FINAL DRAFT
TRI-COUNTY, ILLINOIS
UNIFIED
STORMWATER ORDINANCE

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SECTION ONE
GENERAL PROVISIONS

Section One, Article I. – Authority, Purpose, Abbreviations & Definitions

A. Authority

These Regulations provide for the regulation of matters relative to the management of storm water within the jurisdiction and its extraterritorial jurisdiction. Its provisions include, but are not limited to, regulating drainage installations and improvements, requiring the preservation and enhancement of certain natural environmental features, requiring the installation of drainage improvements in developments, regulating uses, maintenance, and activities in floodplains and flood hazard areas, requiring permits, payment of fees and assurances of completion, and providing for inspections and control of work. The requirements, standards and specifications herein provided are in addition to any other applicable legal requirements.

B. Purposes

1. To maintain and improve the quality of water impacted by the storm drainage system within the jurisdiction.

2. To promote and protect the public health, safety and general welfare of the citizens from the hazards of flooding.

3. To create a set of fair and consistent standards that will facilitate desirable and sustainable development in the Tri-County area.

4. To protect the natural resources of Peoria, Tazewell and Woodford Counties and the Illinois River at Peoria Lakes.

5. To preserve property values by protecting new and existing buildings and improvements to buildings from damage due to stormwater flow.

6. To assure that new developments and redevelopments do not increase flood or drainage hazards to others, or create unstable conditions susceptible to erosion.

7. To preserve the natural characteristics of stream corridors in order to moderate flood and storm water impacts and to protect water quality.

8. To prevent the discharge of contaminated storm water runoff and illicit discharges from industrial, commercial, residential, and construction sites into the storm drainage system within the jurisdiction of _____ .

9. To promote public awareness of the hazards involved in the improper discharge of trash, yard waste, lawn chemicals, pet waste, wastewater, oil, petroleum products, cleaning

products, paint products, hazardous waste, sediment and other pollutants into the natural and man-made storm drainage system.

10. To encourage recycling of used motor oil and safe disposal of other hazardous consumer products.

11. To facilitate compliance with state and federal standards and permits by owners of construction sites within the jurisdiction.

12. To enable the jurisdiction to comply with all current federal and state laws and regulations applicable to the National Pollutant Discharge Elimination System (NPDES) permitting requirements for storm water discharges and prepare for future requirements (e.g., monitoring Total Maximum Daily Loads).

C. Abbreviations

The following abbreviations when used in this Ordinance shall have the designated meanings:

BMP	–	Best Management Practices
CFR	–	Code of Federal Regulations
FEMA	–	Federal Emergency Management Agency
HHW	–	Household Hazardous Waste
IDNR	–	Illinois Department of Natural Resources
IDOT	–	Illinois Department of Transportation
IDPH	–	Illinois Department of Public Health
IEPA	–	Illinois Environmental Protection Agency
MS4	–	Municipal Separate Storm Sewer System
NPDES	–	National Pollutant Discharge Elimination System
NRCS	–	Natural Resources Conservation Service (formerly SCS)
OWR	–	Office of Water Resources (IDNR)
SCS	–	Soil Conservation Service (now NRCS)
SWCD	–	Soil and Water Conservation District
SWP3	–	Storm Water Pollution Prevention Plan
USACE	–	U.S. Army Corps of Engineers
USDA	–	U.S. Department of Agriculture
USEPA	–	U.S. Environmental Protection Agency

D. Definitions

Unless a provision explicitly states otherwise, the following terms and phrases as used in this Ordinance, shall have the meanings hereinafter designated.

1. Adverse Impacts are any negative impact on plant, soil, air or water resources affecting quality and quantity and their beneficial uses including recreation, aesthetics and aquatic habitat.

2. Agricultural Practices are normal farming, silviculture and ranching activities such as gardening, plowing, seeding, cultivating, harvesting for the production of food, fiber, forest products, nursery stock and livestock. Maintenance of agricultural drain tiles, irrigation and

drainage ditches, farm roads and other access areas for farm vehicles and equipment use are also included. These practices shall not include grading, filling or draining floodprone areas with greater than 100 acres of tributary area or a regulatory wetland.

3. Applicant is any person, firm, or governmental agency who executes the necessary forms to procure official approval of a development or permit to carry out construction of a new development or re-development from the jurisdiction of _____.

4. Appropriate Official is the Zoning Administrator or delegated agent.

5. Base Flood Elevation is the elevation delineating the level of flooding resulting from the 100-year frequency flood event, which has a one percent (1%) probability of being equaled or exceeded in any given year.

6. Best Management Practices (BMPs) here refers to management practices and methods to control pollutants in stormwater. BMPs are of two types: "source controls" (nonstructural) and "treatment controls" (structural.) Source controls are practices that prevent pollution by reducing potential pollutants at their source, before they come into contact with stormwater. Treatment controls partially remove pollutants from stormwater. The selection, application and maintenance of BMPs must be sufficient to prevent or reduce the likelihood of pollutants entering the storm drainage system. Specific BMPs may be imposed by the jurisdiction and are discussed further in Section 3.

7. Building Official is the officer or other designated authority charged with the administration and enforcement of the International Building Code for the jurisdiction of _____

8. Building Permit is a permit issued by the jurisdiction of _____, for the construction, erection or alteration of a structure or building and the related ground and surface preparation prior to and after completion of construction, erection or alteration of a structure or building.

9. Bypass Flows is Stormwater runoff from upstream properties tributary to a property's drainage system but not under its control.

10. Certify or Certification means formally attesting that the specific inspections and tests were performed, and that such inspections and tests comply with the applicable requirements of this Ordinance.

11. Channel is any defined river, stream, creek, brook, natural or artificial depression, ponded area, on-stream lake or impoundment, abandoned mine, flowage, slough, ditch, conduit, culvert, gully, ravine, wash, or natural or manmade drainageway, that has a definite bed and bank or shoreline, in or into which surface or groundwater flows, either perennially or intermittently.

12. Channel Modification is the alteration of a channel by changing the physical dimensions or materials of its bed or banks. Channel modification includes damming, riprapping (or other

armoring), filling, widening, deepening, straightening, relocating, lining, and significant removal of bottom or woody rooted vegetation.

13. Clearing is any activity which removes the existing vegetative ground cover.

14. Commercial means pertaining to any business, trade, industry, or other activity engaged in for profit.

15. Compensatory Storage is an artificially excavated, hydraulically equivalent volume of storage within the floodplain used to balance the loss of natural flood storage capacity when fill or structures are placed within the floodplain.

16. Conduit is any channel, pipe, sewer or culvert used for the conveyance or movement of water, whether open or closed.

17. Construction Site means any location where clearing, grading, excavation, filling, or other construction activity occurs.

18. Contaminated means containing harmful quantities of pollutants.

19. Contractor means any person or firm performing or managing construction work at a construction site, including any construction manager, general contractor or subcontractor. Also includes, but is not limited to, earthwork, paving, building, plumbing, mechanical, electrical or landscaping contractors, and material suppliers delivering materials to the site.

20. County is the County of _____, Illinois.

21. Dam is defined by the Illinois Department of Natural Resources Office of Water Resources.

22. Detention Basin is a facility constructed or modified to provide for the temporary storage of stormwater runoff and the controlled release of this runoff at a prescribed rate during and after a flood or storm.

23. Detention Time is the amount of time stormwater is held within a detention basin after a design storm elevation is reached. Or a parameter used extensively for water quality analyses that is equivalent to the volume divided by the average outflow rate.

24. Development is any manmade change to real estate or property, including:

    a. The division or subdivision of any duly recorded parcel of property.
    b. Construction, reconstruction or placement of a building or any addition to a building valued at more than one thousand dollars ($1000).
    c. Installation of a manufactured home on a site, preparing a site for a manufactured home, or installing a travel trailer on a site for more than 180 days per year.
    d. Construction of roads, bridges, or similar projects.
    e. Redevelopment of a site.

f. Filling, dredging, grading, clearing, excavating, paving, drilling, mining or other non-agricultural disturbance of a ground surface.
g. Storage of materials or deposit of solid or liquid waste.
h. Any other activity that might alter the magnitude, frequency, direction, or velocity of stormwater flows from a property.

25. Discharge means any addition or release of any pollutant, stormwater or any other substance whatsoever into storm drainage system.

26. Discharger means any person who causes, allows, permits, or is otherwise responsible for, a discharge, including, without limitation, any owner of a construction site or industrial facility.

27. Domestic Sewage means untreated sewage originating primarily from kitchen, bathroom and laundry sources, including waste from food preparation, dishwashing, garbage grinding, toilets, baths, showers and sinks.

28. Drainage Plan is a plan, including engineering drawings and supporting calculations, which describes the existing stormwater drainage system and environmental features, including grading, as well as proposed alterations or changes to the drainage system and environment of a property. The jurisdiction may require that a Drainage Plan include upstream and downstream (offsite) drainage features, if it is found that the development would be impacted by these offsite features.

29. Dry Basin is a detention basin designed to drain after temporary storage of stormwater flows and to normally be dry between runoff events.

30. Earthwork means the disturbance of soils on a site associated with clearing, grading, or excavation activities.

31. Erosion is the general process whereby soil or earth is moved by rainfall, flowing water, wind or wave action.

32. Event is a short duration hydrologic occurrence, such as a period of rainfall or elevated streamflow, that is brief in duration allowing certain hydrologic components, such as evaporation and arrival times of rainfall, to be neglected. A storm event is normally limited to ten days or less.

33. Excavation is any act by which organic matter, earth, sand, gravel, rock or any other similar material, is cut into, dug, quarried, uncovered, removed, displaced, re-located or bulldozed and shall include the conditions resulting from such actions.

34. Existing Grade is the vertical location of the existing ground surface prior to excavation or filling.

35. Facility means any building, structure, installation, process, or activity from which there is or may be a discharge of a pollutant.

36. Fertilizer means a substance or compound that contains an essential plant nutrient element in a form available to plants and is used primarily for its essential plant nutrient element content in promoting or stimulating growth of a plant or improving the quality of a crop, or a mixture of two or more fertilizers.

37. Fill is any act by which earth, sand, gravel, rock, or any other material, is deposited, placed, replaced, pushed, dumped, pulled, transported or moved by man to a new location and shall include the conditions resulting therefrom.

38. Final Grade is the vertical location of the ground surface after grading work is completed in accordance with the plans.

39. Fire Protection Water means any water, and any substances or materials contained therein, used by any person to control or extinguish a fire, or to inspect or test fire equipment.

40. Garbage means putrescible animal and vegetable waste materials from the handling, preparation, cooking, or consumption of food, including waste materials from markets, storage facilities, and the handling and sale of produce and other food products.

41. Grading is the excavation or fill or any combination thereof and shall include the conditions resulting from any excavation or fill.

42. Groundwater means any water residing below the surface of the ground or percolating into or out of the ground.

43. Harmful Quantity means the amount of any substance that the appropriate official determines will cause an adverse impact to storm drainage system or will contribute to the failure of the jurisdiction to meet the water quality based requirements of the NPDES permit for discharges from the regulated MS4.

44. Hazardous Substance means any substance listed in Table 302.4 of 40 CFR Part 302.

45. Hazardous Waste means any substance identified or listed as a hazardous waste by the EPA pursuant to 40 CFR Part 261.

46. Household Hazardous Waste (HHW) means any material generated in a household (including single and multiple residences) that would be classified as hazardous pursuant to the Illinois EPA.

47. Hydrograph is a graph or tabulation showing for a given location on a stream or conduit, the flow rate with respect to time.

48. Hydrograph Method This method estimates runoff volume and runoff hydrographs for the points of interest by generating hydrographs for individual subareas, combining them, and routing them through channels, floodplains, and reservoir structures. Factors such as rainfall depth and temporal distribution, rainfall abstractions, time of concentration, land use characteristics, storage volumes and travel time are included.

49. Illegal Discharge See illicit discharge below.

50. Illicit Connection means any drain or conveyance, whether on the surface or subsurface, which allows an illicit discharge to enter the storm drainage system.

51. Illicit Discharge means any discharge to the storm drainage system that is prohibited under this Ordinance.

52. Impervious Surface is that area of property that is covered by materials other than soil and vegetation and that has no intended capacity to absorb stormwater, such as parking lots, roadways, driveways, sidewalks, patios, tennis courts, roofs and other structures.

53. Industrial Waste (or commercial waste) means any wastes produced as a by-product of any industrial, institutional or commercial process or operation, other than domestic sewage.

54. Infiltration is the passage or movement of water into the soil.

55. Jurisdiction means the jurisdiction of _____.

56. Lot is an individual platted parcel in an approved subdivision.

57. Major Drainage System is that portion of a drainage system needed to store and convey flows beyond the capacity of the minor drainage system. Major Drainage System components include, but are not limited to, detention ponds, dams, roadway culverts, bridges, medium or large open channels, large (trunk) storm sewers and natural overland paths. Major Drainage System components are to be designed to safely convey the 100-year recurrence interval storm event.

58. Mechanical Fluid means any fluid used in the operation and maintenance of machinery, vehicles and any other equipment, including lubricants, antifreeze, petroleum products, oil and fuel.

59. Minor Drainage System is that portion of a drainage system designed for the convenience of the public. It consists of street gutters, storm sewers, small open channels, and swales and, where manmade, is to be designed to safely convey the 10-year recurrence interval storm discharge.

60. Mitigation is when the prescribed controls are not sufficient and additional measures are required to offset the development, including those measures necessary to minimize the negative effects which stormwater drainage and development activities might have on the

public health, safety and welfare. Examples of mitigation include, but are not limited to compensatory storage, soil erosion and sediment control, channel restoration and wetlands.

61. Mobile Commercial Cosmetic Cleaning (or mobile washing) means power washing, steam cleaning, and any other method of mobile cosmetic cleaning, of vehicles and/or exterior surfaces, engaged in for commercial purposes or related to a commercial activity.

62. Municipal Separate Storm Sewer System (MS4) means the system of conveyances, including roads, streets, curbs, gutters, ditches, inlets, drains, catch basins, pipes, tunnels, culverts, channels, detention basins and ponds owned and operated by the jurisdiction and designed or used for collecting or conveying stormwater, and not used for collecting or conveying sanitary sewage.

63. Natural are conditions existing prior to development, including agricultural, resulting from physical, chemical, and biological processes without intervention by man.

64. Natural Drainage consists of channels formed in the existing surface topography of the earth prior to, or after, changes made by unnatural causes.

65. NPDES means the National Pollutant Discharge Elimination System.

66. NPDES Permit means a permit issued by the IEPA that authorizes the discharge of pollutants to Waters of the United States, whether the permit is applicable to an individual, group, or general area-wide basis.

67. Notice of Violation means a written notice detailing any violations of this Ordinance and any action expected of the violators.

68. Oil means any kind of oil in any form, including, but not limited to: petroleum, fuel oil, crude oil, synthetic oil, motor oil, cooking oil, grease, sludge, oil refuse, and oil mixed with waste.

69. One Hundred-Year Event is a rainfall, runoff, or flood event having a one percent (1%) probability of being equaled or exceeded in any given year.

70. One Year Event is a rainfall, runoff, or flood event being met or exceeded on the average in any given year.

71. Owner means the person who owns a facility, part of a facility, or land.

72. Parcel is a contiguous lot or tract of land under one ownership. A lot or tract of land is land intended as a unit for the purpose of development or transfer of ownership.

73. Peak Flow is the maximum rate of stormwater flow, for a given storm event, at a given point in a channel or conduit.

74. Permittee is any person to whom a building permit or a grading and drainage permit is issued.

75. Person means any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, governmental entity, or any other legal entity; or their legal representatives, agents, or assigns, including all federal, state, and local governmental entities.

76. Pesticide means a substance or mixture of substances intended to prevent, destroy, repel, or migrate any pest.

77. Pet Waste (or Animal Waste) means excrement and other waste from domestic animals.

78. Petroleum Product means a product that is obtained from distilling and processing crude oil and that is capable of being used as a fuel or lubricant in a motor vehicle or aircraft, including motor oil, motor gasoline, gasohol, other alcohol blended fuels, aviation gasoline, kerosene, distillate fuel oil, and #1 and #2 diesel.

79. Pollutant means any substance attributable to water pollution, including but not limited to rubbish, garbage, solid waste, litter, debris, yard waste, pesticides, herbicides, fertilizers, pet waste, animal waste, domestic sewage, industrial waste, sanitary sewage, wastewater, septic tank waste, mechanical fluid, oil, motor oil, used oil, grease, petroleum products, antifreeze, surfactants, solvents, detergents, cleaning agents, paint, heavy metals, toxins, household hazardous waste, small quantity generator waste, hazardous substances, hazardous waste, water at temperatures above natural, soil and sediment.

80. Pollution means the alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any water that renders the water harmful, detrimental, or injurious to humans, animal life, plant life, property, or public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose.

81. Positive Drainage is provision for overland paths for all areas of a property including depressional areas that may also be drained by storm sewer.

82. Potable Water means water that has been treated to drinking water standards and is safe for human consumption.

83. Private Drainage System means all privately or publicly owned ground, surfaces, structures or systems, excluding the regulated MS4, that contribute to or convey stormwater, including but not limited to, roofs, gutters, downspouts, lawns, driveways, pavement, roads, streets, curbs, gutters, ditches, inlets, drains, catch basins, pipes, tunnels, culverts, channels, detention basins, ponds, draws, swales, streams and any ground surface.

84. Public Improvement Plans means engineering drawings subject to approval by the jurisdiction Engineer for the construction of public improvements.

85. Qualified Person means a person who possesses the required certification, license, or appropriate competence, skills, and ability as demonstrated by sufficient education, training, and/or experience to perform a specific activity in a timely and complete manner consistent with the regulatory requirements and generally accepted industry standards for such activity.

86. Release means to dump, spill, leak, pump, pour, emit, empty, inject, leach, dispose or otherwise introduce into the storm drainage system.

87. Retention Basin is a facility constructed or modified to provide for the storage of stormwater runoff without overland discharge. Retention Basins do not have a positive outlet and therefore discharge only by means of infiltration and evaporation.

