an area(s) defined as Isolated Waters of McHenry County.
 - d. within buffer area(s) required by this Ordinance adjacent to Isolated Waters of McHenry County.
4. Wetland submittal requirements depend upon whether the development is located within WOTUS or IWMC as provided below. For development that impacts both WOTUS and IWMC, submittal requirements follow provisions under Isolated Waters of McHenry County. Projects involving both WOTUS and IWMC will require coordination between the USACE and the Enforcement Officer for permitting process. The submittal requirement details are listed in Section VI.F.
5. Requirements for Wetland Delineation
- a. Applicant shall identify the boundaries, extent, function, and quality of all potential wetland areas on the development site and prepare a Wetland Determination Report. The presence and extent of jurisdictional wetland areas shall be determined using an on-site wetland procedure in accordance with the current Federal wetland delineation methodology. Farmed Wetlands will be determined using the National Food Security Act Manual or by contacting the Natural Resource Conservation Service (NRCS).
 - b. Wetland Determination Report: The following are minimum requirements for the Wetland Determination Report:
 - (1) A plan showing the exact location and extent of all wetlands within the development boundaries. The boundary of the wetland(s) shall be flagged in the field and surveyed;
 - (2) An aerial photograph delineating the identified wetland(s) and the development boundary, as well as the estimated location and extent of any off-site wetland(s) contiguous to, or extending off-site from, the development parcel;
 - (3) The most recent copy of the following maps, delineating the development boundary:
 - (a) United States Geologic Survey (USGS) quadrangle map;
 - (b) NRCS Wetland Inventory map;
 - (c) FEMA floodplain map;
 - (d) McHenry County soil survey;
 - (e) Hydrologic Atlas, and
 - (f) McHenry County Advanced Identification (ADID) Wetland map
 - (4) USACE wetland delineation data sheets with representative color photographs provided for each wetland;

- (5) A written description of the wetland(s) that includes a Floristic Quality Assessment, as determined by methodology contained in the publication *Plants of the Chicago Region* (Swink & Wilhelm 4th Edition, The Indiana Academy of Science, Lisle, Illinois 1994). Floristic quality assessments shall be conducted during the local growing season between May 15 and October 1. Non-growing season assessments may be considered for sites with apparent plant community monocultures or low floristic diversity potential, however, the Enforcement Officer reserves the right to require additional sampling during the growing season prior to issuing a permit.
- (6) A functional assessment for each wetland using the Modified Michigan Department of Natural Resources Method or the Ludwig wildlife habitat evaluation methodology. Other functional assessment methods are allowed but shall be approved prior to submittal.
- (7) The approximate location, extent, and relative quality of offsite wetlands adjoining the development shall be identified by using the first of the following documents or procedures pertaining at the time of development:
 - (a) Site specific delineation according to the Federal wetland delineation methodology. If such delineation is not available, use Paragraph (b) below.
 - (b) Wetlands identified on McHenry County Wetland Inventory maps (most current MCWI map) and on McHenry County ADID study.

6. Wetland Mitigation Requirements

In order to further the goal of “no net-loss” of the Village’s wetland resources, all permitted wetland impacts shall be mitigated at the ratio specified by this Ordinance. The objective shall be to replace the impacted wetland functions where they can be most successfully protected and maintained in perpetuity.

- a. Mitigation for impacts to IWMC, shall provide for the replacement of the wetland environment lost to development at the following proportional rates (i.e., creation acreage to impact acreage):
 - (1) Upon receipt of an approved permit authorizing a wetland impact that is not designated as HQAR, HQHS, or HFVW, up to one quarter (0.25) acre of approved fill material can be placed without providing mitigation. All other regulatory aspects of this Ordinance (such as drainage, compensatory storage, etc.) will be complied with before the exemption is granted.
 - (2) The one quarter (0.25) acre mitigation exemption may only be exercised one time per approved MCWDO permit, regardless of the number of IWMC present on the development site. The Enforcement Officer can require that the remaining on-site portion of the IWMC for which the exemption is granted be protected by buffers or other protective measures as defined by this Ordinance.

