APPENDIX A

APPENDIX A: DEFINITIONS, TERMS AND ABBREVIATIONS

Whenever in the report, the following abbreviations, terms or pronouns in place of them are used, the intent and meaning shall be interpreted as follows:

AC. Acre or Acres.
ADMINISTRATIVE CODE. Wisconsin Administrative Code.
A.N.S.I. American National Standards Institute.
A.S.T.M. The American Society of Testing and Materials.
ARCH. The upper inside section of a sewer or water main pipe above the spring line.
B.D.A.D.C. or BDADC. The Beaver Dam Area Development Corporation.
BOD_5. Biochemical Oxygen Demand, a term used to describe the strength of wastewater.
BUILDING SEWER. A conduit which carries the drainage from a building or private property to a street sewer.
CFS. Cubic feet per second.
CITY. The City of Beaver Dam, Dodge County, Wisconsin.
CMAR. Compliance Maintenance Annual Report, which is a report describing the overall condition and operation of a wastewater treatment plant.
CONTRACTOR. Any individual, firm, partnership or corporation or a combination of any or all jointly submitting a proposal to whom the Contract is awarded by the Owner or its heirs, executors, administrators, successors or assigns.
COUNTY. The County of Dodge, Wisconsin.
C.T.H. or CTH. County Trunk Highway.
D.O.A. or DOA. Department of Administration of the State of Wisconsin.
D.O.C. or DOC. Department of Commerce of the State of Wisconsin.
D.O.T. SPECIFICATIONS. Current Standard Specifications for Road and Bridge Construction of the Wisconsin Department of Transportation.
D.N.R. Wisconsin Department of Natural Resources.
DO. Dissolved Oxygen.
ENGINEER. The City Engineer, Director of Public Works, Superintendent of Public Works or a consulting Engineer employed by the municipality including such assistants as are authorized to represent him, or the consulting engineer acting through his authorized agents, who represents the Owner.
ESA. Environmentally Sensitive Area.
F.E.M.A. or FEMA. Federal Emergency Management Agency.
F.I.R.M. or FIRM. Flood Insurance Rate Map.
F.I.S. or FIS. Flood Insurance Study.
FLOW LINE. The inside bottom of the vertical line of a sewer or water main pipe.
GCPD. Gallons per capita per day.
GPD. Gallons per day.
GPM. Gallons per minute.
HRT. Hydraulic Retention Time.
I/I. Infiltration and Inflow.
INFILTRATION. Water that enters the sewerage system from the surrounding soil.

Common points of entry include broken pipe and defective joints in pipe and manhole walls. Infiltration occurs where sewers are laid below the normal groundwater level and also when water from rain or melting snow soaks into the ground and enters the sewerage system.

INFLOW. Water that enters the sewerage system only during or immediately after rainfall from direct connections. Points of entry may include connections with roof and area drains, storm drain connections, and holes in manhole covers in streets.

INVERT. The lower inside section of a sewer or water main pipe below the spring line.

LBS or lbs. Pounds.

LBS/DAY or lbs/day. Pounds per day.

MCRT. Mean cell residence time.

MGD or mgd. Million gallons per day.

MG/L or mg/l. Milligrams per liter.

MSA. MSA Professional Services, Inc.

NH_4-N. Ammonia as Nitrogen.

NR. A section of the Wisconsin Administrative Code entitled "Natural Resources".

O.S.H.A. Federal Occupational Safety and Health Administration.

OWNER. The City or municipality, corporation, partnership, or individual initiating the project, acting through its legally constituted officials, officers, or employees.

PE's. Population Equivalents.

PLANS. All contract drawings, reproductions of drawings, sketches, and revisions thereof pertaining to the work covered by the contract on file in the office of the Engineer.

PROJECT. The total construction of which the Work to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.

PSIG. Pounds per square inch gauge.

PVC. Polyvinyl chloride.

R__E. Range __ East.

RAS. Return activated sludge.

SANITARY SEWAGE. Waterborne wastes principally derived from the sanitary conveniences of residences, business establishments, institutions, and industrial buildings.

SANITARY SEWER. A conduit which carries sewage and to which storm, surface and ground waters are not intentionally admitted.

SERVICE CONNECTION. A conduit which carries the drainage from a building or private property to a street sewer (sanitary service connection) and/or a conduit which carries potable water from the street water main to a building or private property (water service connection).