88. Rubbish means non-putrescible solid waste, excluding ashes, that consist of: (A) combustible waste materials, including paper, rags, cartons, wood, excelsior, furniture, rubber, plastics, yard trimmings, leaves, and similar materials; and (B) noncombustible waste materials, including glass, crockery, tin cans, aluminum cans, metal furniture, and similar materials that do not burn at ordinary incinerator temperatures (1600 to 1800 degrees Fahrenheit).

89. Sanitary Sewage means the domestic sewage and/or industrial waste that is discharged into the jurisdiction sanitary sewer system and passes through the sanitary sewer system to the jurisdiction sewage treatment plant for treatment.

90. Sanitary Sewer means the system of pipes, conduits, and other conveyances which carry industrial waste and domestic sewage from residential dwellings, commercial buildings, industrial and manufacturing facilities, and institutions, whether treated or untreated, to the jurisdiction sewage treatment plant (and to which stormwater, surface water, and groundwater are not intentionally admitted).

91. Sediment means soil (or mud) that has been disturbed or eroded and transported by water, wind, gravity, or tracked by equipment tires.

92. Sedimentation is the process that deposits soils, debris, and other materials either on other ground surfaces or in bodies of water or stormwater drainage systems.

93. Septic Tank Waste means any domestic sewage from holding tanks such as vessels, chemical toilets, campers, trailers, septic tanks and aerated tanks.

94. Shall means mandatory; may means discretionary.

95. Site means the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the facility or activity.

96. Slope Disturbance Line is the line which delineates relatively level building areas from areas where slopes exceed 7 percent (7%) and where special precautions must be taken.

97. Small Quantity Generator Waste means any hazardous waste generated by a small quantity generator as defined by the IEPA.

98. Solid Waste means any garbage, rubbish, refuse and other discarded material, including solid, liquid, semisolid, or contained gaseous material, resulting from industrial, municipal, commercial, construction, mining or agricultural operations, and residential, community and institutional activities.

99. State means the State of Illinois.

100. Storm Drainage System means all surfaces, structures and systems that contribute to or convey stormwater, including private drainage systems, the MS4, surface water, groundwater, Waters of the State and Waters of the United States.

101. Storm Sewer is a closed conduit for conveying collected stormwater.

102. Stormwater means runoff resulting from precipitation and snowmelt.

103. Storm Water Pollution Prevention Plan (SWP3) means a document that describes the Best Management Practices to be implemented at a site, to prevent or reduce the discharge of pollutants.

104. Stream is any river, creek, brook, branch, flowage, ravine, or natural or man-made drainageway which has a definite bed and banks or shoreline, in or into which surface or groundwater flows, either perennially or intermittently.

105. Stripping is any activity which removes the vegetative surface cover including tree removal, by spraying or clearing, and storage or removal of top soil.

106. Subdivision Development includes activities associated with the platting of any parcel of land into two or more lots and includes all construction activity taking place thereon.

107. Surface Water means water bodies and any water temporarily residing on the surface of the ground, including wetlands, lakes, reservoirs, rivers, ponds, streams, puddles, channelized flow and runoff.

108. Ten-Year Event is a runoff, rainfall, or flood event having a ten percent (10%) probability of being equaled or exceeded in any given year.

109. Time of Concentration is the elapsed time for stormwater to flow from the most hydraulically remote point in a drainage basin to a particular point of interest in that watershed.

110. Tributary Watershed is all of the surface area, pervious and impervious, that contributes runoff to a given point.

111. Two-Year Event is a runoff, rainfall, or flood event having a fifty percent (50%) probability of being equaled or exceeded in any given year.

112. Uncontaminated means not containing harmful quantities of pollutants.

113. Urban runoff pollutants are contaminants found in urban runoff which have been shown to adversely affect uses in receiving waterbodies. Pollutants of concern include sediment, heavy metals, petroleum-based organic compounds, nutrients, oxygen-demanding organics (BOD), pesticides, salt, and pathogens.

114. Used Oil (or Used Motor Oil) means any oil that as a result of use, storage, or handling, has become unsuitable for its original purpose because of impurities or the loss of original properties.

115. Utility Agency means private utility companies, jurisdiction departments or contractors working for private utility companies or jurisdiction departments, engaged in the construction or maintenance of utility distribution lines and services, including water, sanitary sewer, storm sewer, electric, gas, telephone, television and communication services.

116. Vacant land is land on which there are no structures or only structures that are secondary to the use or maintenance of the land itself.

117. Wastewater means any water or other liquid, other than uncontaminated stormwater, discharged from a facility.

118. Water of the State (or water) means any groundwater, percolating or otherwise, lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, inside the territorial limits of the State, and all other bodies of surface water, natural or artificial, navigable or non-navigable, and including the beds and banks of all water courses and bodies of surface water, that are wholly or partially inside or bordering the State or inside the jurisdiction of the State.

119. Water Quality Standard means the designation of a body or segment of surface water in the State for desirable uses and the narrative and numerical criteria deemed by State or Federal regulatory standards to be necessary to protect those uses.

120. Water Quality Volume means the volume necessary to collect 100 percent of the runoff generated from a specified event. This volume shall be detained for a period not less than 24 hours, as measured from the time the pond water surface elevation reaches its 1-Year high water level for detention or 2-Year high water level for certain best management practices until complete drainage of stored runoff.

121. Waters of the United States means all waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and the flow of the tide; all interstate waters, including

interstate wetlands; all other waters the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce; all impoundments of waters otherwise defined as waters of the United States under this definition; all tributaries of waters identified in this definition; all wetlands adjacent to waters identified in this definition; and any waters within the federal definition of "Waters of the United States" at 40 CFR Section 122.2; but not including any waste treatment systems, treatment ponds, or lagoons designed to meet the requirements of the Federal Clean Water Act.

122. Watershed is all land area drained by, or contributing water to, the same channel, lake, marsh, stormwater facility, groundwater or depressional area.

123. Wet Bottom Basin is a detention basin designed to maintain a permanent pool of water after the temporary storage of stormwater runoff.

124. Wetland Basin is a detention basin designed with all or a portion of its bottom area as a wetland (regulated or unregulated).

125. Wetlands are defined by federal regulation as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Wetlands generally include swamps, marshes, bogs, and similar areas. For general, but not inclusive locations of potential wetlands refer to the most recent mapping prepared jointly by the U.S. Department of Interior, Fish and Wildlife Service and the Illinois Department of Natural Resources, Office of Resource Conservation; National Wetlands Inventory Mapping, and the NRCS "Swampbuster" Wetland Inventory maps. The applicant may be required to provide an on-site delineation, following currently accepted methodology, completed by a qualified wetland delineator to determine boundaries and the presence of regulated wetlands.

126. Yard Waste means leaves, grass clippings, tree limbs, brush, soil, rocks or debris that result from landscaping, gardening, yard maintenance or land clearing operations.

Section One, Article II – Prohibited Actions

A. Surface Water

Surface water shall be allowed to travel its pre-regulation course unless changes are allowed by means of a Grading and Drainage Permit or grading and drainage plans approved by the appropriate official. It shall be unlawful for any person to force surface water off that person's property and onto a neighboring property or to prevent surface water which would have entered that person's property prior to site development or redevelopment, from doing so without approval granted by a Grading and Drainage Permit.

B. Easements

No buildings or permanent structures, including impervious surfaces, may be placed wholly or in part within an easement that has been granted for access to drainage facilities of any type, including agricultural drainage conduit, without the written approval of the appropriate official; provided, however, streets, sidewalks and driveways may be allowed to cross easements by the shortest possible route, provided that other requirements are met.

C. Obstruction of Watercourse

It shall be unlawful for any person to cause or maintain any obstruction within a watercourse or drainage facility of any type, except as may be specifically authorized by this Ordinance.

D. Discharge

No person shall release or cause to be released into the storm drainage system any discharge that is not composed entirely of uncontaminated stormwater, except as allowed in listed exemptions of this Ordinance.

E. Exempted Discharges

The following discharges are exempt from the regulations in this Ordinance:

1. Water line and fire hydrant flushing.

2. Landscape and lawn watering.

3. Rising ground waters.

4. Uncontaminated ground water exfiltration, infiltration (except when the infiltration is a component of a stormwater management system infiltration facility), or seepage.

5. Uncontaminated pumped ground water.

6. Discharges from potable water sources (dechlorinated or de minimus discharge only).

7. Uncontaminated foundation drains.

8. Air conditioning condensate.

9. Irrigation water (except for wastewater irrigation).

10. Springs and seeps.

11. Water from crawl space pumps.

12. Footing drains.

13. Water from individual car washing on properties residential zoned.

14. Routine external building wash-down which does not use detergents.

15. Flows from riparian habitats and wetlands.

16. De-chlorinated pH neutral swimming pool discharges.

17. Residual street wash water.

18. Discharges or flows from fire fighting activities.

19. De-chlorinated water reservoir discharges.

20. Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed).

F. Pollutant Discharge

Notwithstanding the listed exemptions of this section, any discharge shall be prohibited by this Ordinance if the discharge in question has been determined by the appropriate authority to be a source of pollutants to the storm drainage system.

The construction, use, maintenance or continued existence of illicit connections to the storm drainage system is prohibited. This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

G. Line Connect

No person shall connect a line conveying sanitary sewage, domestic sewage or industrial waste, to the storm drainage system, or allow such a connection to continue, unless that waste stream has been treated and is in compliance with all federal, state and local public health rules and standards.

H. Interference

No person shall interfere with Best Management Practices (BMPs) implemented pursuant to this Ordinance.

Section One, Article III. – Requirements For Certain Discharges

A. Private Drainage System Maintenance

The owner of any private drainage system shall maintain the system in accordance with applicable regulations and permits to prevent or reduce the discharge of pollutants. This maintenance shall include, but is not limited to, sediment removal, bank erosion repairs, maintenance of vegetative cover, and removal of debris from pipes and structures.

B. Minimization of Irrigation Runoff

Irrigation systems shall be managed to reduce the discharge of water from a site.

C. Cleaning of Paved Surfaces Required

The owner of any paved parking lot, street or drive shall clean the pavement as required to prevent the buildup and discharge of pollutants. The visible buildup of mechanical fluid, waste materials, sediment or debris is a violation of this Ordinance. Paved surfaces shall be cleaned by dry sweeping, wet vacuum sweeping, collection and treatment of wash water or other methods in compliance with this Ordinance. This section does not apply to pollutants discharged from construction activities, which are otherwise specified.

D. Mobile Commercial Cosmetic Cleaning Operations

Mobile commercial cosmetic cleaning operations shall not discharge to the storm drainage system in violation of this Ordinance.

E. Maintenance of Equipment

Any leak or spill related to equipment maintenance in an outdoor, uncovered area shall be contained to prevent the potential release of pollutants. Vehicles, machinery and equipment must be maintained to reduce leaking fluids.

F. Materials Storage

In addition to other requirements of this Ordinance, materials shall be stored to prevent the potential release of pollutants. The uncovered, outdoor storage of unsealed containers of hazardous substances is prohibited.

G. Pet Waste

Pet waste shall be disposed of as solid waste or sanitary sewage in a timely manner, to prevent discharge to the storm drainage system.

H. Pesticides, Herbicides and Fertilizers

Pesticides, herbicides and fertilizers shall be applied in accordance with manufacturer recommendations and applicable laws. Excessive application shall be avoided.

I. Prohibition on Use of Pesticides and Fungicides Banned from Manufacture

Use of any pesticide, herbicide or fungicide, the manufacture of which has been either voluntarily discontinued or prohibited by the U.S. or Illinois Environmental Protection Agency, or any Federal, State or jurisdiction regulation is prohibited.

J. Open Drainage Channel Maintenance

Every person owning or occupying property through which an open drainage channel passes shall keep and maintain that part of the drainage channel within the property free of trash, debris, excessive vegetation and other obstacles that would pollute, contaminate, or retard the flow of water through the drainage channel. In addition, the owner or occupant shall maintain existing privately owned structures adjacent to a drainage channel, so that such structures will not become a hazard to the use, function, or physical integrity of the drainage channel. Physical modifications to the drainage channel, other than those necessary to remove debris and other obstacles, are prohibited without a Grading and Drainage Permit.

K. Release Reporting and Cleanup

Any person responsible for a known or suspected release of materials which are resulting in or may result in illegal discharges to the storm drainage system shall take all necessary steps to ensure the discovery, containment, abatement and cleanup of such release. In the event of such a release of a hazardous material, said person shall comply with all state, federal, and local laws requiring reporting, cleanup, containment, and any other appropriate remedial action in response to the release. In the event of such a release of non-hazardous materials, said person shall notify the appropriate official no later than the close of the next business day.

L. Authorization to Adopt and Impose Best Management Practices

The jurisdiction may adopt and impose requirements identifying Best Management Practices (BMPs) for any activity, operation, or facility, which may cause a discharge of pollutants to the storm drainage system. Where specific BMPs are required, every person undertaking such activity or operation, or owning or operating such facility shall implement and maintain these BMPs at their own expense.

Section One, Article IV. – Inspections and Plan Modifications

A. Inspections

The jurisdiction shall make inspections as required and shall notify the Grading and Drainage Permit holder in the event that the work fails to comply with the requirements of this Ordinance. The notification of any deficiencies in the work or violations of this Ordinance shall be posted at the site and mailed to the owner of the site by ordinary mail.

The owner of the site shall notify the appropriate official:

1. Two (2) working days prior to the start of any land disturbing activities,

2. 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;

3. After stripping and clearing;

4. After rough grading;

5. After seeding and landscaping deadlines;

6. After final stabilization and landscaping and prior to removal of temporary sediment controls.

B. Special Precautions

If at any stage of the grading of any development site the jurisdiction 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 jurisdiction shall require, as a condition of allowing the work to be done, that such reasonable special precautions to 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 recommendations of Certified Professional in Erosion and Sediment Control (CPESC) or registered Professional Engineer which may be made requirements for further work.

Where it appears that storm damage may result because the grading on any development site is not complete, work shall be stopped and the Grading and Drainage Permit holder 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 appropriate official shall specify the starting and completion times of required activity or may require that the operations be conducted in specific stages so as to ensure completion of protective measures or devices prior to the advent of seasonal rains.

C. Amendment of Plans

Any significant amendments to grading plans or stormwater pollution prevention plans shall be submitted to the appropriate official of the jurisdiction and shall be processed and approved or disapproved in the same manner as the original plans. Any significant field modifications made without prior approval shall be a direct violation of this Ordinance.

Section One, Article V. – Responsibility

A. Applicant

The applicant for a Grading and Drainage Permit shall not be relieved of responsibility for damage to persons or property otherwise imposed by law.

B. Jurisdiction

The jurisdiction or its officers or agents, will not be made liable for such damage, by (1) the issuance of a Grading and Drainage Permit under this Ordinance, (2) compliance with the provisions of that Grading and Drainage Permit or conditions attached to it by the appropriate official (3) failure of the jurisdiction to observe or recognize hazardous or unsightly conditions, (4) failure of the jurisdiction officials to recommend denial or to deny a Grading and Drainage Permit, or (5) exemptions from Grading and Drainage Permit requirements of this Ordinance.

The jurisdiction shall take into account storm and flood hazards, to the extent they are known or can be determined, in all official actions related to land management, land use and land development or redevelopment as required in the floodplain ordinance of __(jurisdiction)____.

Section One, Article VI. – Maintenance of Drainage Facilities

The jurisdiction will maintain those drainage facilities that are on public land and have been dedicated and accepted for maintenance or stipulated by agreement for maintenance by the jurisdiction. All other drainage facilities, when located on other than public property, shall be the responsibility of the owner of the property on which they exist or the owner of the drainage facility, regardless of whether or not dedicated easements exist over said facilities.

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and appropriate quality assurance procedures.

Abandonment and alteration, either structural or operational, of all facilities and systems shall occur only following application and issuance of a permit.

Operation and maintenance checklists in Appendix C shall be used to determine maintenance needs.

Section One, Article VII. – Enforcement

A. Procedures for Receipt and Consideration of Information by the Public

The jurisdiction shall establish and publicize procedures for receipt and consideration of information regarding non-compliance of provisions in this Ordinance.

B. Right of Entry and Sampling

1. Whenever the appropriate official has cause to believe that there exists, or potentially exists, in or upon any premises any condition which constitutes a violation of this Ordinance, the appropriate official shall have the right to enter the premises at any reasonable time to determine if the discharger is complying with all requirements of this article. In the event that the owner or occupant refuses entry after a request to enter has been made, the jurisdiction is hereby empowered to seek assistance from a court of competent jurisdiction in obtaining such entry.

2. The appropriate official shall have the right to set up on the property of any discharger to the storm drainage system such devices that are necessary to conduct sampling of discharges.

C. Notice of Violation

Whenever an authorized enforcement person determines that a person has violated or failed to meet a requirement of this Ordinance, the enforcement person will order compliance by written Notice of Violation to the responsible person. Posting the written notice on the property will constitute written notice. Whenever possible, a courtesy copy of the Notice of Violation will be mailed by ordinary mail to the address of the property owner according to the records Tax Collector of __(jurisdiction)_____.

The Notice of Violation shall include:

1. The name of the responsible person or property owner.

2. The date and location of the violation.

3. A description of the violation.

4. Actions that must be taken by the responsible person to remedy the violation.

5. The deadline within which the required actions must be completed.

6. Enforcement actions that may be taken by the jurisdiction.

7. Notice date.

8. Any person receiving a Notice of Violation may file a written appeal the Notice to the appropriate official within fifteen (15) days of the Notice date. The appropriate official will

affirm, modify or rescind the Notice in writing, within 15 days of the date of the appeal. If the recipient of a Notice of Violation is dissatisfied with the outcome of the appeal to the appropriate official, the appeal process outlined in Section One, Article 9, of this Ordinance will be followed.