- (3) The Enforcement Officer may deny the mitigation exemption if it is determined that:
 - (a) Any IWMC will be eliminated or adversely impacted as a result of more than one application filling the same IWMC, resulting in a cumulative fill greater than 0.25 acre.
 - (b) Any IWMC already subject to the one quarter acre mitigation exemption.
 - (c) An intermediate or major development project subdivided into phases in order to submit multiple applications.
 - (4) A minimum one and one half to one (1.5:1) replacement ratio is required for approved wetland impacts to IWMC under Categories II and III that are not designated as HQAR, HQHS, or HFVW.
 - (5) A minimum three to one (3:1) ratio is required for wetland impacts to IWMC that are designated as HFVW.
 - (6) A minimum five to one (5:1) ratio is required for wetland impacts to IWMC that are designated as HQHS or HQAR.
 - (7) Wetland impacts within or affecting an IWMC prior to issuance of a permit, or other unauthorized impact to a wetland, shall presume the IWMC disturbed was a HQAR wetland requiring mitigation at a minimum mitigation replacement rate of five to one (5:1), if it is determined that mitigation is acceptable in lieu of restoration.
- b. On-site wetland mitigation is preferred, but only if the applicant can document that it can expand the extent or improve the quality of other existing, undisturbed on-site or adjacent wetlands.
 - c. The mitigated wetland(s) shall be designed to duplicate or improve the hydrologic, biologic, botanic, and wildlife features of the original wetland(s) impacted.
 - d. Creation of wetlands for the mitigation of wetland impacts shall take place only within areas not currently comprised of jurisdictional WOTUS or IWMC. The Enforcement Officer may allow partial mitigation credit for appropriate wetland restoration practices in otherwise undisturbed, degraded IWMC. The mitigation credit shall be up to one-quarter (0.25) acre of wetland mitigation acreage credited for each one (1) acre of degraded IWMC restored.
 - e. If the required wetland mitigation acreage is less than one and one-half (1.5) acres, credit for mitigation acreage can be achieved by payment into a Village-approved wetland mitigation bank, or into a Village-approved Wetland Restoration Fund.
 - f. If the required wetland mitigation acreage is one and one-half (1.5) acres in size or greater, the potential for on-site mitigation must be evaluated. Credit for mitigation acreage by payment into a Village-approved wetland mitigation bank, or into a Village-approved Wetland Restoration Fund is allowed if the applicant can demonstrate that the long term preservation of existing or created on-site wetlands is unlikely as a result of existing or proposed land use practices in adjacent upland areas.

- g. Any funds paid into a Village-approved Wetland Restoration Fund for mitigation of wetland impacts shall only be used to fund wetland restoration activities located fully within the Village, or within the Village-designated sub-watershed (even outside the Village) in which the permitted wetland impact occurred.
- h. Preference for the ownership of wetland mitigation sites is as follows:
 - (1) Land owned and managed by a governmental entity, not-for-profit land trust, or other appropriate non-governmental organization for conservation purposes.
 - (2) Wetland mitigation bank approved by the USACE and/or the Village.
 - (3) Privately owned sites with appropriate deed restrictions, covenants, or easements with a dedicated funding source in place to fund and protect the mitigation site in perpetuity.
- i. To the extent practicable, all wetland mitigation shall be provided at a suitable location as close to the wetland impact site as possible. Other locations may be proposed, with respect to the following hierarchy:
 - (1) Within the same Village-designated sub-watershed within McHenry County.
 - (2) Within the same Village-designated sub-watershed, located outside McHenry County.
 - (3) Within an adjacent McHenry County, Village-designated sub-watershed.
 - (4) Within an adjacent Village-designated sub-watershed located outside McHenry County.
 - (5) Within the same McHenry County, Village-designated watershed.
 - (6) Within an adjacent McHenry County, Village-designated watershed.
 - (7) Within the same Village-designated watershed outside of McHenry County.
- j. As geographic distance increases between wetland impact site and mitigation site, the Enforcement Officer may impose a mitigation multiplier on the mitigation ratio specified in Section V.H.6.a of this Ordinance.
- k. Development in or affecting a wetland environment shall be initiated only after a mitigation plan has been approved and adequate securities, such as a performance bond or letter of credit, are provided as specified in this Ordinance.
- l. A project mitigation document (PMD) shall be submitted for all mitigation projects in conformance with the current USACE Chicago District Mitigation Guidelines and Requirements.
- m. A plan for the perpetual management, operation, and maintenance of the mitigation areas, including the designation of the person(s) or organization

legally responsible for long-term operation and maintenance, and dedicated funding sources shall be submitted.

- n. All wetland impacts mitigated on private property shall be protected by a conservation easement, deed restriction, or other legal mechanism recorded on the plat of survey for the parcel on which the mitigation is located.
- o. The applicant shall provide annual monitoring reports on the status of the constructed mitigation measures. The applicant shall undertake all necessary remedial action to bring the area into compliance with the mitigation plan in conformance with the Chicago District Mitigation Guidelines.
- p. If the Enforcement Officer believes adequate mechanisms can be established to protect and fund the mitigated wetlands, a mitigation multiplier may be established on the mitigation ratio specified in Article V.H.6.a of this Ordinance.

7. Wetland Banking

- a. Where development affecting Isolated Waters of McHenry County meets the requirements of this Ordinance and the long term preservation of existing wetland functions or characteristics is unlikely as a result of existing or proposed land use practices in adjacent upland areas, then the Applicant may provide mitigation wholly or in part through investment in a USACE certified wetland banking project, [or payment into the Wetland Restoration Fund in lieu of constructing new wetlands.]
- b. Such wetland banking shall be allowed only if no long-term net loss of wetlands results within McHenry County and if the adverse impacts of development in isolated wetlands are fully mitigated.
- c. Wetland Banks must be certified by the USACE and comply with the Interagency Coordination Agreement On Wetland Mitigation Banking Within The Regulatory Boundaries Of Chicago District, dated January, 1997, or current agreement.
- d. A Watershed Development Permit will not be issued until a copy of the receipt of payment is provided.
- e. Payment into the Wetland Restoration Fund is only allowable if no wetland banks are within the watershed that the development is proposed.