SEWAGE. The water carried wastes created in and to be conducted away from residences, industrial establishments, commercial buildings, and public buildings as defined in Section 101.01 of the Wisconsin Statutes with such surface or groundwater as may be present.

SPECIAL PROVISIONS. The special body of directions, provisions, or requirements peculiar to a project, and otherwise not thoroughly or satisfactorily detailed or prescribed in the specifications. The requirements of these Special Provisions shall govern the work and shall take precedence over the specifications or plans whenever they conflict.

SPECIFICATIONS. Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

SPRING LINE. The line on either side of a sewer or water main pipe which the invert and arch meet and become tangent to the vertical.

SS. Suspended solids.

STATE SPECIFICATIONS. The current edition of the document entitled "Standard Specifications for Sewer and Water Construction in Wisconsin.

S.T.H. or STH. State Trunk Highway.

SUBCONTRACTOR. The individual, firm, partnership, or corporation to whom the Contractor, with the written consent of the Engineer, sublets, assigns, or otherwise disposes of any part of the work covered by the Contract Documents.

SURETY. The approved surety corporation licensed to do business in the State of Wisconsin bound with and for the Contractor to insure his acceptable performance of the Contract and for his payment of all obligations under the Contract.

T__N. Township __ North.

T.I.D. or TID. Tax Incremental District.

T.I.F. or TIF. Tax Incremental Finance.

TKN. Total Kjeldahl nitogen.

TOWN OR TOWNSHIP. The Township of Beaver Dam, Dodge County, Wisconsin.

TSS. Total Suspended Solids.

UNDERGROUND FACILITIES. All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

U.S.G.S. or USGS. United States Geological Survey.

U.S.H. or USH. United States Highway.

WAS. Waste activated sludge.

WASTEWATER. The total liquid flow in a sewerage system. Wastewater may include sanitary sewage, industrial wastes, and infiltration and inflow in any combination.

W.D.N.R. Wisconsin Department of Natural Resources.

W.P.D.E.S. or WPDES. Wisconsin Pollutant Discharge Elimination System.

WWTP. Wastewater treatment plant.

APPENDIX B

Appendix B

Model Storm Water Management Zoning Ordinance

Note: *This model ordinance includes the use of brackets [ ] around phrases that are to be filled in by the local municipality. For example, the phrase [administering authority] is frequently used. Where the municipality chooses to have the ordinance administered by the City Engineer, the phrase [administering authority] should be replaced by "City Engineer". In a few places, the model ordinance includes phrases in brackets that are underlined [_____]. In these cases, one of the underlined phrases must be selected verbatim. For example, if the phrase includes statutory citations, several underlined choices will be given such as [59.693, 60.627, 61.354, or 62.234). A county would replace the phrase in brackets with "59.693", since that is the appropriate citation.*

AN ORDINANCE TO CREATE CHAPTER [NUMBER] OF THE [CODE OR ORDINANCE] OF THE [NAME OF MUNICIPALITY] RELATING TO THE CONTROL OF STORM WATER RUNOFF FROM LAND DEVELOPMENT AND LAND REDEVELOPMENT

FOREWORD

The intent of this ordinance is to reduce the amount of storm water and associated pollutants reaching waters of the state during the post-construction period from land development and re-development activity. Use of this ordinance by municipalities will foster the consistent statewide application of performance standards developed by the Department of Natural Resources under s. 281.16(2), Wis. Stats.

The [governing body] of the [municipality] does hereby ordain that Chapter[number of the [code or ordinance] of the [name of municipality] is created to read as follows:

[CHAPTER]
STORM WATER RUNOFF

S. .01 AUTHORITY

(1) This ordinance is adopted by the [governing body] under the authority granted by s. [59.693, 60.627, 61.354, or 62.234] Wis. Stats. This ordinance supersedes all conflicting and contradictory storm water management regulations previously enacted under s. [59.69, 60.62, 61.35, or 62.23], Wis. Stats. Except as specifically provided for in s. [59.693, 60.627, 61.354, or 62.234] Wis. Stats., s. [59.69 and 59.99, 60.62, 61.35, or 62.23], Wis. Stats. applies to this ordinance and to any amendments to this ordinance.

(2) The provisions of this ordinance are deemed not to limit any other lawful regulatory powers of the same governing body.

(3) The [governing body] hereby designates the [administering authority] to administer and enforce the provisions of this ordinance.