D. Action without Prior Notice

Any person who violates or fails to meet a requirement of this Ordinance will be subject, without prior notice, to one or more of the enforcement actions identified in this Ordinance when attempts to contact the person have failed and the enforcement actions are necessary to stop an actual or threatened discharge which presents or may present imminent danger to the environment or to the health or welfare of persons or to the storm drainage system.

E. Enforcement Actions

Any person who fails to comply with or appeal a Notice of Violation, or fails to comply with an appeal decision of the appropriate authority, will be subject to one or more of the following enforcement actions:

1. Stop Work Order. The appropriate official may issue a stop work order to the owner and contractors on a construction site, by posting the order at the construction site and distributing the order to all jurisdiction departments whose decisions may affect any activity at the site. Unless express written exception is made, the stop work order shall prohibit any further construction activity at the site and shall bar any further inspection or approval necessary to commence or continue construction or to assume occupancy at the site. A Notice of Violation shall accompany the stop work order, and shall define the compliance requirements.

2. Abatement of an Illicit Connection. The appropriate official may order jurisdiction representatives to terminate an illicit connection. Any expense related to such abatement by jurisdiction representatives shall be fully reimbursed by the property owner.

3. Abatement of a Violation on Private Property. When a property owner is not available, not able or not willing to correct a violation, the appropriate official may order jurisdiction representatives to enter private property to take any and all measures necessary to abate the violation. It shall be unlawful for any person, owner, agent or person in possession of any premises to refuse to allow jurisdiction representatives to enter upon the premises for these purposes. Any expense related to such abatement by jurisdiction representatives shall be fully reimbursed by the property owner.

4. Recovery of Costs. Within thirty (30) days after abatement by jurisdiction representatives, the appropriate official shall notify the property owner of the costs of abatement, including administrative costs, and the deadline for payment. The property owner may appeal the recovery costs as outlined in Section One, Article 9 of this Ordinance.

5. Termination of Utility Services. After lawful notice to the customer and property owner concerning the proposed disconnection, the appropriate official shall have the authority to order the disconnection of jurisdiction water, sanitary sewer and/or sanitation services, upon a finding by the appropriate official that the disconnection of utility services will

remove a violation of this Ordinance that poses a public health hazard or environmental hazard.

6. Criminal Prosecution. Any person who violates or continues to violate a prohibition or requirement of this Ordinance shall be liable to criminal prosecution to the fullest extent of the law, and shall be subject to criminal penalties.

F. Criminal Penalties

Any person violating this Ordinance shall, upon an adjudication of guilt or a plea of no contest, be fined a minimum of $250.00 to a maximum of $1,500.00. Each separate day on which a violation is committed or continues shall constitute a separate offense.

G. Other Legal Action

Notwithstanding any other remedies or procedures available to the jurisdiction, if any person violates this Ordinance, the jurisdiction Attorney may commence an action for appropriate legal and equitable relief including damages and court costs. The jurisdiction Attorney may seek a preliminary or permanent injunction or both which restrains or compels the activities on the part of the discharger.

H. 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.

I. Separability

The provisions and sections of this Ordinance shall be deemed separable and the invalidity of any portion of this Ordinance shall not affect the validity of the remainder.

Section One, Article VIII. – Implementation

This Ordinance is effective upon passage with the following exceptions:

A. Subdivision Improvements

The requirements for obtaining a Grading and Drainage Permit are waived for a period of three (3) years after passage of this Ordinance if the preliminary plat of a subdivision was approved by the appropriate authority prior to the passage of this Ordinance. All other requirements of the Ordinance shall remain in effect.

B. Non-Subdivision Improvements Requiring a Building Permit

The requirements for obtaining a Grading and Drainage Permit for non-subdivision related improvements requiring a building are waived for the duration of the building permit if the building permit was issued prior to the passage of this Ordinance. All other requirements of the Ordinance shall remain in effect.

C. Improvements that Previously Did Not Require a Permit

The requirements for obtaining a Grading and Drainage Permit for construction that did not require a permit prior to passage of this Ordinance are waived for a period of one (1) year if the construction commenced prior to the passage of this Ordinance. All other requirements of the Ordinance shall remain in effect.

Section One, Article IX. – Variances and Appeals

The appropriate entity, after a public hearing and after concurrence by the regional oversight board, if one exists, may: 1) Determine and vary the requirements and regulations of this Ordinance in harmony with their general purpose and intent, where the appropriate entity make written findings of fact in accordance with the standards herein after prescribed and further, find that there are practical difficulties or particular hardships in the way of carrying out the strict letter of requirements and regulations of this Ordinance and 2) Uphold, modify or overrule the decision of the appropriate official.

A written application for a variance from the requirements of this Ordinance or an appeal of a decision by an appropriate official shall be filed within thirty (30) days of the time that the applicant became aware of the need for the variance or the decision of the appropriate official. The application shall fully state the grounds of the request and the facts relied upon by the applicant. Each application shall be filed with the appropriate official. The appropriate officials will review and transmit recommendations to the appropriate entity, which shall review such recommendations prior to granting or denying the variance.

A. Variances

The appropriate entity shall not vary the requirements and regulations of this Ordinance unless evidence is prevented that proves that:

1. The land in question is of such shape or size or is affected by such physical conditions or is subject to such title limitations or record, that it is impossible or impractical for the applicant to comply with all of the requirements of this Ordinance and

~~2.~~ The granting of the variance will not be detrimental to the public welfare, environment or injurious to other property in the vicinity of the subject property and

3. Post construction site peak runoff rate control for sites discharging directly to the Illinois River are unnecessary because: (1) no adverse flooding impacts would potentially be created by increased peak runoff rates along the conveyance between the project site and the River and (2) increased peak runoff rates will not potentially contribute to adverse ecological impacts, including water quality degradation by either artificial or natural mechanisms or by stream erosion. This exemption does not relieve the property owner from constructing and maintaining a sediment trapping BMP following Illinois Urban Manual criteria during construction and a permanent detention facility meeting requirements in this Ordinance.

The appropriate entity shall hold a public hearing on each application for variance within thirty (30) days after the application for a variance is received by the appropriate official. Within thirty (30) days after the public hearing, the appropriate entity shall approve the variance with the conditions it deems necessary, disapprove the variance or take other such action as appropriate.

B. Appeals

The appropriate entity shall consider each application for modification to the decision of an appropriate official at a public meeting within thirty (30) days after the appeal application is received by the appropriate official. Within thirty (30) days after the public meeting, the appropriate entity shall uphold, modify or overrule the decision of the appropriate official.

SECTION TWO
CONSTRUCTION SITE RUNOFF CONTROL

Section Two, Article I. – General Requirements for All Construction Sites

A. Responsible Entity

The owner of a site with construction activity meeting the requirements of a Grading and Drainage Permit shall be responsible for compliance with the requirements of this Ordinance.

B. Waste Disposal

Solid waste, industrial waste, yard waste and any other pollutants or waste on any construction site shall be controlled through the use of BMPs. Waste or recycling containers shall be provided and maintained by the owner or contractor on construction sites where there is the potential for release of waste. Uncontained waste that may blow, wash or otherwise be released from the site is prohibited.

C. Ready-Mixed Concrete

Ready-mixed concrete, or any materials resulting from the cleaning of vehicles or equipment containing or used in transporting or applying ready-mixed concrete, shall be contained on construction sites for proper disposal. Release of these materials to any elements of the storm drainage system is prohibited.

D. Soil Erosion and Sediment Control

Appropriate BMPs such as silt fences, diversions, sediment traps, or other appropriate sediment or runoff control measures shall be implemented to prevent the release of sediment from construction sites prior to the commencement of grading activities. Disturbed areas shall be minimized, disturbed soil shall be protected and stabilized and construction entrances shall be managed to prevent sediment tracking onto adjacent roadways. Excessive sediment tracked onto public streets shall be removed immediately. Disturbed areas shall be stabilized with approved vegetative measures within fourteen (14) calendar days following the end of active disturbance or redisturbance. All temporary soil erosion and sediment control BMPs shall remain in place, and be fully maintained, until the establishment of permanent vegetation throughout the construction site at which time they shall be removed within thirty (30) days. Consideration shall be given to environmentally sensitive areas based on slope, soil type, vegetation and proximity to a water body.

E. Continued Compliance

Upon completion of permitted construction activity on any site, the property owner and subsequent property owners will be responsible for continued compliance with the requirements of this Ordinance, in the course of maintenance, reconstruction or any other construction activity on the site.

F. Rights Reserved

The jurisdiction of _____ reserves the right to require any non-agricultural construction development activity, regardless of disturbed area or type of activity, to

comply with this Ordinance if it is determined to be the cause of or a contributor to an existing or potential erosion, sediment, or stormwater impact.

Section Two, Article II. – Grading and Drainage Permit Requirements

A. Permit Exceptions

Except as exempted below, no person shall commence construction prior to obtaining the appropriate Grading and Drainage Permit as defined below. The Appropriate Official will issue Grading and Drainage Permits.

In order to preclude inappropriate phasing of developments to circumvent the intent of this Ordinance, when a proposed development activity will occur on a lot or parcel of land that has contiguous lots or parcels of lands owned by the same property owner, then the criteria as defined in this section will be applied to the total land area compiled from aggregate ownership parcels.

A Grading and Drainage Permit shall not be required for the following:

1. Any construction activity below the minimum thresholds for a Class 1 Grading and Drainage Permit.

2. The agricultural use of land, including the implementation of conservation measures included in a farm conservation plan approved by the Natural Resources Conservation Service, and including the construction of agricultural structures.

B. Class 1 Grading and Drainage Permit

Any construction that meets one of the following thresholds shall require a Class 1 grading and Drainage Permit:

1. Any construction that will include the addition of an impervious surface area (i.e., streets, roof, patio or parking area or any combination thereof) greater than 500 square feet and less than 10,000 square feet requires a Class 1 Grading and Drainage Permit.

2. Any land disturbing activity (i.e., clearing, grading, stripping, excavation, fill, or any combination thereof) that will affect an area greater than or equal to 5,000 square feet and less than one acre (43,560 square feet)

3. Any land disturbing activity that will exceed 100 cubic yards, but does not otherwise require a Class 2 Grading and Drainage Permit.

4. Any land disturbing activity on the sloping side of the slope disturbance line, but does not otherwise require a Class 2 Grading and Drainage Permit.

5. Construction of one or more single-family dwellings that is/are constructed as part of a subdivision development with an approved Storm Water Pollution Prevention Plan.

The issuance of a Grading and Drainage Permit shall constitute an authorization to do only that work which is described on the approved site plan. A Class 1 Grading and Drainage Permit shall be valid for one (1) year after the date of issuance.

C. Class 1 Grading and Drainage Permit Application Forms

A completed application form for Class 1 Grading and Drainage Permit shall include:

1. Name(s), address(es) and telephone numbers of the owner and developer of the site, the contractor(s) and of any consulting firm retained by the applicant identifying the principal contractor.

2. Certification that all construction covered by the Grading and Drainage Permit will be undertaken in compliance with Section Two, Article I (General requirements for All Construction Sites) of this Ordinance.

3. A site plan created with the use of "Erosion Control for Small Projects" worksheet available from (to be determined) or other suitable methods acceptable to the Appropriate Authority showing the amount of impervious area being created and BMPs to be implemented. For Class 1 Permits, stormwater detention calculations shall be provided with the site plan.

4. An application fee as set forth in Section Five of this Ordinance.

D. Class 2 Grading and Drainage Permit

Any construction that meets one of the following thresholds shall require a Class 2 Grading and Drainage Permit:

1. Any construction that will include the addition of an impervious surface area (i.e., streets, roof, patio or parking area or any combination thereof) greater than 10,000 square feet.

2. Any land disturbing activity (i.e., clearing, grading, stripping, excavation, fill, or any combination thereof) that will affect an area greater than one acre (43,560 square feet).

3. A completed application form shall include:

    a. Name(s), address(es) and telephone numbers of the owner and developer of the site, the contractor(s) and of any consulting firm retained by the applicant identifying the principal contractor.

    b. Certification that any land clearing, construction, or development involving the movement of earth shall be in accordance with the plans approved upon issuance of the permit.

    c. An application fee as set forth in Section Five of this Ordinance.

d. A faithful performance bond or bonds, letter of credit, or other improvement security satisfactory to the jurisdiction Attorney in an amount deemed sufficient by the appropriate official of the jurisdiction to cover all costs of improvements, landscaping, maintenance of improvements and landscaping, and soil erosion and sediment control measures for such period as specified by the jurisdiction and engineering and inspection costs to cover the cost of failure or repair of improvements installed on the site on a form acceptable to the jurisdiction. (See sample in Appendix A). Upon satisfactory completion of the improvements, the documented security would be void.

e. The following information shall be submitted for both existing and proposed property conditions for all applicable developments: a topographic survey of the property at two-foot (2) contours (or one-foot contours for relatively flat areas where additional detail will be required to review drainage designs) unless otherwise specified or approved by the appropriate jurisdiction official keyed to a consistent vertical datum specified by the jurisdiction; and an existing drainage and proposed drainage plan for the property and one hundred (100) feet surrounding the property at a scale of not more than one hundred (100) feet to one (1) inch, and including the following (unless otherwise specified by the appropriate jurisdiction official):

   i. Property boundary, dimensions, and approximate acreage

   ii. Building setback lines

   iii. All existing and proposed structures and sizes

   iv. Square feet of existing and proposed impervious surface

   v. All existing, or proposed easements

   vi. All existing, abandoned, or proposed water or monitoring well head locations

   vii. All existing, abandoned, or proposed watermains

   viii. All sanitary or combined sewer lines and septic systems

   ix. The banks and centerline of streams and channels

   x. Shoreline of lakes, ponds, and detention basins with normal water level elevation

   xi. Farm drains and tiles

   xii. Location, size and slope of stormwater conduits and drainage swales;

   xiii. Detention facilities showing inlet and outlet locations and details

xiv. Roads, streets and associated stormwater inlets including finished grades

xv. Base flood elevation, flood fringe, and regulatory floodway

xvi. A vicinity map showing the relationship of the site to its general surroundings at a scale of not greater than two thousand (2,000) feet to one (1) inch (1:24,000)

xvii. Title, scale, north arrow, legend, seal of Licensed Professional Engineer, date, and name of person preparing plans

xviii. Subwatershed boundaries within the property

xix. Offsite areas draining to property, including entire offsite drainage boundary(ies)

xx. Soil classifications

xxi. Depressional storage areas

f. The following certifications and design statements shall be provided:

i. Basis of design for the final drainage system components

ii. A statement giving any applicable engineering assumptions and calculations

iii. A statement by the design engineer of the drainage system's provision for conveying storm flows exceeding the 100-year magnitude

iv. Design calculations and other submittals as required by this Ordinance, including flow rates and velocities at critical points in the drainage system

v. A statement of certification of all drainage plans, calculations, and supporting data by a Professional Engineer Licensed in the state of Illinois

g. A depiction of environmental features of the property and immediate vicinity including the following:

i. The limits of designated regulatory and non-regulatory wetland areas

ii. The location of trees greater than eight (8) inches in diameter, taken at 4.5 ft dbh in areas to be disturbed

iii. Any designated natural areas or prime farmland

iv. Any proposed environmental mitigation features

v. Location and dimensions of a stream buffer area (if required by local jurisdiction)

vi. Base flood elevation, flood fringe, and regulatory floodplains

vii. Abandoned mines

h. Any and all local, state or federal maps marked to reflect any proposed change in the floodway delineation, base flood, or 100-year frequency flood elevation will change due to the proposed project.

i. Conditional approval by FEMA or other regulatory agencies of the proposed changes in the floodway map that have been made if the floodway delineation, base flood, or 100-year frequency flood elevation will change due to the proposed project.

j. Engineering calculations and data supporting all proposed plans. Hydrologic analysis shall be completed in accordance with Section Three, Article II (Hydrologic Design Criteria) of this Ordinance. Detention system design shall be completed in accordance with Section Three, Article III (Detention System Design Criteria) of this Ordinance.

k. If the project involves channel modification, the following information shall be submitted:

i. A discussion of the purpose and need for the proposed work

ii. Discussion of the practicability of using alternative locations or methods to accomplish the purpose of the proposed work

iii. Analysis of the impacts of the proposed project, considering cumulative effects on the physical and biological conditions of the body of water affected

iv. Hydraulic analysis of the channel modifications, including pre- and post-project base flood elevations

v. Additional information as required by this Ordinance

4. Storm Water Pollution Prevention Plan (SWP3) prepared in accordance with Section 4 of this Ordinance.

E. Submittal, Review, and Approval

If a Building Permit is also required for the development, the Grading and Drainage Permit application shall be submitted to the appropriate department at the time application is made for a Building Permit. Departments of the jurisdiction shall coordinate their activities to prevent additional, unnecessary delays.

1. Each application for an approved Grading and Drainage Permit shall be reviewed and acted upon according to the following procedures. The jurisdiction shall:

a. Provide a written evaluation to the applicant regarding the adequacy and effectiveness of the proposal to address the provisions of this Ordinance. The jurisdiction may retain the services of an independent professional to perform this evaluation. The jurisdiction may assess a fee for this evaluation service as set forth in Section Five of this Ordinance.

b. Verify the applicant has filed a Notice of Intent (NOI) with the IEPA for construction site activity and has submitted appropriate permit fees.

c. Attend a pre-construction meeting with the applicant or designated agent to review implementation of Grading and Drainage Permit.

d. Conduct onsite inspections during the active construction phases of and development projects to determine whether site development is in compliance with the approved grading and drainage plans, and determine adjustments needed to the approved plans. After construction has been completed, determine whether permanent site stabilization has been achieved and identify operation and maintenance needs.

e. Prepare correspondence as needed regarding the effectiveness (or corrective measures needed) or adequacy of soil erosion and sediment control measures.

f. Provide land developers, consultants, and contractors general guidelines and information concerning the design criteria, installation and maintenance procedures and other information regarding best management practices recommended under the provisions of this Ordinance.

g. After review of the application and required submissions if it is found to be in conformance with the provisions of this Ordinance.

   i. Approve the Grading and Drainage Permit

   ii. Approve the Grading and Drainage Permit subject to such reasonable conditions as may be necessary to secure substantially the objectives of this Ordinance, and issue the approval subject to these conditions

   iii. Disapprove the Grading and Drainage Permit, indicating the deficiencies and the procedure for submitting a revised application and/or submission

2. No approval for a Grading and Drainage Permit shall be issued for an intended development site unless one or more of the following have been obtained as applicable:

   a. Land use regulations that apply to the development has been approved by the jurisdiction where applicable.

   b. Such permit is accompanied by or combined with a valid building permit issued by the jurisdiction building official.

c. The proposed earth moving is coordinated with any overall development program previously approved by the jurisdiction for the area in which the site is situated.

d. All relevant federal, state, and local permits.

e. Applicant is successful in the appeals process.