8. Wetland Hydrology

- a. The following hydrology threshold requirements shall be met by the development activity. If the development activity exceeds the hydrology threshold limits, a wetland impact to Isolated Waters of McHenry County shall be assumed, and the mitigation requirements of this section of the ordinance shall apply.
- b. The design shall maintain between 80% and 150% of the exiting condition storm event runoff volume to the wetland up through the 2 year-24 hour storm event. The design shall meet the total off-site release rate requirements of the McHenry County ordinance, or the minimum orifice size requirements.

I. Long Term Maintenance

When required by the Enforcement Officer, the applicant shall provide restrictive covenants pertaining to the maintenance, repair, management, and inspection of all wetlands, water bodies, flood plains, buffers, and stormwater management facilities for the development project. Once the Village has approved the covenants, the applicant shall record document prior to the sale of individual lots on the property and shall deliver a recorded copy to the Enforcement Officer. Once recorded, those portions of the covenants pertaining to wetlands, water bodies, flood plains, buffers, and stormwater management facilities cannot be modified, amended, supplemented, repealed or terminated by the property owner, applicant, or homeowner's or business owner's association without the prior written consent of the Enforcement Officer, which may be withheld at the sole discretion of the Village.

Such covenants shall contain an affirmative responsibility by the applicant or permittee that (1) all common areas devoted to stormwater management, wetlands, buffers, open waters, and stormwater management facilities shall be maintained by the owner, applicant, or permittee; and (2) in the event such facilities are not maintained, repaired, restored, or inspected as required with the approved stormwater management permit or as determined by the Enforcement Officer, the Village may undertake such maintenance, repair, restoration or inspection, and the Village shall be fully reimbursed by the applicant for all costs and fees incurred. Such action and maintenance by the Village shall not constitute acceptance of such facilities and shall not be responsible for additional long-term maintenance.

The property owner and applicant shall agree, as a condition of permit approval, to submit the property for inclusion in a special service area (SSA) established by the Village. The SSA is intended as a vehicle to reimburse the Village for any maintenance, repair, restoration, or inspection of the stormwater management facilities. The owner and applicant shall not object to the adoption of an ordinance proposing and establishing a SSA and the Village shall have the sole right to determine if a SSA is to be established and utilized.

ARTICLE VI. APPLICATION REQUIREMENTS

All the following application requirements shall be submitted when applicable to the development, to the Enforcement officer. The Enforcement officer shall provide a permit application form.

A. Application Requirements for Minor Developments

1. A completed permit application that includes the name and legal address of the applicant, legal description of the property and/or parcel identification number, and common address and a site location map of the development, a brief description of the proposed development and the mailing address of the property owner and the signature of the applicant or the applicant's agent.
2. A general description of the existing and proposed stormwater management system.
3. A grading plan showing proposed and existing contours.
4. A site drainage plan locating overland flow paths, Floodway, Floodplain, floodprone area and Wetland limits.
5. An area drainage plan.

6. A description and depiction of measures to be taken to control erosion. This may include, but is not limited to, the standard soil erosion and sedimentation control notes as established by the Village.
7. Copies of ADID (Advanced Identification), NWI (National Wetland Inventory), NRCS (Natural Resources Conservation Service), HA (Hydrologic Atlas) Wetland Maps, and current version of the NRCS Soil Survey for McHenry County, extended 100 feet from property boundaries.
 - a. If these maps and a site inspection do not indicate the potential presence of unmapped IWMC, the Enforcement Officer may determine no further wetland submittals are required.
 - b. If these maps do indicate the potential presence of unmapped IWMC, the Enforcement Officer may require additional wetland investigations to determine the presence, location, functional value, or quality of on-site or adjacent wetlands.
 - c. In the case of the potential presence of unmapped WOTUS, the Enforcement Officer may require documentation that the proposed activity is in conformance with the USACE regulatory program, or other current federal, state, or local wetland regulations.

B. Application Requirements for Intermediate Developments

In addition to the requirements for minor developments, intermediate development applications require the following information:

1. A topographic map of the existing conditions of the development site showing the location of all roads, all drainage paths, the boundaries of predominate soil types, the boundaries of predominate vegetation, and the location of any drainage easements, detention or retention basins, including their inflow and outflow structures, if any. The map shall also include the location, size, and the utilized flow capacity of all existing storm or combined sewers and other utility lines within the site. The map shall be prepared using a minimum 2-foot contour interval and shall be prepared at an appropriate scale for the type of project and shall include specifications and dimensions of any proposed channel modifications, location and orientation of cross-sections, if any, north arrow, and a graphic or numerical scale. All elevations shall be referenced to National Geodetic Vertical Datum NGVD (1929 adjusted).
2. Include cross-section views for the stormwater management system showing existing and proposed conditions including principal dimensions of the work, and existing and proposed elevations, normal water and calculated BFEs, and overland flow depth and path.
3. A vicinity map shall be included along with the Parcel Identification Numbers of all parcels comprising the proposed development.
4. A watershed development report with supporting analyses and documentation to describe the hydrologic and hydraulic methods used to design the proposed project shall be included with the application. The report shall include the name of affected stream or body of water, a statement of purpose of proposed activity, and a detailed description of the runoff for the project site under existing and developed conditions. This includes documentation of the design volumes and rates of the proposed runoff for each portion of the watershed tributary to the

stormwater management system and the effects the development will have upon the receiving channel and high water elevations. Runoff calculations shall include all discharges entering the site from upstream areas. The watershed development report shall describe how the proposed project meets all the standards of this Ordinance.

5. For detention facilities, a section in the watershed development report that includes a plot or tabulation of storage volumes and water surface areas with corresponding water surface elevations, stage-discharge or outlet rating curves, and design hydrographs of inflow and outflow for the 2-year, 24-hour and the 100-year, 24-hour storm events under existing and developed conditions.
6. A soil erosion and sedimentation control plan for all disturbed areas, which includes:
 - a. A site map prepared at the same scale as the drainage plan that identifies both temporary and permanent vegetative and structural erosion and sediment control measures to be implemented.
 - b. A narrative description of the sequencing of grading and soil disturbance and construction activities, the temporary and permanent sediment and erosion control measures to be implemented to mitigate any negative effects of grading including: supporting calculations; estimated schedule for installing, maintaining and removing both temporary and permanent structures; and the final stabilization and vegetation measures.
7. A maintenance plan for the ongoing maintenance of all stormwater management system components including Wetlands and buffer areas is required prior to plan approval. The plan shall include:
 - a. Maintenance tasks.
 - b. The party responsible for performing the maintenance tasks.
 - c. A description of all permanent public or private access maintenance easements and overland flow paths, and compensatory storage areas.
 - d. A description of dedicated sources of funding for the required maintenance.
8. The development shall meet the requirements of this Ordinance and shall be certified and sealed by a Registered Professional Engineer.
9. A description of the anticipated dates of initiation and completion of activity.
10. The applicant shall obtain and provide a copy of an IDNR/OWR Dam Safety Permit or a letter stating that a Dam Safety Permit is not required if the development includes a dam before the applicant obtains a watershed development permit.
11. A listing of all local, state and federal permits or approval letters that may be required for this type of development including the application date. The applicant shall obtain and provide copies of any and all required federal, state and local permits for development in the Regulatory Floodplain or flood prone area before the applicant obtains a watershed development permit.
12. The applicant shall submit the data required to the Village, MCSC, IDNR/OWR, and FEMA for proposed revisions to the BFE of a Regulatory Floodplain study or

relocation of a Regulatory Floodway or Floodplain boundary (LOMR request).

13. For a Letter of Map Amendment (LOMA) request for a correction in a delineated Floodplain boundary the applicant shall submit the following data to the Village and FEMA:
 - a. Certification that a land parcel is located above the BFE based on the current effective flood profile, and;
 - b. An affidavit or documentation to demonstrate that the existing ground elevation existed prior to the effective date of the first Floodplain map.
14. For any development located in, near or adjacent to a Wetland as shown on the ADID, NWI, or the NRCS Wetland maps, the applicant shall provide a copy of the Chicago District, U.S. Army Corps of Engineers' permit or a letter from the Corps indicating that a permit is not required from their agency for the proposed development.
15. Subsurface Drainage (Tiles) Submittal Requirements
 - a. Intermediate, Major and Public Road Development applicants shall submit a subsurface drainage survey unless evidence can be provided that the site has no drain tiles present.
 - b. The inventory shall locate existing farm and storm drainage tiles by means of slit trenching and other appropriate methods performed by an experienced subsurface drainage consultant.
 - c. All existing drain tile damaged during the investigation should be repaired and functional.
 - d. The applicant shall provide a topographical boundary map locating these lines showing:
 - (1) Location of each slit trench and identified to correspond with the tile investigation report and field staked at no less than 50 foot intervals;
 - (2) Location of each drain tile with a flow direction arrow, tile size and any connection to adjoining properties.
 - (3) A summary of the tile investigation report showing trench identification number, tile size, material and quality, percentage of the tile filled with water, percentage of restrictions caused by sediment; depth of ground cover and tile system classification.
 - (4) Name, address and phone number of the person or FIRM conducting the tile location investigation.
 - e. Information collected during the drainage investigation shall be used to design and develop a long term subsurface drainage system appropriate for the soils under the development and properly connect all upstream and/or downstream properties.
- 16. *The location and depth of any water supply well located within fifty feet (50') of the proposed excavation and/or filling.***
- 17. *Location of any sewerage disposal system or underground utility line located within fifty feet (50') of the proposed excavation and/or filling. The location of any gas transmission pipe line operated at a maximum service pressure in***

excess of two-hundred (200) p.s.i.g. located within one-hundred feet (100') of the proposed excavation, grading, or filling.