3. Failure of the appropriate official to act on an original or revised application within sixty (60) days of receipt shall authorize the applicant to proceed in accordance with the plans as filed and in compliance with the regulations contained herein, unless such time is extended by agreement between the appropriate official and the applicant. Pending preparation and approval of a revised plan, development activities may be allowed to proceed in accordance with conditions established by the appropriate official.

F. Other Agency Permits and Reviews

1. The appropriate official shall not issue a Grading and Drainage Permit unless all required federal, state and local permits and reviews have been obtained by the applicant and copies thereof reviewed by the appropriate official. The acquisition of these permits shall be the sole responsibility of the applicant. The granting of a Grading and Drainage Permit under these regulations shall in no way affect the owner's responsibility to obtain the approval required by any other statute, ordinance or code, or to meet the requirements of other jurisdiction ordinances and regulations, including but not limited to:
   a) Building or other relevant permits of (jurisdiction);
   b) Permits in accordance with Sections 401 and 404 of the Clean Water Act; 33 U.S.C. Section 1251, including any joint permit application requirements (e.g., Floodway Construction Permit form IDNR-OWR);
   c) Permits in accordance with Section 106 of the National Historic Preservation Act;
   d) Permits required under Section 10 of the Rivers and Harbors Act;
   e) Permits required by the Illinois Department of Natural Resources, Office of Water Resources in accordance with the Rivers, Lakes and Streams Act, 615 ILCS 5/18, 23, 23(a) and 29(a), and consistent with any applicable regulations including those found at 17 Ill. Adm. Code Parts 3700, 3702, and 3704;
   f) A Natural Resources Information (NRI) report prepared by the _____ County SWCD under Section 22.02a of the Soil and Water Conservation Districts Act, 70 ILCS Par. 405/1 et.seq.;
   g) Any reviews required by the Farmland Preservation Act, 505 ILCS 75/6;
   h) Any reviews required by the Illinois Groundwater Protection Act, 415 ILCS;
   i) Any permits that may be required by the Illinois Environmental Protection Act, 415 ILCS 5/12 et.seq. including any permits under National Pollutant Discharge Elimination System (NPDES) Permit and 401 Water Quality Certification through the Illinois Environmental Protection Agency, Division of Water Pollution Control, 415 ILCS 5/12 (f);
   j) Any reviews required by the Threatened and Endangered Species Act, 16 USC 1531 et.seq.;
   k) Any reviews required by the Illinois Endangered Species Protection Act, 520 ILCS 10/11;
   l) Conditional Letter of Map Revision, 44 CFR 60; and

m) Approval/permit from local Flood Insurance Program community.

2. Any work involving the construction, modification or removal of a dam as defined herein, per 92 Ill. Adm. Code 702 (Rules for Construction of Dams), shall require an IDNR/OWR Dam Safety Permit or a letter stating that a permit is not required, prior to permit being issued by the jurisdiction.

3. Any development involving work in waters of the United States, including wetlands and streams as identified and regulated by the U.S. Army Corps of Engineers, shall require permits or sign-offs from the Corps prior to the issuance of a jurisdiction permit.

4. Confirmation of compliance or exemption from all applicable entities requiring the above permits or reviews shall be provided by the applicant to the jurisdiction.

G. Permit Limitations

1. The issuance of a Grading and Drainage Permit shall constitute an authorization to do only that work which is described or illustrated on the application for the permit or on the plans and specifications approved by the jurisdiction.

2. The issuance of a permit or the approval of drawings and specifications shall not be construed to be a permit for, nor an approval of, any violation of or deviation from the provision of these Regulations or any other ordinance, law, rule, or regulation.

3. The issuance of a permit, based upon drawings and specifications, shall not prevent the jurisdiction from thereafter requiring the correction of errors in said drawings and specifications or from stopping unlawful construction operations being carried on thereunder.

4. The Grading and Drainage Permit shall be valid until the completion date noted in the permit. The appropriate officials may grant an extension if relevant design and construction standards have not changed and if in the appropriate official's opinion, the work approved under the permit does not unduly adversely affect the health, safety and general welfare of the public. Otherwise, a new permit shall be acquired before work is started or continued. The appropriate official may require modification of the soil erosion and sediment control plan to prevent any increase in erosion or off-site sediment runoff resulting from any extension.

H. Revocation of Permits

1. The appropriate official may revoke a permit:

   a. Where there has been any false or inaccurate statement or misrepresentation as to a material fact in the application or plans on which the permit was based.

   b. When work is performed contrary to the provisions of the application or plans on which the permit is based.

2. When a permit is revoked, the appropriate official shall inform the permittee, in writing, of the specific steps the permittee must take in order to have the permit reissued.

3. It shall be unlawful to continue any work authorized by a permit after revocation of that permit until that permit is reissued or until a new permit is issued.

4. In cases where the permittee wishes to appeal the decision of the appropriate official, the appeal process outlined in Section One, Article IX will be followed. An appeal shall stay all proceedings in furtherance of the action appealed from unless the appropriate official certifies to the appropriate authority, after the notice of the appeal has been filed with him, that by reason of facts stated in the certificate a stay would, in his opinion, cause imminent peril to life or property.

I. Retention of Plans

Plans, specifications, and reports for all site developments shall be retained as required by Illinois Statute by the appropriate official.

SECTION THREE
POST CONSTRUCTION RUNOFF CONTROL

Section Three, Article I. – Best Management Practices Hierarchy

Use of BMPs identified by this Ordinance, or the use of any other BMPs submitted for approval by the permittee as a substitute, will be a requirement of this Ordinance in obtaining approval for Subdivisions, Building Permits, and Grading and Drainage Permits. This list of definitions is not exclusive and Developers are encouraged to submit alternative BMPs for approval by the jurisdiction Engineer.

It should be noted that many of the BMPs listed in this section require regular maintenance in order to function adequately throughout their design life. Design provisions shall be made to minimize long-term maintenance requirements. In some situations, specific BMPs may be rejected if projected maintenance requirements cannot be met by either the property owner or the jurisdiction.

In the preparation of site design and drainage plans for a development, the applicant shall evaluate and implement, where practicable, site design features that minimize the increase in runoff volumes and rates from the site. The applicant's drainage plan submittal shall include site design features that are consistent with the following hierarchy:

A. Preserving Regulatory Floodplains, Flood Prone and Wetland Areas

1. Buffer Zones. An area along a shoreline, wetland, or stream where development is restricted or prohibited. The primary function of aquatic buffers is to physically protect and separate a stream, lake, or wetland from future disturbance or encroachment. The three types of buffers are water pollution hazard setbacks, vegetated buffers, and engineered buffers.

2. Conservation Easements. Voluntary agreements that allow an individual or group to set aside private property to limit the type or amount of development on their property. The conservation easement can cover all or a portion of a property and can either be permanent or last for a specified time. The easement is typically described in terms of the resource it is designed to protect (e.g., agricultural, forest, historic, or open space easements) and explains and mandates the restrictions on the uses of the particular property.

B. Minimizing Impervious Surfaces on the Property

1. Open Space Design, Conservation Development. A better site design technique that concentrates dwelling units in a compact area in one portion of the development site in exchange for providing open space and natural areas elsewhere on the site. The minimum lot sizes, setbacks and frontage distances for the residential zone are relaxed in order to create the open space.

2. Narrower Streets. In many residential settings, streets can be as narrow as twenty-two (22) to twenty-six feet (26) wide without sacrificing emergency access, on-street parking or vehicular and pedestrian safety. Even narrower access streets or shared driveways can be used when only a handful of homes need to be served. Use of narrower streets will only be allowed on public streets by requesting a variance from the jurisdiction's subdivision ordinance.

3. Eliminating Curbs and Gutters. Elimination of curbs and gutters involves the use of grass swales and ditches as an alternative to convey stormwater runoff, thereby providing natural stormwater filtration and pollution reduction. Eliminating curbs and gutters from public streets will only be allowed by requesting a variance from the jurisdiction's subdivision ordinance.

4. Alternative Turnarounds. Alternative turnarounds are designs for end-of-street vehicle turnaround that replace cul-de-sacs and reduce the amount of impervious cover created in residential neighborhoods. Numerous alternatives create less impervious cover than the traditional forty (40) foot cul-de-sac. These alternatives include reducing cul-de-sacs to a thirty (30) foot radius and creating hammerheads, loop roads, and pervious (grassed) islands in the cul-de-sac center by requesting a variance from the jurisdiction's subdivision ordinance.

5. Alternative Pavers. Alternative pavers are permeable surfaces that can replace asphalt and concrete and can be used for driveways, parking lots, and walkways. Commercially available pavers are used which contain void spaces for grass or clean, washed stone or gravel. Gravel, cobble, or mulch parking lots are prohibited.

C. Storm Water Wetlands, Grassed Swales and Vegetated Filter Strips

1. Storm Water Wetlands. Storm water wetlands (a.k.a. constructed wetlands) are structural practices similar to wet detention ponds that incorporate wetland plants into the design. Storm water wetlands are designed specifically for the purpose of treating storm water runoff and providing enhanced aquatic habitat. A distinction should be made between using a constructed wetland for storm water management and diverting storm water into a natural (existing) wetland. The latter practice is not recommended because altering the hydrology of the existing wetland with additional storm water can degrade the resource and result in plant die-off and the destruction of wildlife habitat. Furthermore, the latter practice may be prohibited by state (IDNR) or federal (USACE) regulations.

2. Grassed Swales. The term swale (a.k.a. grassed channel, dry swale, wet swale, bio-filter) refers to a series of vegetated, open channel management practices designed specifically to treat and attenuate storm water runoff for a specified water quality volume. As storm water runoff flows through these channels, it is treated through filtering by the vegetation in the channel, filtering through a subsoil matrix, and/or infiltration into the underlying soils.

3. Vegetated Filter Strips. Vegetated surfaces that are designed to treat sheet flow from adjacent surfaces. Filter strips function by slowing runoff velocities and filtering out sediment and other pollutants.

D. Infiltrating Runoff On-Site

1. Sand and Organic Filters. Sand filters are usually two-chambered stormwater devices; the first is a settling chamber, and the second is a filter bed filled with sand or another filtering media. As storm water flows into the first chamber, large particles settle out, and then finer particles and other pollutants are removed as storm water flows through the filtering medium. There are several modifications of the basic sand filter design, including the surface sand filter, underground sand filter, perimeter sand filter, organic media filter, and Multi-Chamber Treatment Train.

2. Infiltration Trenches. An infiltration trench is a rock-filled trench with no outlet that receives storm water runoff. Storm water runoff passes through some combination of pretreatment measures, such as a swale and detention basin, and into the trench. There, runoff is stored in the void space between the stones and infiltrates through the bottom and into the soil matrix.

3. Infiltration Basins. A shallow impoundment that is designed to infiltrate storm water into the ground water. Infiltration Basins should only be used on small drainage areas (less than ten (10) acres), and where soils are highly permeable.

4. Porous Pavements. Porous pavement is a permeable pavement surface with an underlying stone reservoir to temporarily store surface runoff before it infiltrates into the subsoil. This porous surface replaces traditional pavement, allowing parking lot storm water to infiltrate directly and receive water quality treatment. There are a few porous pavement options, including porous asphalt, pervious concrete, and grass pavers.

5. Bioretention. Bioretention areas are landscaping features adapted to provide on-site treatment of storm water runoff. They are commonly located in parking lot islands or within small pockets of residential land uses. Surface runoff is directed into shallow, landscaped depressions. These depressions are designed to incorporate many of the pollutant removal mechanisms that operate in forested ecosystems. During storms, runoff ponds above the mulch and soil in the system. Runoff from larger storms is generally diverted past the facility to the storm drain system. The remaining runoff filters through the mulch and prepared soil mix. Typically, the filtered runoff is collected in a perforated underdrain and returned to the storm drain system.

E. Providing Stormwater Retention Structures

1. On-Lot Treatment. A series of practices that are designed to collect runoff from individual residential or small commercial lots. The primary purpose of most on-lot practices is to manage rooftop runoff and, to a lesser extent, driveway and sidewalk runoff. Although there are a wide variety of on-lot treatment options, they can all be classified into one of three categories: 1) practices that collect and infiltrate rooftop runoff; 2) practices that

divert runoff or soil moisture to a pervious area; and 3) practices that store runoff for later use.

2. Retention Basins. Retention basins are designed to collect and hold stormwater runoff, with no outlet pipes or structures. They are not necessarily infiltration basins, and are best designed to rely mostly on evaporation and groundwater infiltration. Retention basins are only feasible when special circumstances of land and soil type are available.

F. Providing Wet Bottom or Wetland Detention Structures

Defined and controlled under the subsection of this Ordinance titled Detention System Design Criteria.

G. Providing Dry Detention Structures

Defined and controlled under the subsection of this Ordinance titled Detention System Design Criteria. Detention basins shall be designed to remove floatables from stormwater runoff by providing trash grates or special outlet structures that separate floatables.

H. Constructing Storm Sewers

1. Manufactured Products for Storm Water Inlets. A variety of products for storm water inlets known as swirl separators, or hydrodynamic structures. Swirl separators are modifications of the traditional oil-grit separator and include an internal component that creates a swirling motion as storm water flows through a cylindrical chamber. The concept behind these designs is that sediments settle out as storm water moves in this swirling path. Additional compartments or chambers are sometimes present to trap oil and other floatables. There are several different types of proprietary separators, each of which incorporates slightly different design variations, such as off-line application.

2. Catch Basin Inserts. Catch basin efficiency can be improved using commercially available inserts, which can be designed to remove oil and grease, trash, debris, and sediment. Some inserts are designed to drop directly into existing catch basins, while others may require being installed as part of the construction of the basin.

3. In-Line Storage Structures. In-line storage refers to a number of practices designed to use the storage within the storm drainage system to detain flows. Storage is achieved by placing large-volume devices in the storm drainage system to restrict the rate of flow. Devices can slow the rate of flow by storing runoff volume, as in the case of a dam or weir, or through the use of vortex valves, devices that reduce flow rates by creating a helical flow path in the structure.

I. Water Quality and Multiple Uses

The storm drainage system shall be designed to minimize adverse surface and groundwater quality impacts off-site and on the property itself. Detention basins shall incorporate design features to capture stormwater runoff pollutants. In particular, designers shall utilize wet bottom and wetland detention basin designs and all stormwater runoff from the development shall be routed through the basin (i.e. flows shall not be bypassed). Detention of stormwater shall be promoted throughout the property's drainage system to reduce the peak rate of

stormwater runoff and to reduce the quantity of runoff pollutants. The storm drainage system should incorporate multiple uses where practicable. Uses considered compatible with stormwater management include open space, aesthetics, aquatic habitat, recreation (boating, fishing, trails, playing fields), wetlands and water quality mitigation.

Section Three, Article II. – Hydrologic Design Criteria

A. Referenced Standards

Design standards for hydrologic design shall comply with these regulations and with the applicable provisions of the IDOT Drainage and Design Manuals. Where this Ordinance imposes greater restrictions than those imposed by the IDOT Drainage and Design Manuals or those required by other provisions of law or ordinance, the provisions of this Ordinance shall prevail.

B. Release Rates

The drainage system for new developments or redevelopments meeting the requirements of a Class 2 Grading and Drainage Permit shall be designed to control the peak rate of discharge from the total property under development for the one- (1-) year[1], ten- (10-) year, and one hundred- (100-) year, storm events. The allowable release rates for the three design storms are as follows:

Event frequency	Maximum release rate (cfs/acre)
1-year	Varies [2]
10-year	0.08
100-year	0.30

[1] Properties discharging directly to the Illinois River are not required to limit 10-year and 100-year post-development peak flow rates as shown above. However, these properties are required to provide 24-hour detention for the 1-year storm to provide water quality protection.

[2] The 1-year release rate shall be set to provide 24 hour detention time, but shall not be greater than 0.08 cfs/acre. A sample detention calculation may be found in Appendix D.

If it is determined that the downstream (receiving) storm drainage system cannot safely convey the allowable release rate(s), the release rate(s) shall be lowered such that the receiving system can safely handle the detention pond discharge. The applicant shall provide documentation that downstream capacity is adequate and erosion prevention measures will be installed.

C. Drainage System Design and Evaluation

The following criteria should be used in evaluating and designing the drainage system. The design will provide capacity to pass the ten (10) year peak flow in the minor drainage system and an overland flow path (major drainage system) for flows in excess of the design capacity. Whenever practicable, the stormwater systems shall not result in cross connections between different storm sewer systems unless no other alternative exists.

D. Design Methodologies

Choose an applicable hydrologic design method according to the IDOT Drainage Manual, Figure 4-001, with the following modifications and clarifications. Major and minor conveyance systems for areas up to ten (10) acres, may be designed using the Rational Formula. The Rational Formula may also be used in sizing the minor drainage system for larger sites up to one hundred (100) acres. Runoff hydrograph methods as described in this

Ordinance must be used for major drainage system design for all systems with greater than ten (10) acres of drainage area and for the design of all detention basins.

E. Positive Drainage

All developments must be provided an overland flow path that will pass the one hundred (100) year flow (assuming the minor drainage system is functioning) within designated drainage easements or the public right-of-way with a freeboard of at least one (1) foot. Overland flow paths shall be provided drainage easements unless the flow is contained in the public right-of-way.