18. The location, type, and current status of any previously permitted excavation, grading, or fill operations on the site.

C. Application Requirements for Major Developments

The application requirements for major development are the same as those for an intermediate development.

D. Special Flood Hazard Area Application Requirements

If the development is located in a Regulatory Floodplain or flood prone area, the applicant shall provide the following additional information:

1. Site location of the property, drawn to scale on the Regulatory Floodway map, indicating whether it is proposed to be in an incorporated or unincorporated area;
2. A plan view of the project showing:
 - a. The existing and proposed Regulatory Floodway limit(as scaled from the Regulatory Map), Regulatory Floodplain or flood prone area limit (as determined by the BFE) and the existing water line for public bodies of water as defined by IDNR/OWR.
 - b. Cross-section views of the project for the impacted 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).
 - c. A copy of the Regulatory Floodway map with the project site delineated and marked to reflect any proposed change in the Regulatory Floodway location.
3. A written report that describes the hydrologic and hydraulic methodology including the engineering calculations and supporting data that show the proposed work meets the performance standards of this Ordinance.
4. All changes in grade resulting from any proposed excavation or filling; and existing and proposed Regulatory Floodplain, flood prone area and Regulatory Floodway limits; the location and dimension of all buildings and additions to buildings; and the elevation of the lowest floor (including basement) and lowest opening elevation of all proposed buildings.
5. Structural Elevation and Flood proofing Certifications
 - a. Elevation certificates of the lowest floor elevation (including basements and attached garages) must be submitted for all residential structures located in a Regulatory Floodplain or a flood prone area.
 - b. Flood proofing Certificates must be submitted that show the elevation to which all non-residential buildings are floodproofed in the Regulatory Floodplain or a flood prone area.
 - c. Certificates are also required to show that all structures (located outside the Regulatory Floodplain or a flood prone area) have a lowest opening above the FPE.

E. Public Road Development Application Requirements

1. A completed and signed watershed development permit application.
2. The applicant shall obtain and provide copies of any and all required federal, state and local permits for development in the Regulatory Floodplain or a flood prone area before the applicant obtains a watershed development permit.
3. A report, supporting analyses, documentation and plans of the proposed Stormwater management system, including the location and size of all existing and proposed drainage improvements including plan, section, and profile views of storm sewers, field tiles, culverts, channels, and detention areas.
4. A report, supporting hydrologic and hydraulic analyses, documentation and plans of any proposed Floodway, Floodplain or flood prone area modifications, including the construction or reconstruction of any existing and proposed development that may include bridges, culverts, approach roads, resurfacing, road construction, road widening or alterations of any existing stormwater facilities.
5. A Soil Erosion and Sediment Control Plan.

F. Wetland Submittal Requirements

Wetland submittal requirements depend upon whether the development is located within WOTUS or IWMC as provided below. For development that impacts both WOTUS and IWMC, submittal requirements follow provisions under Isolated Waters of McHenry County. Projects involving both WOTUS and IWMC will require coordination between the USACE and the Enforcement Officer for permitting process.

1. Wetland impacts to only WOTUS or their adjoining buffer areas shall follow application requirements of the USACE.
2. For wetland impacts to IWMC or their adjoining buffer areas, the following information is required:
 - a. A cover letter that provides a clear project purpose and need statement, a description of the proposed activity, composition of fill material, area (in acres) of wetland impact, and a statement on the permit category, designated by the Enforcement Officer, to be used as follows:

Category-I: Wetland impacts with a cumulative impact area of one quarter (0.25) acre or less and do not impact HQAR, HFVW, and/or HQHS.

Category-II: Wetland impacts with a cumulative impact area between one quarter (0.25) and two (2) acres in size and do not impact HQAR, HFVW, and/or HQHS.

Category-III: Wetland impacts with a cumulative impact area of two (2) acres or greater in size, or that impact HQAR, HQHS, and/or HFVW.

Category-IV: Wetland impacts for the restoration, creation and enhancement of wetlands provided that there are net gains in aquatic resource function, including streambank and shoreline stabilization projects that utilize appropriate bioengineered practices.
 - b. A delineation of the wetlands consistent with the requirements provided in "Requirements for Wetland Delineation."
 - c. A statement on the occurrence of any High Quality Aquatic Resource or High Quality Habitat Site on or adjacent to the development.

- d. Documentation that the development is in compliance with the Illinois Department of Natural Resources Endangered Species Consultation Program and the Illinois Natural Areas Preservation Act [520 ILCS 10/11 and 525 ILCS 30/17].
- e. Documentation that the development is in compliance with the U. S. Fish and Wildlife Service's consultation program under the Endangered Species Act.
- f. A mitigation plan meeting the requirements of this Ordinance.
- g. A copy of the Natural Resources Information Report (NRI) performed by the McHenry County Soil and Water Conservation District pursuant to state statute 70 ILCS 405/22.02a;
- h. Alternative measures taken to avoid, minimize, or mitigate for impacts to Isolated Waters of McHenry County (Category-II requirement only);
- i. Measures taken to avoid and minimize impacts to Isolated Waters of McHenry County (Category-III requirement only).
- j. Benefits to the aquatic environment of the proposed development (Category-IV requirement only).
- k. For any proposed impact to a IWMC designated as HQAR, HQHS, or HFVW, an alternative analysis for wetland avoidance. This shall be similar to the 404(b)(1) requirements of the Clean Water Act.

ARTICLE VII. VARIANCES AND APPEALS

A. VARIANCES

The Village, upon application, after public hearing, and subject to the process and standards that follow, may grant variances to the provisions of this Ordinance as will not cause detriment to the public good, safety or welfare nor be contrary to the spirit, purpose and intent of this Ordinance where, by reason of unique and exceptional physical circumstances or condition of a particular property, the literal enforcement of the provisions of this Ordinance would result in an unreasonable hardship.

- 1. The Enforcement officer shall administer the variance provisions.
- 2. A public notice will be issued to adjacent property owners via posted sign on parcel or local newspaper inviting public comment on all proposed variances to any performance standard. A copy of the variance request and the public notice will be sent to MCSC.
- 3. Variances may be granted in the following instances:
 - a. Showing of good and sufficient cause, and
 - b. A determination that the variance is the minimum necessary to afford relief, considering the flood hazard and water quality, and
 - c. A finding that failure to grant the variance would result in exceptional hardship to the applicant, and
 - d. A finding that the granting of a variance would not result in increased flood heights or damages, additional threats to public safety, extraordinary public expense, a created nuisance, fraud or victimization of the public, nor conflict with existing local laws or stated purpose of any ordinances,

and

- e. A finding that all buildings will be protected by methods that will minimize flood damage up to the BFE, and
 - f. A finding that the development activity cannot be located outside the Regulatory Floodplain or flood prone area, and
 - g. The applicant's circumstances are unique and do not represent a general problem.
4. Upon consideration of the factors noted above and the intent of the Ordinance, the Village may attach such conditions to the granting of a variance deemed necessary to further the purposes and objectives herein.
 5. Variances requested in connection with restoration of a historic site or building listed on the National Register of Historical Places or documented as worthy of preservation by the Illinois Historic Preservation Agency or Certified Local Agency, may be granted using criteria more permissive than the requirements contained in this Ordinance.
 6. The Enforcement officer shall notify an applicant in writing that a variance from the requirements of the Building Protection Standards in this Ordinance that lessen the degree of protection to a building may result in increased premium rates for flood insurance and may increase the risk of loss of life and property. The Enforcement officer shall require that the applicant acknowledge, in a signed exception to title, the assumption of the risks and liability. If the variance is approved the applicant will pay the fee for recording the exception.
 7. In a flood prone area or a Regulatory Floodplain (without a mapped Regulatory Floodway) where the tributary drainage area is 640 acres or more, a variance may not be granted that will reduce the Regulatory Floodplain or flood prone area storage volume by greater than 5% of the existing Regulatory Floodplain or flood prone area storage volume on the site. In addition, hydrologic and hydraulic analysis must demonstrate that issuance of a variance will not result in singular or cumulative increases in flood heights.
 8. Variances requested for the development of previously developed sites, that are intended to meet the goal of downtown redevelopment or neighborhood revitalization, may be granted using criteria that is less restrictive than the Stormwater management requirements provided the issuance of the variance will not result in an increase in the runoff rate or volume and the site has adequate downstream stormwater capacity.
 9. Variances requested for Public Road Developments that will continue the public policy of minimizing the condemnation of private property may be granted using criteria less restrictive than the Stormwater management requirements to the extent necessary to reduce the amount of condemnation provided the variance will not result in a downstream drainage hazard.
 10. Variances requested for any work within the Regulatory Floodway must obtain written concurrence from the IDNR/OWR that the proposed work conforms with the IDNR/OWR Rules entitled: Floodway Construction in Northeastern Illinois.
 11. Written findings shall be made public for all Variances and shall be on file with the Village.

B. APPEALS:

1. Any person aggrieved by a decision of the Enforcement officer may request review thereof by the Village Board of elected officials or the appropriate body.
2. Any person aggrieved by a decision, requirement, ruling or interpretation of this Ordinance by the Enforcement officer may appeal it to the Village by written notice filed with the Village Clerk within 10 days of the determination.

ARTICLE VII. INSPECTIONS AND ACCESS

Representatives of the Village and of any federal, state and local unit of government are authorized to enter upon any land or water to inspect development activity that is relevant or appears to be relevant to this Ordinance.

Representatives of the Village may, after 10 days written notice to the owner or occupant, enter upon any lands or waters within the county for the purpose of inspecting stormwater or Floodplain facilities, structures or areas. The MCSC representatives may cause the removal of obstructions to an affected watercourse.