F. Methods for Generating Runoff Hydrographs

Runoff hydrographs shall be developed incorporating the following assumptions of rainfall amounts and antecedent moisture.

1. Rainfall. Unless a continuous simulation approach to drainage system hydrology is used, all design rainfall events shall be based on the NRCS Type II rainfall distributions with a 24-hour rainfall duration.

2. Antecedent Moisture. Computations of runoff hydrographs, which do not rely on a continuous accounting of antecedent moisture conditions, shall use Antecedent Moisture Condition II (AMC II).

3. Rainfall Recurrence Interval. The design rainfall recurrence interval shall be set by the design application as follows:

Emergency Overflow Routing	100 year
Bridges	100 year
Roadway Underpasses*	50 year
Swales, Ditches, and Culverts*	25 year
Storm Sewers	10 year

* Local, IDNR, or IDOT culvert design criteria may govern in special situations.

G. Culvert, Road and Driveway Crossings

Sizing of culvert crossings shall consider entrance and exit losses as well as tailwater conditions on the culvert. Furthermore, exit velocity calculations shall also be required for all culvert crossings and erosion protection shall be provided where exit velocities exceed 4 fps.

H. Vegetated Filter Strips and Swales

To effectively filter stormwater pollutants and promote infiltration of runoff, sites should be designed to maximize the use of vegetated filter strips and swales. These BMPs shall be designed to follow criteria in the Illinois Urban Manual. Whenever practicable, runoff from impervious surfaces should be directed onto filter strips and swales comprised of native grasses and forbs before being routed to a storm sewer or detention basin.

I. Maintenance Considerations

The stormwater drainage system shall be designed to minimize and facilitate maintenance. Use of native vegetation is strongly encouraged to reduce maintenance, increase wildlife habitat, and to provide other benefits. Wet basins shall be provided with alternate outflows, which can be used to completely drain the pool for sediment removal. Pumping may be considered if drainage by gravity is not feasible. Pre-sedimentation basins shall be included, where feasible, for localizing sediment deposition and removal. Site access for heavy equipment shall be provided.

Long-term maintenance also shall include the routine removal of excessive trash and debris and the removal of obstructions from the basin outlet structure. Periodic removal of accumulated sediment (e.g., from swales, forebays, and settling basins) also shall be done to maintain the function and aesthetics of stormwater facilities. At a minimum, sediment shall be removed from forebays and sediment basins whenever one foot or more of sediment has accumulated in the basin bottom. Naturally landscaped areas of detention and drainage facilities shall be maintained via controlled burning every one to three years, as needed to control invasive weeds. Where controlled burning is not feasible, mowing shall be performed as needed. Mowing should be performed on naturally landscaped areas not suitable for burning on an annual basis and on all turfed areas on a regular basis to maintain grass height below 6 inches.

A maintenance plan for the ongoing maintenance of all stormwater management system components including wetlands is required prior to plan approval. The plan shall include:

1. Maintenance tasks.

2. The party responsible for performing the maintenance tasks.

3. A description of all permanent public or private access maintenance easements and overland flow paths, and compensatory storage areas.

4. A description of dedicated sources of funding for the required maintenance.

J. Provisions for Agricultural Drainage

The applicant shall submit a subsurface drainage inventory for Class 2 Grading and Drainage Permits. The inventory shall locate existing farm and storm drainage tiles by means of slit trenching and other appropriate methods performed by a qualified subsurface drainage consultant. All existing drain tile lines damaged during the investigation shall be repaired.

1. The applicant shall provide a topographical map of the development site showing:

    a) Location of each slit trench identified to correspond with the tile investigation report with the tile field staked and surveyed at approximately 50 foot intervals

    b) Location of each drain tile with a flow direction arrow, tile size and any connection to adjoining properties

c) 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 silting, depth of ground cover, and working status.

d) Name, address and phone number of person or firm conducting tile location investigation.

2. Information collected during the drainage investigation shall be used to design and develop a stormwater management system that is appropriate for the development and connecting tile lines on adjoining properties.

3. Existing easements for any agricultural drainage systems located underneath areas that will be developed shall be preserved. If no such easement exists, an easement shall be dedicated for access and maintenance as provided for in this Ordinance.

4. All agricultural drainage systems that serve upstream areas outside of the development and that are located underneath areas that will be developed shall be replaced with non-perforated conduit to prevent root blockage, provided, however, that the existing drainage district system may remain in place with the approval of the appropriate entity.

5. Agricultural drainage systems that, due to development, will be located underneath streets, driveways, and other paved areas as allowed by this Ordinance, shall be replaced with conduits meeting the jurisdiction's standard specifications, as needed to prevent the collapse of the agricultural drainage conduit.

6. Agricultural drainage systems may be relocated within the development area upon the approval of the appropriate official of the jurisdiction. Such relocation shall maintain sufficient slope and capacity to prevent sedimentation and to prevent an increase in scouring or structural damage to the conduit. Such relocation shall only be with the consent and approval of the appropriate entity responsible for the system. If the system is not under the authority of a drainage district, the appropriate official of the jurisdiction shall consider the interests of those landowners who are served by the system.

7. Field tile systems disturbed during the process of development shall be reconnected by those responsible for their disturbance unless the approved drainage plan includes provisions for these.

8. Where tiles are being connected to stormwater facilities or at points of ingress or egress from the development sites, observation structures or similar maintenance and inspection access structures shall be installed.

9. The development design shall utilize, when permission is granted from the adjoining downstream property owner and where the existing system has adequate capacity and structural integrity, outflow locations that have an existing tile leaving the development site. A subsurface connection to the tile shall be constructed as the primary low flow outlet. A secondary surface outlet shall be designed for outflows exceeding the tile capacity and as a backup system if the downstream tile ceases to function.

10. Surface outflows onto adjoining properties not into a defined channel shall be designed to release as sheet flow using level spreader trenches or alternative designs as approved by the Appropriate Official.

K. Channel Modifications

Channel modification is acceptable if the purpose is to restore natural conditions and improve water quality. If the proposed development activity involves a channel modification, it must be demonstrated that:

1. Water quality and other natural functions would be significantly improved by the modification or the impacts are offset by the replacement of an equivalent degree of natural resource values.

2. 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 stream or body of water affected.

3. Channel modifications will NOT result in an increase in the base flood elevation or flow velocities. If necessary, hydraulic calculations shall be provided which detail the pre- and post-development 100-year high water elevations and flow velocities.

Section Three, Article III. – Detention System Design Criteria

Developments initiating implementation after the adoption of this Ordinance will use the temporary detention of stormwater runoff from the site to meet release rates as required in this Ordinance and shall follow the following criteria. Implementation is defined by this jurisdiction in Section One, Article VIII of this Ordinance.

A. Referenced Standards

Design standards for detention basin design and construction shall comply with the provisions of the following, unless otherwise stated by this Ordinance.

1. IDOT Standard Specifications, latest edition

2. IDOT Drainage Manual, latest edition

3. Clean Water Act (discharges regulated by the United States EPA through NPDES permits)

4. Jurisdiction of _____ Standard Details and Specifications

5. The Subdivision and Zoning Ordinances

6. 17 Illinois Administrative Code 3702(Rules for Construction of Dams)

7. NRCS/IEPA Illinois Urban Manual

B. Detention Storage Requirements

The design storage to be provided in the detention basin shall be based on the need to restrict the runoff from the 1-year, 10-year and 100-year events to the allowable release rates while providing a minimum of one (1) vertical foot of freeboard for the 100-year event. All detention basin storage shall be computed using Hydrograph Methods utilizing reservoir routing (also called modified puls or level pool) or equivalent method as described by this Ordinance.

C. Waiver of Requirements

1. The requirement for stormwater detention and release rate does not apply when:

   a. The development is in accord with the approved site plan and is on a lot in a new subdivision for which detention is otherwise provided.

   b. The development is on a lot or parcel in a subdivision for which detention was provided and approved prior to the effective date of these Regulations.

2. The requirement for stormwater detention and release rate shall be waived by the appropriate jurisdiction official when he/she determines it is in the best interest of the jurisdiction to require fee in lieu of detention as described in Section Three, Article III, R.

D. Ownership

Detention basins are owned and maintained by the property owner (often a Homeowner's Association) unless otherwise described by this Ordinance or indicated by the appropriate jurisdiction official. Property developers shall contact the appropriate jurisdiction official to inquire about the ownership and maintenance responsibility of existing regional detention basins which may affect the development.

E. Maintenance and Repair Responsibilities

1. Detention basins and associated inflow and outflow systems are maintained by the property owner absent any specific legal agreement to the contrary.

2. Maintenance agreements may be required at the option of the appropriate jurisdiction official to define parties responsible for the maintenance of commercial detention basins.

3. The detention basin owner shall be responsible for the following items:

    a. An annual report on the detention basin condition, using the checklist provided in Appendix C, shall be submitted to the appropriate jurisdiction official.

    b. At five (5) year intervals, the basin shall be inspected by a professional engineer registered in the State of Illinois. A report of this inspection shall be submitted to the appropriate jurisdiction official within sixty (60) days of the inspection. The inspection shall include an evaluation of the items in the checklist included in Appendix C. An annual report is not required the year the five-year report is due.

    c. Detention basin owners shall notify subsequent owners of their maintenance responsibilities and transfer basin maintenance records to the party with active maintenance responsibility.

    d. These requirements shall be effective for all detention basins existing in the jurisdiction of _____ on the date of adoption of this Ordinance as well as detention basins constructed after the effective date.

F. General Basin Design Requirements

1. Erosion Control. Temporary and permanent erosion control shall be required for all detention basins in accordance with this Ordinance.

2. Verification and Final Approval.

    a. Erosion protection shall be inspected throughout the project duration.

    b. Detention basin storage volume shall be verified to the satisfaction of the appropriate jurisdiction official through as-built surveys or other means.

c. Inflow, outflow and emergency overflow elevations and configurations shall be verified through as-built surveys.

d. Final vegetative cover and permanent erosion control shall be inspected for completeness of cover.

e. The basin will receive final approval upon fulfillment of b, c, and d above, and the anniversary date of maintenance and repair reporting will be recorded as such.

f. All basins must receive final approval within ninety (90) days of the substantial completion as determined by the appropriate jurisdiction official of ANY of the following:

i. The first phase (as shown on approved plans) of construction of public utilities and roadways in any approved Subdivision project. Detention structures for the ultimate development area must be constructed during the first phase of the project, and approved at its completion. The detention structures must then be maintained and repaired in conformance with this Ordinance, during future construction phases.

ii. Parking areas, floor slabs and/or other impervious areas (as shown on approved plans, and not including sidewalks) for work on an individual lot requiring an individual permit under this Ordinance. Phased construction will be treated as in the above case.

iii. Mass earthwork or rough grading, if no other phased construction is scheduled to be started within one hundred eighty (180) days.

g. Failure to receive final approval as required will be considered a violation of this Ordinance.

3. Infiltration Practices. To effectively reduce runoff volumes, infiltration practices including basins, trenches, and porous pavement should be used when practical and shall follow criteria in the Illinois Urban Manual and other relevant permitting. An appropriate sediment control device shall be provided to remove coarse sediment from stormwater flows before they reach infiltration basins or trenches. Stormwater shall not be allowed to stand more than seventy-two (72) hours over eighty (80) percent of the dry basin's bottom area for the maximum design event. The bottom of infiltration basins or trenches shall be a minimum of three (3) feet above the seasonally high groundwater and bedrock level if practicable. Engineering calculations demonstrating infiltration rates shall be included with the application.

4. Side Slopes. The side slopes of all detention basins at one hundred (100) year, 24 hour capacity should be as level as practicable to prevent accidental falls into the basin and for stability and ease of maintenance. Side slopes of detention basins and open channels shall not be steeper than three (3) to one (1) (horizontal to vertical) – certain types of basins have different requirements as defined by this Ordinance. Detention basin side slopes above

normal pool shall be designed with permanent erosion protection consisting of grass, non-grass vegetation, or other permanent finish. At least six (6) inches of topsoil must be provided on side slopes in shoreline planting zones and above normal pool elevation whenever non-structural, permanent erosion control is not being used. Permanent erosion protection shall be aesthetically suitable to the development or existing surrounding land use.

5. Overflow Structures. All stormwater detention basins shall be provided with an overflow structure capable of safely passing excess flows at a stage at least one foot below the lowest foundation grade in the vicinity of the detention basin. The design flow rate of the overflow structure shall be equivalent to the one hundred (100) year peak inflow rate. Weirs, dams and specialized outflows shall be designed by a Professional Engineer registered in the State of Illinois.

6. Detention Basin Outlet Design.

   a. Backwater on the outlet structure from the downstream drainage system shall be addressed when designing the outlet. The downstream boundary condition shall be summarized, including all assumptions and calculations used to determine the boundary condition.

   b. Minimum Detention Outlet Size. Single pipe outlets shall have a minimum inside diameter of 12 inches. If design release rates require a smaller outlet, a design that minimizes clogging shall be used. Minimum outlet restrictor size shall be four (4) inches in diameter provided there is adequate downstream capacity. Smaller restrictors may be considered if adequate protection is provided to prevent clogging at the outlet. Detention volume and corresponding high water level required for a development shall be determined by using the appropriate release rates specified in Section Three, Article II B.

7. Other Design Requirements.

   a. "Bubble up" outlets are prohibited.

   b. Pumped outlets and other active control structures are discouraged and must be pre-approved on a case-by-case basis by the appropriate jurisdiction official.

   c. Temporary erosion techniques shall be used as required to ensure a full stand of cover vegetation in minimum time.

8. Location Requirements.

   a. In subdivisions, detention basins and their one hundred (100) year design high water shall be contained within platted lots dedicated for drainage purposes. In redevelopments, detention basins and their one hundred (100) year design high water shall be contained within a drainage easement.

b. Detention basin lots shall have a minimum of twenty (20) feet of frontage on a right-of-way for the purpose of providing unrestricted access for maintenance. Exceptions may be made for infill development.

c. A twenty (20) feet minimum setback shall be required from all property lines to the normal pool elevation which is considered to be the elevation of the water level at the permanent depth of the wet basin pool rather than the temporary depth during drainage events.

d. Detention basins shall be provided with a minimum of one (1) foot of vertical freeboard above the one hundred (100) year peak design water elevation.

e. There shall be at least two (2) feet of freeboard between the one hundred (100) year design water elevation and all boundaries of the parcel or easement containing the basin.

9. Accommodating Flows from Upstream Tributary Areas. Stormwater runoff from areas tributary to the property shall be considered in the design of the property's drainage system. Flows from upstream areas that are not to be detained should be routed around the basin being provided for the site being developed.

10. Upstream Areas NOT Meeting Ordinance Requirements. When there are areas not meeting the storage and release rates of this Ordinance, tributary to the applicant's property, the following steps shall be followed:

a. The applicant shall compute the storage volume needed for his/her property using the release rates and procedures described in this Ordinance.

b. Areas tributary to the applicant's property, not meeting the storage and release rate requirements of this Ordinance, shall be identified.

c. Using the areas determined above plus the applicant's property area, total storage and release rates needed for the combined properties shall be computed using the release rates and procedures described in this Ordinance. If tributary areas are not developed, a reasonable fully developed land cover, based on local zoning, shall be used for the purposes of computing storage.

d. Once the necessary combined storage is computed the jurisdiction may choose to pay for over-sizing the applicant's detention basin to accommodate the regional flows. The applicant's responsibility will be limited to the storage for his property as computed above. If regional storage is selected by the jurisdiction, the jurisdiction will work with the applicant to implement the requirements of this Ordinance. If regional storage is rejected by the jurisdiction, the applicant shall bypass all tributary area flows around the applicant's basin whenever practicable as determined by appropriate jurisdiction official. If the applicant must route upstream flows through his/her basin

and the upstream areas exceed one-square mile in size, the applicant must meet the provisions On-Stream Detention in this Ordinance and applicable IDNR requirements.

11. Upstream Areas Meeting Ordinance Requirements. When there are areas which meet the storage and release rate requirements of this Ordinance, tributary to the applicant's property, the upstream flows shall be bypassed around the applicant's detention basin if this is the only practicable alternative as determined by appropriate jurisdiction official. Storage needed for the applicant's property shall be computed as described in this Ordinance. However, if the jurisdiction decides to route tributary area flows through an applicant's basin, the final design stormwater releases shall be based on the combined total of the applicant's property plus tributary areas. It must be shown that at no time will the runoff rate from the applicant's property exceed the allowable release rate for his/her property alone.

12. Early Completion of Detention Facilities. Where detention or retention are to be used as part of the drainage system for a property, they shall be constructed as the first element of the initial earthwork program. Any eroded sediment captured in these facilities shall be removed by the applicant on a regular basis and before project completion in order to maintain the design volume of the facilities.

G. Wet Bottom Detention Basin Design

Wet bottom detention basins shall be designed to remove stormwater pollutants, to be safe, to be aesthetically pleasing, and as much as feasible to be available for recreational use.

1. Wet Bottom Basin Depths. Wet bottom basins shall be at least three feet deep, excluding near-shore zones and safety ledges. If fish habitat is to be provided they shall be at least ten (10) feet deep over twenty-five (25%) percent of the bottom area to prevent winterkill.

2. Wet Bottom Basin Shoreline Slopes. The side slopes of wet bottom basins shall not be steeper than ten to one (10 to 1) horizontal to vertical from one foot above the normal pool stage to at least one foot below the normal pool stage. Slopes below a depth of 8 feet are permitted to be two to one, In accordance with IDOT Standard Specifications Section 204.

   Appropriate soil conditions shall be provided in this shoreline zone. First, compaction of both subsoil and topsoil shall be minimized (i.e., to less than 275 psi). Where subsoil compaction cannot be avoided, it should be disked to a depth of 6-8 inches with a chisel plow before spreading topsoil. Second, a suitable uncompacted topsoil, at a minimum thickness of one foot shall be spread to provide a suitable growing medium for aquatic plants. Coarse soils with minimal clay content and a high organic content are recommended.

   Upper slopes of detention basins (higher than one foot above normal stage and including the upstream side of the embankment) should be no steeper than 4:1.Flatter slopes (i.e., 5:1) are preferred to enhance plant establishment and to facilitate long-term maintenance.

3. Permanent Pool Volume. The minimum permanent pool volume in a wet bottom basin at normal depth shall be equal to the runoff volume from its watershed for the two (2) year, twenty-four (24) hour event.

4. Wet Bottom Basin Inlet and Outlet Orientation. The distance between detention inlets and outlets shall be maximized. Inlets and outlets shall be at opposite ends of the basin providing that the orientation does not create undue hardship based on topography or other natural constraints. Designers are encouraged to use baffles or berms in the basin bottom to prevent short-circuiting. There shall be no low flow bypass between the inlet and outlet.

5. Safety Ledge. All wet detention basins shall have a level safety ledge at least four feet in width two and one-half to three (2.5 to 3) feet below the normal water depth.

6. Shoreline Vegetation: Water tolerant native vegetation shall be used to landscape the shorelines of wet detention facilities. The selected plants and planting methods shall conform to the soils, hydrology, and water quality conditions present in such facilities, with plants being tolerant of highly variable hydrologic conditions and degraded water quality (e.g., high turbidity and salinity content). Plant selection should conform to the guidance in the *Native Plant Guide for Stream and Stormwater Facilities in Northeastern Illinois* (NRCS et al, 1997) which is hereby adopted by reference.

   Native vegetation is recommended, but not required, for side slopes (higher than one foot above normal stage) of all detention facilities.

7. Dewatering. An outlet structure shall be provided to allow dewatering of the pond for maintenance. Gravity dewatering is strongly preferred.

8. Soil Permeability. Wet bottom basin design shall include an evaluation of soil permeability. A basin liner shall be included in the design if needed to ensure water retention to normal pool elevation.

H. Wetland Detention Basin Design

In addition to the other requirements of this Ordinance, wetland basins shall be designed to remove stormwater pollutants, to be safe, to be aesthetically pleasing and as much as feasible to be available for multiple uses.

1. Wetland Basin Grading. The side slopes of wetland basins (from one foot above the normal pool stage to at least one foot below the normal pool stage) and the basin bottom shall not be steeper than 10 to 1 (horizontal to vertical). Steeper slopes are permitted in settling basins and open water zones near the basin outlet.

   Appropriate soil conditions shall be provided in this shoreline zone. First, compaction of both subsoil and topsoil shall be minimized (i.e., to less than 275 psi). Where subsoil compaction cannot be avoided, it should be disked to a depth of 6-8 inches with a chisel plow before spreading topsoil. Second, a suitable uncompacted topsoil, at a minimum thickness of one foot shall be spread to provide a suitable growing medium for aquatic

plants. Coarse soils with minimal clay content and a high organic content are recommended.

Upper slopes of detention basins (higher than one foot above normal stage) should be no steeper than 4:1.Flatter slopes (i.e., 5:1) are preferred to enhance plant establishment and to facilitate long-term maintenance.

2. Wetland Vegetation: Water tolerant native vegetation shall be used to landscape the shorelines and bottoms (non-open water areas) of wetland detention facilities. The selected plants and planting methods shall conform to the soils, hydrology, and water quality conditions present in such facilities, with plants being tolerant of highly variable hydrologic conditions and degraded water quality (e.g., high turbidity and salinity content). Plant selection should conform to the guidance in the *Native Plant Guide for Stream and Stormwater Facilities in Northeastern Illinois* (NRCS et al, 1997) which is hereby adopted by reference.

   Native vegetation is recommended, but not required, for side slopes (higher than one foot above normal stage) of all detention facilities.

I. Dry Detention Basin Design

In addition to the other requirements of this Ordinance, dry basins shall be designed to remove stormwater pollutants, to be safe, to be aesthetically pleasing and as much as feasible to be available for multiple uses.

1. Dry Basin Drainage. Dry basins shall be designed so that eighty percent (80%) of their bottom area shall have standing water no longer than seventy-two (72) hours for any runoff event less than the one hundred (100) year event. Grading plans shall clearly distinguish the wet portion of the basin bottom. Underdrains directed to the outlet may be used to accomplish this requirement.

2. Minimum Bottom Slope. Dry bottom basins shall have two percent (2%) minimum bottom slopes or underdrain systems as approved by the jurisdiction Engineer.

3. Velocity Dissipation. Velocity dissipation measures shall be incorporated into dry basin designs to minimize erosion at inlets and outlets and to minimize resuspension of pollutants.

4. Dry Basin Inlet and Outlet Orientation. Dry basin inlet and outlet orientation shall be the same as for wet bottom basins.

5. Temporary Sediment Trap. A sediment trap shall be constructed at each major inlet to a dry basin during construction. The temporary sediment trap shall be designed in accordance with criteria in the Illinois Urban Manual.

J. Detention in Flood Plains is Prohibited

The placement of detention basins within the 100-year floodplain is prohibited. In the case where there is no regulatory (FEMA) floodplain, and the receiving stream has a drainage area

greater than or equal to one (1) square mile, a 100-year floodplain delineation shall be performed by a Professional Engineer registered in the state of Illinois. This delineation shall be used to determine the areas where detention is prohibited.

K. Detention on Prime Farmland

The placement of detention basins shall avoid the utilization of prime farmland. All detention basin construction shall examine potential impacts to adjacent agricultural land and shall address measures that will be implemented to eliminate such impacts and comply with other relevant permitting.

L. On-Stream Detention

On-stream detention basins are discouraged but will be considered if they provide regional public benefits and if they meet the other provisions of this Ordinance with respect to water quality and control of the one (1) year, 10-year, and one-hundred (100) year, twenty-four (24) hour events from the property. IDNR criteria must also be met for on-stream detention basins. Further criteria are presented in this Ordinance. If on-stream detention is used in watersheds larger than one square mile, the applicant will use hydrologic and hydraulic modeling to demonstrate that the design will not increase the flood levels for any properties upstream or downstream of the property.

Impoundment of the stream as part of on-stream detention SHALL:

1. Require the implementation of an effective non-point source management program throughout the upstream watershed which shall include as a minimum:
    a. Best Management Practices (BMPs) for runoff reduction consistent with the hierarchy for Minimization of Runoff Volumes and Rates as defined in this Ordinance; and
    b. Two year, 24 hour detention/sedimentation basins for all development consistent with the definition of Temporary Sediment Trap.
    c. A program to control nonpoint sources at the source for prior developments constructed without appropriate stormwater BMPs.

2. Include a design for appropriate bank stabilization measures, based on flow velocity calculations, and a pre-sedimentation basin.

3. Comply with other relevant permitting and/or ordinances.

Impoundment of the stream as part of on-stream detention SHALL NOT:

1. Prevent the migration of indigenous fish species, which require access to upstream areas as part of their life cycle, such as for spawning.

2. Cause or contribute to the degradation of water quality or stream aquatic habitat.

3. Involve any stream channelization or the filling of wetlands.

4. Occur downstream of a wastewater discharge.

5. Contribute to the duration or flood frequency of any adjacent land.

M. Protection of Wetlands, Rivers, Streams, Lakes, Ponds, and Depressional Storage Areas

Wetlands, rivers, streams, lakes and ponds shall be protected from damaging modifications and adverse changes in runoff quality and quantity associated with land developments. In addition to the other requirements of this Ordinance, the following requirements shall be met for all developments whose drainage flows into wetlands, rivers, lakes or ponds:

1. Detention in Wetlands, Rivers, Streams, Lakes or Ponds. Existing wetlands, rivers, lakes, or ponds shall not be modified for the purposes of stormwater detention unless it is demonstrated that the proposed modifications will maintain or improve its habitat and ability to perform beneficial functions and shall comply with other relevant permitting. Existing storage and release rate characteristics of wetlands, rivers, lakes, ponds, or other depressional storage areas shall be maintained and the volume of detention storage provided to meet the requirements of this section shall be in addition to this existing storage.

2. Sediment Control. The existing wetlands, rivers, lakes or ponds shall be protected during construction and as further regulated in Section Three, Article IV of this Ordinance.

3. Alteration of Drainage Patterns. Site drainage patterns shall not be altered to substantially decrease or increase the existing area tributary to wetlands, rivers, lakes or ponds. Drainage patterns shall not be altered by development to direct runoff offsite to other than natural drainage outlets existing prior to development.

4. Detention/Sedimentation. All runoff from the development shall be routed through a preliminary detention/sedimentation basin designed to capture the two (2) year, twenty-four (24) hour event and hold it for at least twenty-four (24) hours, before being discharged to the wetland, river, lake or pond. This basin shall be constructed before property grading begins and shall be maintained throughout the construction process. In addition, the BMP hierarchy defined in Section Three, Article I, D. should be followed to minimize runoff volumes and rates being discharged to the wetland, river, stream, lake or pond, and as further regulated in Article II and Article IV of this Section.

5. Vegetated Buffer Strip. A buffer strip of at least twenty-five (25) feet in width, vegetated with native plant species, shall be maintained or restored around the periphery of a wetland, river, stream, lake or pond.

N. Street Detention

If streets are to be used as part of the minor or major drainage system, ponding depths shall follow the criteria below:

1. Principal and Minor Arterials

a. Flow from a ten (10) year storm shall not inundate the center twenty (20) feet of the pavement.

b. Flow from a fifty (50) year storm shall be carried without damage to any building.

2. Collector Streets

a. Flow from a ten (10) year storm shall not inundate the center ten (10) feet of the pavement.

b. Flow from a fifty (50) year storm shall be carried without damage to any building.

3. Local Streets

a. Flow from a ten (10) year storm shall not top the curb.

b. Flow from a fifty (50) year storm shall be carried without damage to any building.

O. Parking Lot Detention

The maximum stormwater ponding depth in any parking area shall not exceed six (6) inches for more than four (4) hours. Parking layout shall be designed such that handicap parking spaces are outside the design flood limits of the parking lot.

P. Rooftop Detention

Rooftop storage of excess stormwater shall be designed and constructed to meet with the jurisdiction building code.

Q. Fee in Lieu of Detention

1. For the purpose of satisfying the requirements for stormwater detention or compensatory storage for a development or redevelopment on a property for which detention or compensatory storage was not previously provided, a fee in lieu of detention or compensatory storage may be assessed against the development prior to the issuance of a permit. Fees shall be calculated to establish the property's fair share of costs to provide detention or compensatory storage for the watershed or drainage basin in which the property exists. The cost figures used for detention shall be actual costs for detention or compensatory storage being provided by contract or estimated costs for planned detention or compensatory storage facilities approved by the appropriate jurisdiction official. All revenues received through such fees shall be used for no purpose other than defraying public costs associated with providing detention or compensatory storage facilities.

2. The jurisdiction also may require a fee for each acre/foot of detention needed in lieu of the applicant building a basin on site, provided the property will discharge stormwater into existing or proposed detention facilities with added capacity for the additional runoff.

R. Cooperative Detention

The jurisdiction will consider joint detention facilities developed through cooperative efforts that comply with all requirements of this Ordinance.

SECTION FOUR
STORMWATER POLLUTION PREVENTION PLAN (SWP3)

A. General

1. The area disturbed shall be assumed to include the entire property area unless the applicable plans specifically exclude certain areas from disturbance.

2. The owner bears the responsibility for implementation of the SWP3 and notification of all contractors and utility agencies on the site.

3. SWP3's must be provided for all phases of development, including sanitary sewer construction, storm drainage system construction, waterline, street and sidewalk construction, general grading and the construction of individual homes. The Class 2 Grading and Drainage Permit holder will not be required to provide an SWP3 for the activities of utility agencies.

4. The jurisdiction of _____ will use the Illinois Department of Transportation (IDOT) system of compliance that is outlined in the Bureau of Design and Environment (BDE) design manual.

5. The subsequent owners of individual lots in a subdivision with an approved SWP3 bears the responsibility for continued implementation of the approved SWP3's for all construction activity within or related to the individual lot, excluding construction managed by utility agencies.

B. Requirements for Utility Construction

1. Utility companies shall be responsible for compliance with the requirements of this Ordinance.

2. Utility companies shall develop and implement Best Management Practices (BMPs) to prevent the discharge of pollutants on any site of utility construction within the jurisdiction. Disturbed areas shall be minimized, disturbed soil shall be managed and construction site entrances shall be managed to prevent sediment tracking. Sediment tracked onto public streets shall be removed immediately by the utility agency.

3. Prior to entering a construction site, utility agencies shall obtain a copy of any SWP3's for the project from the owner. Any disturbance to BMPs resulting from utility construction shall be repaired immediately by the utility company in compliance with the SWP3.

C. Required Documentation

A Class 2 Grading and Drainage Permit requires the execution and record maintenance of the following forms and reports (see also the Erosion Control Plan Action Matrix, NPDES Action Matrix - IDOT). The most current version of the standard forms from the Illinois Department

of Transportation and the Illinois Environmental Protection Agency (IEPA) shall be used. The approved project erosion control documents shall be kept on file at the construction site or at a nearby field office and must be made available to the general public upon request.

1. A Storm Water Pollution Prevention Plan (SWP3) using the IDOT SWP3 Template (form BDE 2342), except that the Illinois Urban Manual, latest amended, shall be referenced in lieu of IDOT Standard Specifications for Road and Bridge Construction.

2. A Contractor Certification Statement (CCS) prepared prior to the start of construction by the contractor responsible for erosion control using the IDOT CCS Template (form BDE 2342a). The Grading and Drainage Permit holder shall provide the contractor responsible for erosion control with a copy of the IEPA NPDES statewide permit ILR10.

3. A Notice of Intent (NOI) shall be filed at least 30 days prior to the start of construction and shall be prepared by the Grading and Drainage Permit holder (the original sent by certified mail to the IEPA with transmittal copy to the appropriate jurisdiction official, and a copy kept in the project erosion control file). Use the IDOT NOI Template (Found in Forms Section of the IDOT Construction Manual WPC 623).

4. A NPDES / Erosion Control Inspection Report (ECIR) shall be prepared by the Grading and Drainage Permit holder on a weekly basis and after any 1/2-inch rainfall (to be kept in project erosion control file). Use current IDOT ECIR template (BC 2259).

5. An Incidence of Non-Compliance (ION) and corrective action shall be filed by the Grading and Drainage Permit holder within five (5) working days of the incident (the original sent by certified mail to the IEPA with transmittal copy to the appropriate jurisdiction official and a copy kept in the project erosion control file). Use current IDOT ION Template (Found in Forms Section of the IDOT Construction Manual WPC 624).

6. A Notice of Termination (NOT) shall be filed upon final stabilization of erosion (minimum 70% viable vegetative growth) by the Grading and Drainage Permit holder (the original sent by certified mail to the IEPA with transmittal copy to the appropriate jurisdiction official and a copy kept in the project erosion-control file). Use current IDOT NOT Template V (found in Forms Section of the IDOT Construction Manual WPC 621).

D. Applicability and Guidelines

1. It is the responsibility of the Grading and Drainage Permit holder to prepare and maintain documentation to meet the NPDES permit requirements for private grading and construction projects.

2. The appropriate jurisdiction official shall be given immediate access to all required project NPDES documents.

3. All notices sent to the IEPA shall be copied to the appropriate jurisdiction official.

E. Referenced Standards

Design standards for soil erosion and sediment control shall comply with the most current provisions of the USEPA regulations, IEPA regulations, IDOT Erosion Control/NPDES guidelines and the latest amended "Illinois Urban Manual", prepared by the United States Department of Agriculture, Natural Resources Conservation Service, unless otherwise stated by this Ordinance.

The preparation of stormwater pollution prevention plans shall follow the requirements of this Ordinance and the procedures outlined in the latest edition of the "Illinois Procedures and Standards for Urban Soil Erosion and Sediment Control" (commonly known as the "Greenbook"), which is hereby incorporated into this Ordinance by reference.

Practice standards and specifications for measures outlined in the stormwater pollution prevention plan shall follow the requirements of this Ordinance and be as least as protective as criteria in the latest edition of the "Illinois Urban Manual: A Technical Manual Designed for Urban Ecosystem and Enhancement", which is hereby incorporated into this Ordinance by reference.

In instances where BMPs are not included in the Illinois Urban Manual, design criteria found in IDOT standard specifications or other reference manuals may be used with the approval of the jurisdiction.

F. General Erosion and Sediment Control Design Features

The following principles shall apply to all construction undertaken under the authorization of a Class 2 Grading and Drainage Permit.

1. New development or redevelopment shall be designed to create the least potential for erosion. The disturbance of slopes greater than seven percent (7%) should be avoided wherever possible. Natural contours should be followed as closely as possible.

2. Natural vegetation shall be retained and protected wherever possible. Areas immediately adjacent to natural watercourses, lakes, ponds, and wetlands are to be left undisturbed wherever possible. Temporary crossings of watercourses, when permitted, must include appropriate stabilization measures.

3. Special precautions shall be taken to prevent damages resultant from any necessary development activity within or adjacent to any stream, lake, pond or wetland. Preventive measures shall reflect the sensitivity of these areas to erosion and sedimentation.

4. The smallest practical area of land should be exposed for the shortest practical time during development.

5. Sediment basins or traps, filter barriers, diversions, and any other appropriate sediment or runoff control measures shall be installed prior to site clearing and grading and maintained to remove sediment from run-off waters from land undergoing development.

6. In the design of erosion control facilities and practices, aesthetics and the requirements of continuing maintenance must be considered.

7. Provisions shall be made to accommodate the increased run-off caused by changed soil and surface conditions during and after development. Drainageways should be designed so that their final gradients and the resultant velocities and rates of discharge will not create additional erosion on-site or downstream.