ARTICLE IX. VIOLATION AND PENALTY

- A. Whenever an Enforcement officer finds a violation of this Ordinance, or of any permit or order issued pursuant thereto, within their respective jurisdiction, the Enforcement officer may issue a stop work order on all development activity on the subject property or on the portion of the activity in direct violation of the Ordinance. In every case, the Enforcement officer shall issue an order that:
1. Describes the violation.
 2. Describes corrective action including:
 - a. Meeting the Ordinance Standards and Application Requirements and obtaining a Watershed Development permit; or
 - b. Remove the violation and stabilize the site from erosion.
 3. Specifies the time period for corrective action.
 4. Inform the owner that failure to correct or mitigate the violation is considered a willful act to increase flood damage or sedimentation problems.
 5. Inform the owner that failure to correct or mitigate the violation may cause coverage by a Standard Flood Insurance Policy to be suspended.
- B. Failure to comply with any of the requirements of this Ordinance shall constitute a violation, and any person convicted thereof shall be fined not more than seven hundred fifty (\$750.00) dollars for each offense. Each day the violation continues shall be considered a separate offense.
- C. The Village may also take any other legal action, including a temporary restraining order, necessary to prevent or remedy any violation including appropriate equitable or injunctive relief and, if applicable, an assessment to the violator for the removal, correction, or termination of any adverse effects upon any property resulting from any unauthorized activity for which legal action under this section may have been brought.
- D. After notice is sent to the owner(s) of the parcel(s) upon which the violation is located, the Village may record the notice of violation or the order with the title to the property at the McHenry County Recorder of Deeds Office.

ARTICLE X. DISCLAIMER OF LIABILITY

It is recognized that the degree of flood protection required by this Ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. However, on occasion, greater floods than the base flood will occur and will result in greater flood heights and flood damage. Furthermore, flood heights may be increased by other man-made or natural causes. These provisions do not imply that land outside the Floodplain or flood prone area areas or that uses permitted within such areas will be free from flooding or flood damages. These provisions shall not create liability on the part of the Village nor any officer or employee thereof for any flood damages that result from reliance on this Ordinance or any administrative decision lawfully made there under.

ARTICLE XI. SEVERABILITY

If any section, provision, or portion of this Ordinance is adjudged unconstitutional or invalid by a court of competent jurisdiction, the remainder of this Ordinance shall not be affected thereby. From time to time the lists in the appendix of this Ordinance need to be updated to reflect new or revised Floodway maps, Floodplain maps or flood studies. Routine revisions to update these lists are required by FEMA and IDNR/OWR. Public notice and review of new or revised Floodway maps, Floodplain maps or flood studies is required by FEMA and IDNR/OWR prior to final adoption. The public notice and review process applies to both the impacted community and individual property owners. For this reason, the Appendix lists that relate to Floodway maps, Floodplain maps and flood studies may be updated without additional public notice.

ARTICLE XII. ABROGATION AND GREATER RESTRICTIONS

This Ordinance is not intended to repeal, abrogate or impair any existing easements, covenants, or deed restrictions. Where this Ordinance and other ordinance, easements, covenants, or deed restrictions conflict or overlap, whichever imposes the more stringent restrictions shall prevail. This Ordinance is intended to repeal the original ordinance or resolution which was adopted to meet the National Flood Insurance Program regulations, but is not intended to repeal the resolution which the community passed in order to establish initial eligibility for the program.

ARTICLE XIII. AMENDMENTS

The Village may from time to time make local Amendments to this Stormwater Management Ordinance as determined to be appropriate and necessary to better achieve the goals and objectives and to protect the health and welfare of the community. Amendments to the technical requirements of this Ordinance shall require the approval of the MCSC or the MCSC chief engineer prior to passage and approval by the Village. Amendments that apply only to the Village's administration and enforcement of the Ordinance may be made with notice to the MCSC and its chief engineer, but without prior approval.

The Village shall, upon notice from the County, review any Amendments made by the MCSC to the McHenry County Stormwater Management Ordinance and, upon finding that such Amendments further the objective of providing a consistent level of flood protection throughout the community and are more restrictive than the current regulations, adopt such County Amendment without further notice or public hearing.

APPENDIX A
PUBLIC BODIES OF WATER IN MCHENRY COUNTY

The following public bodies of water were navigable in their natural condition or were improved for navigation and opened to public use. The entire length and surface area in Illinois, including all backwater lakes and sloughs open to the main channel or body of water at normal flows or stages, that are open to the public.

1. Fox River (Illinois River Basin)
2. Fox Chain-O-Lakes (Lake and McHenry Counties): Bluff Lake, Lake Catherine, Channel Lake, Fox Lake, Grass Lake, Lake Marie, Nippersink Lake, Dunns Lake, Pistakee Lake, Lake Jerilyn, Lac Louette, Redhead Lake;
3. Griswold Lake including the connecting channel to the Fox River.