8. Permanent vegetation and structures shall be installed and functional as soon as practical during development. Disturbed areas shall be stabilized with approved permanent measures within seven (7) calendar days following the end of active disturbance or redisturbance consistent with the following criteria:
    a) Appropriate permanent stabilization measures shall include seeding, mulching, sodding, with non-vegetative measures as a last resort.
    b) Areas having slopes greater than twelve percent (12%) shall be stabilized with sod, mat, or blanket in combination with seeding or equivalent.

9. Those areas being converted from agricultural purposes to other land uses shall be vegetated with an appropriate protective cover prior to development.

10. All waste generated as a result of site development activity shall be properly disposed of and shall be prevented from being carried off the site by either wind or water.

11. All construction sites shall provide measures to prevent sediment from being tracked onto public or private roadways.

12. All temporary soil erosion and sediment control practices shall be maintained to function as intended until the contributing drainage area has been permanently stabilized at which time they shall be removed within thirty (30) days after final site stabilization.

G. Materials and Construction Notes

Materials and construction notes for BMPs shall be at least as protective as criteria in the Illinois Urban Manual. In instances where BMPs are not included in the Illinois Urban Manual, criteria found in IDOT standard specifications or other reference manuals may be used with approval of the jurisdiction.

H. Testing and Inspection

Use the Residents Weekly NPDES / Erosion Control Inspection Report BC 2259 from the Illinois DOT Construction Manual.

I. Soil Grading and Drainage Plan Requirements

A soil grading and drainage plan, including a narrative shall be submitted showing all measures necessary to meet the objectives of this Ordinance throughout all phases of construction. The development of a soil grading and drainage plan shall follow the requirements of this Ordinance and the procedures in the latest edition of the "Illinois Urban Manual" which is hereby incorporated into this Ordinance by reference. The jurisdiction may waive specific requirements for the content of submissions upon finding

that the information submitted is sufficient to show that the work will comply with the objectives and principles of this Ordinance. Permanent soil erosion and sediment control features needed at the completion of any development site shall be included in the submittal.

The submitted soil grading and drainage plan shall include:

1. Mapping and Descriptions. The existing and proposed erosion and sediment control features of the property and immediate vicinity including:

   a. Items as required for the Grading and Drainage Plan Submittal.

   b. Location of the slope disturbance line.

   c. Location and description of the soil erosion and sediment control measures to be employed during construction.

   d. For any structures proposed to be located on the slope side of the slope disturbance line, the map shall include the limits of disturbance including: tree removal, soil erosion and sediment control measures during construction, details of method(s) proposed for providing slope stability, permanent stormwater control measures, and permanent erosion and sediment control measures all being certified by a registered Professional Engineer or a "Certified Professional Erosion Control Specialist."

   e. The predominant soil types on the site, their location, and their limitations for the proposed use as defined by the U.S.D.A. Natural Resources Conservation Service (NRCS).

   f. Location and description, including standard details, of all sediment control measures and specifics of sediment basins and traps, including outlet details.

   g. Location and description (specification) of all soil stabilization and erosion control measures, including seeding mixtures and rates, types of sod, method of seedbed preparation (type and extent of tillage, weed control, planting equipment, etc.), expected seeding dates, type, method and rate of lime and fertilizer application (soil fertility testing required), kind and quantity of mulching for both temporary and permanent vegetative control measures, and types of non-vegetative stabilization measures.

   h. Location and description of all runoff control measures, including diversions, waterways, and outlets.

2. Larger sites, at the discretion of the appropriate jurisdiction official, and those requiring a Stormwater Pollution Prevention Plan (SWP3), may also require the following:

a. Location and description of methods to prevent tracking of sediment off-site including construction entrance details, as appropriate.

b. Description of dust and traffic control measures.

c. Provisions for maintenance of control measures, including type and frequency of maintenance, easements, and estimates of the cost of maintenance.

d. Identification (name, address, and telephone) of the person(s) or entity which will have legal responsibility for maintenance of soil erosion and sediment control structures and measures during development and after development is completed.

J. Site Development Requirements

On-site sediment control measures, as specified by the following criteria, shall be constructed as specified in the referenced handbooks, and functional prior to initiating clearing, grading, stripping, excavating or fill activities on the site.

1. For new developments or re-developments of more than one (1) acre but less than five (5) acres, a sediment trap or equivalent control measure shall be constructed at the downslope point of the disturbed area.

2. For new developments or re-developments of greater than five (5) acres, a sediment basin or equivalent control measure shall be constructed at the down slope point of the disturbed area.

3. Sediment basin and sediment trap designs shall provide for both "dry" detention and "wet" detention sediment storage. The detention storage shall be composed of equal volumes of "wet" detention storage and “dry” detention storage and each shall be sized as regulated in this Ordinance. The release rate of the basin shall be that rate as regulated in this Ordinance. The elevation of the outlet structure shall be placed such that it only drains the dry detention storage.

4. 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 or sediment generated in one year. For construction periods exceeding one year, the 1-year sediment load and a sediment removal schedule may be substituted.

5. To the extent possible or as otherwise regulated in this Ordinance all desirable trees eight (8) inches in diameter (measured at 4.5 ft. dbh) and larger shall be protected for their present and future value for erosion protection and other environmental benefits. Trees that have been selected for preservation shall be protected following criteria in the Illinois Urban Manual prior to the beginning of any clearing, grading, stripping, excavation, or filling of the site. A "No" construction zone shall be established and marked at the perimeter of the dripline of each tree which is to be preserved.

6. Stormwater conveyance channels, including ditches, swales, and diversions, and the outlets of all channels and pipes shall be designed and constructed as regulated in this Ordinance.

All constructed or modified channels shall be stabilized within forty-eight (48) hours, consistent with the following standards and as required in the referenced handbooks:

a. For grades up to four percent (4%), seeding in combination with mulch, erosion blanket, or an equivalent control measure shall be applied. Sod or erosion blanket or mat shall be applied to the bottom of the channel.

b. For grades of four to eight percent (4-8%), sod or an equivalent control measure shall be applied in the channel.

c. For grades greater than eight percent (8%), rock, riprap, or an equivalent control measure shall be applied over filter fabric or other type of soil protection, or the grade shall be effectively reduced using drop structures.

7. Land disturbance activities in stream channels shall be avoided, where possible, or as regulated this Ordinance. If disturbance activities are unavoidable, the following requirements shall be met.

a. Construction vehicles shall be kept out of the stream channel to the maximum extent practicable. Where construction crossings are necessary, temporary crossings shall be constructed of non-erosive material, such as riprap or gravel.

b. The time and area of disturbance of stream channels shall be kept to a minimum. The stream channel, including bed and banks, shall be stabilized within 48 hours after channel disturbance is completed, interrupted, or stopped.

c. Whenever channel relocation is necessary, the new channel shall be constructed under dry conditions and fully stabilized before flow is diverted, incorporating meanders, pool and riffle sequence, and riparian planting.

8. Storm sewer inlets and culverts shall be protected by sediment traps or filter barriers meeting accepted design standards and specifications.

9. Soil storage piles containing more than ten (10) cubic yards of material shall not be located with a downslope drainage length of less than fifty (50) feet to a roadway, drainage channel, or abandoned mine. Filter barriers, including straw bales, filter fence, or equivalent, shall be installed immediately surrounding the perimeter of the pile.

10. If dewatering devices are used, discharge locations shall be protected from erosion. All pumped discharges shall be routed through appropriately designed sediment traps or basins, or equivalent and shall not be deposited into an abandoned mine.

11. Each site shall have graveled (or equivalent) entrance roads, access drives, and parking areas of sufficient length and width to prevent sediment from being tracked onto public or private roadways. Any sediment reaching a public or private road shall be removed by

shoveling or street cleaning (not flushing) before the end of each workday and ransported to a controlled sediment disposal area.

SECTION 5
FEES

APPENDIX A

SAMPLE
LETTER OF CREDIT

_____(name of bank)_____

____(City bank's located)___, _____(State)_____

Irrevocable Credit No. _____ Date: _____, 20____

City/County of _____, Illinois
_____, Illinois

All drafts must be marked:
"Drawn under Credit No. _____,
dated _____, 20____

Gentlemen:

We hereby open an Irrevocable Letter of Credit in the amount of _____ _____($_____) in your favor for the account of _____ (Developer), the developer of _____(name of project)_____, proposed in the City/County of _____, Illinois, or within its territorial jurisdiction, for the benefit of the City/County of _____. Said money hereunder shall be available by your drafts at sight drawn on us drawn in the name of the City/County of _____, Illinois. All drafts so drawn must be marked "Drawn under __(name of bank)_____, Credit No. _____ dated _____, 20___."

Drafts must be accompanied by a signed statement by the appropriate official of the City/County of _____, Illinois, that the request is for the installation or construction of improvements required pursuant to the plans, specifications, and cost estimates dated _____, 20____, and approved by the City/County of _____, Illinois, and on file with the appropriate official. Further, all requests for disbursements under this Letter of Credit made prior to __(must be 2 years after filing)____, 20___, shall be submitted by developer and accompanied by a certified estimate of units and value of work completed with contractor's sworn statement and waiver of mechanics' liens, all approved by the Developer's engineer and the appropriate official of the City/County of _____, Illinois. It is understood as to all disbursements that the appropriate official shall approve partial drawings only as long as there remains a sufficient balance to the Credit to cover his then current estimate of costs for the required improvements which at that time remain to be completed but in no case shall his approval exceed ninety percent (90%) of the value of work completed.

In the event that all of the work for the improvements is not completed to the satisfaction of the City/County on or before ___(1 day short of 2 years after filing)_____, 20___, the funds remaining under this Letter of Credit shall be available to the City/County of _____, Illinois upon presentation of their draft at sight drawn on us in the name of the City/County of _____, Illinois. This draft so drawn must be marked "Drawn under _____(name of bank)_____, Credit No. _____,

dated _____, 20___." Further, such draft shall be accompanied by a signed statement by the appropriate official of the City/County of _____, Illinois as follows: "I, _____(name)_____, appropriate official for the City/County of _____ _____, Illinois, do hereby certify that work on required improvements for the project named _____ has not been completed to the satisfaction of the City/County of _____ on or before _(one day short of two years after filing)__, 20_____.

This Credit shall expire on _(2 years after filing)_____, 20___; provided, however, the undersigned shall notify the appropriate official by certified mail, return receipt requested, at least 90 days prior to expiration date that this Letter of Credit is about to expire and provided, however, in no event shall this Credit expire except upon prior written notice, it being expressly agreed by the undersigned that the above expiration date shall be extended as shall be required to comply with this notice provision.

The undersigned further agrees that this Credit shall remain in full force and effect and pertain to any and all amendments or modifications which may be made from time to time to the specifications, and agreements for the project, without notice from the City/County of the amendments or modifications.

All acts, requirements and other preconditions for the issuance of this Irrevocable Letter of Credit have been completed.

We hereby engage with the drawers, endorsers, and bona fide holders of drafts, drawn under and in compliance with the terms of this Credit, that same shall be honored upon presentation to the drawer. This Credit must accompany any draft which exhausts the Credit and must be surrendered concurrently with the presentation of such draft.

We hereby undertake and engage that all demands made in conformity with this Credit will be honored upon presentation. If, within ten (10) days of the date any demand made in conformity with this Credit is presented, we fail to honor same, we agree to pay all attorneys' fees, court costs, and other expenses incurred by the City/County of _____ in enforcing the terms of this Credit.

Dated: _____, 20___.

_____(name of bank)_____

_____

By _____
(title)

Attest:

_____
(title)

SAMPLE
PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that _____, as PRINCIPAL, _____, as SURETY, and _____, as ADDITIONAL SURETY, are held and firmly bound unto the City/County of _____ _____, Illinois, as OBLIGEE, in the sum of _____ _____ ($_____) lawful money of the United States, for the payment whereof to the Obligee, the Principal and the Surety, and Additional Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly to these presents:

SIGNED, SEALED AND DATED, THIS _____day of _____, 20____.

WHEREAS, application was made to the Obligee for approval of a project entitled "_____", located in the City/County of _____, Illinois, filed with the appropriate official of the City/County of _____, Illinois, on _____, 20____, said project may be approved upon certain conditions, one of which is that a performance bond in the amount of _____ ($_____), to be filed with the City/County Clerk to guarantee certain improvements in said project.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the above named Principal shall within two (2) years from the date hereof will and truly make and perform the required improvements and construction of public improvements in and adjacent to said project in accordance with the specifications of the City/County of _____ appropriate department and the Stormwater Regulations of the City/County of _____ _____, then this obligation to be void; otherwise to remain in full force and effect.

It is hereby understood and agreed that in the event that any required improvements have not been installed as provided aforesaid within the term of this Performance Bond, the Governing Body may thereupon declare this bond to be in default and collect the sum remaining payable thereunder and upon receipt of the proceeds thereof, the City/County of _____ _____ shall install such improvements as are covered by this bond and commensurate with the extent of development that has taken place in said project but not exceeding the amount of such proceeds.

_____Principal

By:_____Principal

_____Surety

By:_____
Attorney in Fact

Additional Surety

Approved as to Form: _____

By:_____ _____

APPENDIX B

Covenant To Be Included In Subdivision Covenants

Stormwater Detention Basin

A stormwater detention basin has been constructed within the subdivision, in accordance with the requirements of the municipal stormwater ordinance, and is so designated as "Detention Basin" on subdivision plat. The detention basin shall provide for the temporary detention of stormwater runoff from the subdivision to meet release rates as required by the municipality.

The real estate upon which the detention basin is located, designated as Outlot A on the Plat, shall be deeded from the Developer to the Homeowner's Association upon the sale of 75% of the lots within the Subdivision.

The Developer as owner, and subsequent to the conveyance of title, the Homeowners Association as owner, shall be responsible for the following:

a. An annual report on the detention basin condition, using the checklist, designated below, shall be submitted to the appropriate jurisdiction official.

b. At five (5) year intervals, the basin shall be inspected by a professional engineer registered in the State of Illinois. A report of this inspection shall be submitted to the appropriate jurisdiction official within sixty (60) days of the inspection. The inspection shall include an evaluation of the checklist items in the checklist below. An annual report is not required the year the five year report is due.

c. The Developer, as owner, shall notify the Homeowners Association of its maintenance responsibilities and transfer basin maintenance records to the Homeowners Association.

Each owner of an improved lot within the Subdivision shall be assessed by the Homeowners Association for the cost of maintaining the Detention Basin and for the cost of complying with the requirements of these covenants and the requirements of the municipality. The Declaration regarding the establishment of a Homeowners Association and the procedures for the assessment and collection of dues for the cost of maintaining the detention basin shall be filed and recorded by the Developer as a separate document.

DECLARATION OF RESTRICTIVE AND PROTECTIVE COVENANTS AND CONDITIONS REGARDING THE ESTABLISHMENT OF A HOMEOWNERS ASSOCIATION FOR THE STORMWATER DETENTION BASIN SYSTEM AS LOCATED WITHIN _____

Dated _____

_____

Filed _____

_____

To

The Public

This Declaration, made on the date hereinafter set forth by _____

_____, hereinafter referred to as "Declarant".

WITNESSETH:

Whereas, Declarant is the owner of certain property in the City of _____,

_____ County, Illinois, which is more particularly described as :

_____

_____

NOW, THEREFORE, Declarant hereby declares that all of the properties described above shall be held, sold and conveyed subject to the following easements, restrictions, covenants and conditions, all of which are for the purpose of enhancing and protecting the value, desirability and attractiveness of the real property, and for the purpose of complying with stormwater retention requirements of the City of _____. These covenants, restrictions and conditions shall run with the real property and shall be binding on all parties having or acquiring any right, title or interest in the described property or any part thereof, and shall inure to the benefit of each owner thereof.

ARTICLE I.

DEFINITIONS

1. "Association" shall mean and refer to Homeowners Association of _____, Inc., an Illinois nonprofit corporation, its successors and assigns.

2. "Properties" shall mean and refer to that certain real property hereinbefore described, more particularly described as: Lots _____ through _____ of _____, City of _____, Illinois, and such additions thereto as may hereafter be brought within the jurisdiction of the Association.

3. "Lot" shall mean and refer to any plot of land shown upon any recorded subdivision map or plat of the properties.

4. "Member" shall mean and refer to every person or entity who hold membership in the association.

5. "Owner" shall mean and refer to the record owner, whether one or more persons or entities, of a fee simple title to any lot which is a part of the Properties, including contract sellers, but excluding those having such interest merely as security for the performance of an obligation.

6. "Declarant" shall mean and refer to _____, to successors and assigns, if such successors or assigns should acquire more than one undeveloped lot from the Declarant for the purpose of Development.

7. "Developer" shall mean the same as "Declarant".

ARTICLE II

MEMBERSHIP AND VOTING RIGHTS

Every person or entity who is a record owner of a fee or undivided fee interest in any Lot which is subject by covenants of record to assessment by the Association, including contract Sellers, shall be a member of the Association. The foregoing is not intended to include persons or entities who hold an interest merely as security for the performance of an obligation. No owner shall have more than one membership. Membership shall be appurtenant to and may not be separated from ownership of any lot which is subject to assessment by the Association. Ownership of such lot shall be the sole qualification for membership.

ARTICLE III

ESCROW FUND FOR MAINTENANCE

The primary source of funds for maintenance of the master stormwater detention system shall be an escrow fund. Declarant shall establish the Escrow Fund at some local banking institution at such time as the first lot in The Properties is transferred to an owner other than the Declarant. The Association shall have the power to expend the escrow fund for maintenance authorized in accordance with the provisions of Article V.

ARTICLE IV

COVENANT FOR MAINTENANCE ASSESSMENT

1. Creation of the lien and Personal Obligation of Assessments. The Declarant, for each improved Lot owned within the Properties, hereby covenants, and each Owner of any Lot by acceptance of a Deed therefor, whether or not it shall be so expressed in such Deed, is deemed to covenant and agree to pay to the Association: (1) annual assessments or charges, such assessments to be established and collected from time to time as hereinafter provided. The term "improved Lot" shall mean any Lot having a building erected thereon and ready for occupancy as approved by the City of _____, Illinois. The annual assessments, together with interest, shall be a charge on the land and shall be a continuing lien upon the property against which each such assessment is made. Each assessment together with interest, costs and reasonable attorney's fees for collection, shall also be the personal obligation of the person or entity who was the owner of such property at the time the assessment fell due. The personal obligation for delinquent assessments shall not pass to his successors in title unless expressly assumed by them.

2. Purpose of Assessments. The assessments levied by the Association shall be used exclusively to maintain the stormwater detention basin system, as provided for under the Restrictive and Protective Covenants of _____. The Board of Directors of the Association shall establish a budget by January 1st of each year and shall levy

an assessment upon each improved Lot without the Subdivision by February 1st of each year, payable by the 1st day of May.

3. Notice and Quorum for Any Action Authorized Under Section 3. Written notice of any meeting called for the purpose of establishing the budget and making the assessment shall be sent to all members not less than 15 days nor more than 30 days in advance of the meeting. At the first such meeting called, the presence of Members or of proxies entitled to cast 50% of all votes of each class of membership shall constitute a quorum. If the required quorum is not present, another meeting may be called subject to the same notice requirement, and the required quorum at the subsequent meeting shall be one-half of the

required quorum at the preceding meeting. No such subsequent meeting shall be held more than 60 days following the preceding meeting.

4. Uniform Rate of Assessment. Annual assessments must be fixed at a uniform rate for all improved Lots and shall be collected on an annual installment basis, except as hereinafter provided.

5. Date of Commencement of Annual Assessments; Due Dates. The annual assessments provided for herein shall commence as to all improved Lots on the first day of the month following the conveyance of any such improved Lot. The first annual assessment shall be adjusted according to the number of months remaining in the calendar year. The Board of Directors of the Association shall fix the amount of the annual assessment against each lot at least 30 days in advance of each annual assessment period. Written notice of the annual assessment shall be sent to every Owner subject thereto. The annual assessment shall be paid in one annual payment, and the due dates and delinquency dates shall be uniformly established by the Board of Directors of the Association. The Association shall, upon demand, and for a reasonable charge, furnish a certificate signed by an officer of the Association setting forth whether the assessments on a specified Lot are current or delinquent. Such certificate shall be conclusive evidence of payment of any assessment therein stated to have been paid.

6. Effect of Non-payment of Assessments: Remedies of the Association. Any annual payment not paid within 30 days after the due date shall bear interest from the date of delinquency at the rate of 10% per annum. The Association may bring any action at law against the Owner personally obligated to pay the same, or foreclose the lien against the property by an action in equity. In any such action, interest, costs and reasonable attorneys fees shall be added to the amount of the delinquent assessment and collected as part of said judgment. In the event of such foreclosure, if the Association waives any and all rights to a deficiency judgment against the Owner, the period for redemption as provided by the statutes off the State of Illinois shall be reduced to six months from the date of foreclosure sale. Any lot ultimately acquired by the Association through Judges Deed after such a foreclosure shall be sold by the Association within a reasonable time either at public or private sale, and any surplus remaining after the payment of assessments, interest, costs and attorney's fees shall be paid over to the former Owner of said Lot. No Owner may waiver or otherwise escape liability for the assessments provided for herein by non-use of the Detention Basin or by abandonment of his Lot.

7. Subordination of the Lien to Mortgages. The lien of the assessments provided for herein shall be subordinate to the lien of any first mortgage placed upon any Lot. Sale or transfer of any Lot shall not affect the assessment lien. However, the sale or transfer of any lot pursuant to Mortgage foreclosure or any assessments as to payments which became due prior to such sale or transfer, provided that such sale or transfer shall not extinguish the personal obligation of the prior Owner or his heirs, successors or assigns, for payment of such assessment. No sale or transfer shall relieve such Lot from liability for any assessments thereafter becoming due or from the lien thereof.

ARTICLE V

GENERAL PROVISIONS

1. Enforcement. The Association, or any Owner shall have the right to enforce by any proceeding at law or in equity all restrictions, conditions, covenants or reservations now or hereafter imposed by the provisions of this Declaration. The Association shall have the sole right to enforce, by proceedings at law or in equity, the liens and charges now or hereafter imposed by the provisions of this Declaration. Failure by the Association or by any Owner to enforce any covenant or restriction herein contained shall in no event be deemed a waiver of the right to do so thereafter.

2. Severability. Invalidation of any one of these covenants or restrictions by judgment or Court Order shall in no wise affect any other provisions which shall remain in full force and effect.

3. Duration. The covenants and restrictions of this Declaration shall run with and bind the land, for a term of 21 years from the date this Declaration is recorded, after which time they shall be automatically extended for successive periods of 10 years each.

4. Amendment. This Declaration may be amended during the first 21 years period by an instrument signed by not less than 75% of the Lot owners and thereafter by an instrument signed by not less than 65% of the Lot Owners, provided, however, that no such amendment shall be valid or effective until is has been, and a certified copy of said resolution, and a certified copy of the amendment adopted by the Lot Owners, having both been recorded in the office of the Recorder of_____, Illinois.

By:_____
OWNER AND DECLARANT

By:_____
OWNER AND DECLARANT

APPENDIX C

APPENDIX D

Detention Pond Design Example
Tri-County Unified Stormwater Ordinance

This design example is intended to provide the design engineer with general guidance for the proper steps in designing a detention pond to meet the requirements in this Ordinance.

40-acre commercial property

Site description:

Existing 40-acre parcel is 1,320 feet by 1,320 feet and has an average land slope ranging from 1% to 2%. The proposed development will consist of several office buildings and a small shopping complex, parking, and roadways. The developer wishes to build a single detention pond to serve the entire site.

Additional site information:

- The site currently drains to an open channel located at the corner of the property along an existing public roadway.
- The open channel has a small drainage area and no associated floodplain.
- No stormwater runoff enters the parcel from other properties.

Suggested Detention Pond Design Analysis Methodology:

1) Determine the approximate 100-year storage volume first. This will provide the design engineer with the information necessary to estimate the detention pond footprint and depth.
2) Upon establishing the detention pond geometry, develop a stage/storage table for the pond.
3) Calculate the 1-year runoff volume and the 1-year peak storage elevation.
4) Determine the type/size/elevation of the restriction device necessary to discharge the 1-year storage volume over a 24-hour period.
5) Calculate the required 10-year storage volume and 10-year peak storage elevation.
6) Determine the type/size/elevation of the restriction device necessary to discharge the 10-year storm at a rate of 0.12 cfs/acre.
7) Determine the type/size/elevation of the restriction device necessary to discharge the 100-year storm at a rate of 0.30 cfs/acre.
8) Detail the outlet structure.
9) Prepare an emergency overflow design.
10) Demonstrate adequate freeboard.
11) Review downstream hydraulic limitations.
12) Review detention pond discharge pipe flow velocity.

Step 1: Calculate Preliminary 100-Year Volume Required

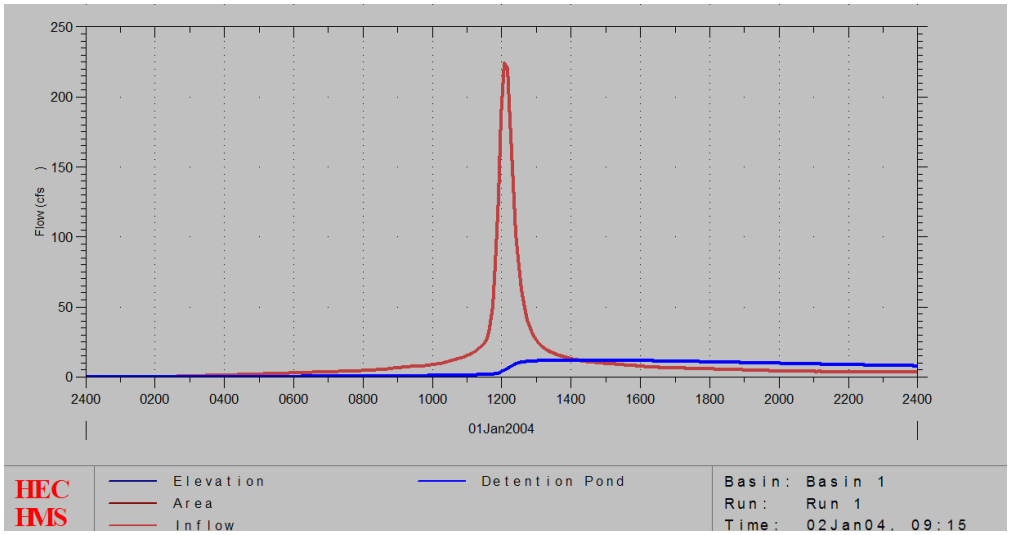
Calculate the volume necessary to detain the 100-year storm event:

Allowable discharge, Q_a = 0.30 cfs/acre x 40 acres = 12 cfs

The Runoff Hydrograph Method must be used, as the site is greater than 10 acres. Using HEC-HMS (public domain hydrologic modeling software), the following variables are used (other software packages, such as PondPack, XP-SWMM, HEC-1, TR-20, and other approved programs, may be used for this analysis):

Time of concentration (T_c):	25 minutes (calculated using TR-55 methodology)
Curve Number (CN):	92 (typical for commercial developments)
100-year 24-hour rainfall depth:	7.4 inches (City of Peoria, Bulletin 70)
Rainfall distribution:	NRCS Type II, 24-hour

Using the preliminary site plan and HEC-HMS, an approximate 100-year detention volume is determined at ***642,500 cubic feet*** (14.75 acre-feet). The following hydrograph demonstrates the detention pond adequately detains flow to the *12 cfs allowable discharge rate*.



Note: Upon finalizing the detention pond outlet design, the detention pond routing calculations will need to be modified (fine-tuned) to reflect the final design contours and outlet structure configuration.

Step 2: Stage/Storage Table

The stage/storage table provides a summary of the contour areas for the proposed detention pond and confirms that the appropriate detention volume is being provided for the proposed site. *The stage/storage table may need to be updated (fine-tuned) after the completion of the detention pond design.*

Provide contour elevations at a 1-foot contour interval. *Elevation 650 represents either the bottom (outlet) of a dry detention basin or the permanent (normal) water level of a wet detention basin.*

Contour Elevation (NGVD)	**Contour Area (square feet)**	**Average Contour Area (square feet)**	**Depth (ft)**	**Incremental Volume (cubic feet)**	**Cumulative Volume (cubic feet)**
650	95,000				
		97,100	1	97,100	97,100
651	99,200				
		101,425	1	101,425	198,525
652	103,650				
		105,575	1	105,575	304,100
653	107,500				
		109,950	1	109,950	414,050
654	112,400				
		114,575	1	114,575	528,625
655	116,750				
		118,925	1	118,925	647,550
656	121,100				

Volume required: 642,500 cubic feet
Volume provided: 647,550 cubic feet

Note: Freeboard will be required above the 100-year high water level (see Step 10).

Step 3: 1-Year Storage Volume/Elevation

Calculate the volume necessary to detain the 1-year storm event:

Using the same HEC-HMS hydrologic model, the total runoff volume from the 1-year, 24-hour duration event (2.5-inch rainfall depth, Bulletin 70) is ***245,000 cubic feet***. Interpolating between the stage/storage table volumes, this translates to a 1-year high water level of 652.44.

Step 4: 1-Year Hydraulic Restrictor

The 1-year runoff volume must be detained for a 24-hour period. Assuming an orifice will be used to detain the 1-year storm, use the orifice equation to determine the appropriate orifice area:

$Q = c * a (64.4 * h)^{½}$ c = orifice coefficient
a = orifice area (square feet)
h = head above center of orifice (feet)

Solving for Q: Discharge 245,000 cubic feet during a 24-hour period
Q_{1yr} = 245,000 cubic feet per day / 86,400 seconds per day
Q_{1yr} = 2.84 cfs

To solve for area (a), assume an average head (h) of two-thirds (2/3) the 1-year high water level:

h_{1yr} = 652.44 – 650.00 = 2.44 feet
Average head = 2.44 * 0.67 = 1.64 feet

Using the orifice equation, solve for area (a):

$a = Q / c(64.4 * h)^{½}$ (assume orifice coefficient = 0.62)

$a = 2.84 / 0.62(64.4*1.64)^{½}$

a = 0.45 square feet

1-year orifice: 9-inch diameter

Recalculate orifice area by adjusting average head. Head should be recalculated to the *center of the orifice*. As the orifice has been calculated at 9 inches (0.75 feet), reduce the average head by 0.38 feet.

$a = 2.84 / 0.62(64.4*1.26)^{½}$

a = 0.50 square feet

1-year orifice: 9.5-inch diameter (bottom of orifice at elevation 650.00)

Step 5: 10-Year Storage Volume/Elevation

Calculate the volume necessary to detain the 10-year, 24-hour duration storm event and restrict the peak discharge to 0.12 cfs per acre. The allowable 10-year discharge would be calculated as follows:

$Q_{10\text{-year allowable}}$ = 40 acres * 0.12 cfs/acre = 4.8 cfs

Using the same HEC-HMS hydrologic model, approximately ***375,000 cubic feet*** of detention would be required to detain the 10-year storm (4.6 inch rainfall depth, Bulletin 70). Interpolating between the stage/storage table volumes, this translates to a 10-year high water level of 653.68. The 1-year orifice (9.5-inch diameter), will limit the 10-year discharge rate to 4.5 cfs.

Step 6: 10-Year Storage Restrictor

The 1-year orifice can be used as the 10-year storm restrictor, as the 10-year peak storage results in a peak discharge rate of 4.5 cfs (less than the allowable discharge rate of 4.8 cfs).

Step 7: 100-Year Storage Restrictor

The 100-year allowable flow rate, 12 cfs, will be controlled by an orifice plate at the upstream end of the detention pond discharge pipe. Flows exceeding the 10-year event will spill into a manhole and through a detention pond discharge pipe. The configuration of the detention pond discharge structure is illustrated under *Step 8*:

The size of the orifice is calculated below:

Using the orifice equation, solve for area (a):

$a = Q / c(64.4 * h)^{1/2}$ (assume orifice coefficient = 0.62)

$a = 12 / 0.62(64.4*5.5)^{1/2}$ (adjust head to account for ~12-inch orifice)

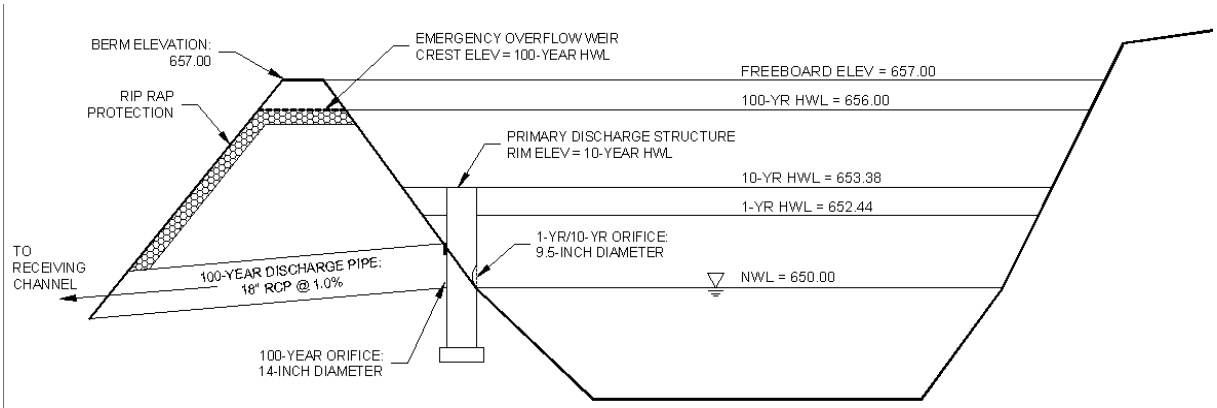
a = 1.03 square feet (equivalent to 14-inch diameter)

Use an 18-inch discharge pipe with a 14-inch diameter orifice plate.

Note: Downstream boundary conditions (i.e. floodplain, undersized receiving storm sewer, etc.) may impact the detention pond outlet hydraulics. All above calculations assume that the detention pond will discharge freely with no downstream restrictions. The design engineer must certify the hydraulic capacity of the receiving storm sewer/channel and incorporate any adverse tailwater effects in the detention pond discharge calculations (see Step 11).

Step 8: Detail the Outlet Structure

Now that the detention pond discharge structure has been designed, provide a detail of the outlet structure and the design storm high water levels.



DETENTION POND DISCHARGE STRUCTURE

Step 9: Emergency Overflow Design

The emergency overflow device must be capable of conveying discharge from the 100-year fully-developed discharge rate. The HEC-HMS model indicates that the developed 40-acre parcel will discharge at a rate of 224 cfs (NRCS Type II 24-hour rainfall). The most practical way of providing an emergency overflow device for this flow rate is to construct a depression in the detention pond berm (overflow weir).

The emergency overflow weir will have a crest elevation of 656.00 (100-year high water level) and will be wide enough to pass 224 cfs (or other peak discharge rate as calculated by the design engineer). The entire weir will be lined with riprap on a geotextile fabric base. The riprap will extend to the toe of the slope on the outside bank of the detention pond.

Step 10: Freeboard Determination

The 100-year high water level is calculated at 656.00. The minimum berm elevation for the detention pond, other than the emergency spillway, is 657.00, thereby providing one foot of freeboard.

Step 11: Downstream Hydraulic Limitations

The receiving channel is a grassed, trapezoidal channel. The receiving channel collects runoff only from the 40-acre development and is adequately sized to convey the 100-year design discharge rate (12 cfs) and the emergency overflow rate (224 cfs). The discharge structure hydraulics are not impacted by the water levels in the receiving channel.

Step 12: Exit Velocity of Detention Pond Discharge Device

The velocity in the proposed 18-inch discharge pipe is approximately 7 feet per second (fps). This velocity is highly erosive to vegetated channels. Riprap will be placed at the downstream end of the discharge pipe as is appropriate to dissipate the energy of the detention pond discharge. Riprap sizing calculations must be performed to justify riprap gradation and layout.