The following public bodies of water are navigable waters that were dedicated to public use. This list is incomplete. It is believed there are numerous channels and slips in subdivisions on the margins of public bodies of water which have been dedicated by plat. Additional channels and slips have been dedicated by common law.

1. No list for McHenry County.

NOTE: The above lists are provided by the Illinois Department of Natural Resources / Office of Water Resources (IDNR/OWR). An IDNR/OWR permit is required for development within the listed waterways and adjacent Wetlands.

APPENDIX B
MCHENRY COUNTY WATERSHEDS

In McHenry County the six major watersheds are officially defined as:

The Piscasaw Creek Watershed
The Nippersink Creek Watershed
The Kishwaukee River Watershed
The Upper Fox River Watershed
The Lower Fox River Watershed, and
The Coon Creek Watershed

APPENDIX C

HIGH QUALITY AQUATIC RESOURCES

The following are descriptions of high-quality aquatic resources:

1. Advanced Identification (ADID) sites: Wetland and aquatic sites that have been identified by the Chicago District of the U. S. Army Corps of Engineers and U. S. Environmental Protection Agency. (*U. S. Environmental Protection Agency. 1997. Advanced Identification (ADID) Study, McHenry County, Illinois. Chicago, Illinois*) or latest ADID study.
 - a. Bog: A low nutrient peatland, usually in a glacial depression, that is acidic in the surface stratum and dominated by the genus Sphagnum.
 - b. Ephemeral pool: A seasonally inundated depression within forested or open areas, usually located on a moraine, glacial outwash plain, or in an area shallow to bedrock; also known locally as a “vernal pool.” These areas may or may not be permanently vegetated.
 - c. Fen: An herbaceous or wooded peatland created and maintained by the constant surface water flow of cold mineralized (calcareous) groundwater flow.
 - d. Forested wetland: A wetland, including wooded seeps, shrub swamps, and floodplain forests, dominated by shrubs or trees growing on soils that are inundated or saturated much of the year, but that do dry out at the surface.
 - e. Sedge meadow: Saturated, sometimes flooded open wetlands dominated by grasses and sedges, including hummock forming Tussock Sedge (*Carex stricta*).
 - f. Seep: A wetland, herbaceous or wooded, with saturated soil or inundation resulting from the diffuse flow of groundwater to the surface stratum.
 - g. Streams shown on the most recent USGS quadrangle map as a perennial (solid blue line) or intermittent (dashed blue line) that are not determined to be a Waters of the U. S. If a site specific Index of Biological Integrity (IBI) assessment is greater than 35, this stream reach shall be considered a HQAR.
 - h. Streamside marsh: A wetland that is within a 100-year riverine floodplain and dominated by herbaceous species.
 - i. Wet prairie: A wetland dominated by native graminoid species with a diverse indigenous forb component that is seasonally saturated and/or temporarily inundated.
2. Wetlands supporting Federal or Illinois endangered or threatened species: For current state-listed species, reference Illinois Endangered Species Protection Board’s “Checklist of Endangered and Threatened Animals and Plants of Illinois” and/or contact the Illinois Department of Natural Resources. For Federally-listed species, reference the U.S. Fish and Wildlife Service’s “Endangered and Threatened Wildlife and Plants” list (latest edition) and/or contact the U. S. Fish and Wildlife Service.
3. Wetlands with a Floristic Quality Index of 20 or greater or a mean C-value of 3.5 or greater: Reference *Plants of the Chicago Region (F. Swink and G. Wilhelm, 4th edition, Indianapolis: Indiana Academy of Science, 1994)*.
4. Wetlands that have an initial wildlife quality value of 5.0 or higher using the Modified Michigan Department of Natural Resources Method or have a mean rated wildlife quality (MRWQ) value of 8.0 or higher, as calculated by the Ludwig wildlife habitat evaluation

methodology. If both wildlife quality methods are performed, the Ludwig Value shall prevail as the determining value.

5. Wetlands that are within a designated Illinois Natural Areas Inventory Site (INAI).

APPENDIX D
FLOOD INSURANCE RATE MAPS; FLOODWAY MAP
AND FLOOD INSURANCE STUDY

The following is a list of the currently effective FIRM, Floodway and FIS data to be used in the enforcement of this ordinance. This list shall be interpreted to include any such amendments to such studies and maps as may be prepared from time to time.

Flood Insurance Rate Maps (FIRM)

| <u>Community Number</u> | <u>Date of Currently Effective Study</u> | <u>Panel Number</u> |
|-----------------------------|--|-------------------------|
| 170975 | 9/30/81 | 170732 0220 B |

Flood Boundary and Floodway Map (Floodway Map)*

| <u>Community Number</u> | <u>Date of Currently Effective Study</u> |
|-----------------------------|--|
| 170975 | 9/07/79 |

Flood Insurance Study

NONE AVAILABLE

*Date of initial FHBM, per FEMA Community Status Book Report created 7/26/06 from FEMA website.