(4) The requirements of this ordinance do not pre-empt more stringent storm water management requirements that may be imposed by any of the following:

(a) Department of Natural Resources administrative rules, permits or approvals including, but not limited to, those authorized under s. 283.33 Wis. Stats.

(b) targeted non-agricultural performance standards promulgated in rules by the Department of Natural Resources under NR 151.003 Wis. Admin. Code.

(c) technical standards for implementing non-agricultural performance standards developed by the Department of Natural Resources under subchapter IV of NR 151 Wis. Admin. Code.

S. 02. FINDINGS OF FACT

The [governing body] finds that uncontrolled storm water runoff from land development and land redevelopment activity has a significant impact upon water resources and the health, safety and general welfare of the community and diminishes the public enjoyment and use of natural resources. Specifically, uncontrolled storm water runoff can:

(1) degrade physical stream habitat by increasing stream bank erosion, increasing stream bed

scour, diminishing groundwater recharge, diminishing stream base flows and increasing stream temperature;

(2) diminish the capacity of lakes and streams to support fish, aquatic life, recreational, and water supply uses by increasing loadings of sediment, suspended solids, nutrients, heavy metals, bacteria, pathogens and other urban pollutants;

(3) alter wetland communities by changing wetland hydrology and by increasing pollutant loads;

(4) reduce the quality of groundwater by increasing pollutant loading;

(5) threaten public health, safety, property, and general welfare by overtaxing storm sewers, drainage ways, and other minor drainage facilities;

(6) threaten public health, safety, property, and general welfare by increasing major flood peaks and volumes;

(7) undermine floodplain management efforts by increasing the incidence and levels of flooding.

S. 03. PURPOSE AND INTENT

(1) PURPOSE. The general purpose of this ordinance is to set forth long-term, post-construction storm water requirements and criteria which will diminish the threats to public health, safety, welfare, and the aquatic environment due to runoff of storm water from land development and land redevelopment activity. Specific purposes are to:

(a) further the maintenance of safe and healthful conditions;

(b) prevent and control the adverse effects of storm water, prevent and control soil erosion, prevent and control water pollution, protect spawning grounds, fish, and aquatic life;

(c) control exceedance of the safe capacity of existing drainage facilities and receiving water bodies; prevent undue channel erosion; control increases in the scouring and transportation of particulate matter; prevent conditions that endanger downstream property;

(d) control building sites, placement of structures, and land uses, and promote sound economic growth.

(2) INTENT. It is the intent of the [governing body] that this ordinance manage the long-term, post-construction storm water discharges from land development and land redevelopment activities by achieving a specific set of performance standards at locations where it applies. This ordinance can be applied on a site-by-site basis. The [governing body] recognizes, however, that the preferred method of achieving the storm water performance standards set forth in this ordinance is through the preparation and implementation of comprehensive, systems-level storm water management plans that cover hydrologic units, such as watersheds, on a municipal and regional scale. Such plans may prescribe alternative applicability and performance standards for specific sites when the overall performance standards can be met in more cost-effective approach. Where such plans have been developed and approved by the [governing body], it is the intent of this ordinance that land development and redevelopment activity will be required to meet the storm water management measures set forth in the approved plan.

S. 04. DEFINITIONS

(1) "Administering authority" means the governmental employee, or a regional planning commission empowered under s. [59.693; 60.627; 61.354; 62.234] Wis. Stats., designated by the [governing body] to administer this ordinance.

(2) "Agricultural activity" means planting, growing, cultivating and harvesting of crops for human or livestock consumption and pasturing or yarding of livestock, including sod farms and tree nurseries, but does not include the construction of buildings or facilities used for agriculture.

(3) "Best management practice" or "BMP" means a practice, technique or measure which is determined to be an effective means of preventing or reducing runoff pollutants to waters of the state, to a level compatible with the performance standards in s.07 of this ordinance.

(4) "Business day" means a day the office of the [administering authority] is routinely and customarily open for business.

(5) "Cease and desist order" means a court-issued order to halt land development and land redevelopment activity that is being conducted without the required permit.

(6) "Common plan of development or sale" means an area where multiple separate and distinct land developing activities may be taking place at different times on different schedules but under one plan.

(7) "Design storm" means a hypothetical discrete rainstorm characterized by a specific duration, temporal distribution, rainfall intensity, return frequency, and total rainfall depth.

(8) "Discharge volume" means the quantity of runoff discharged from the land surface as the result of a rainfall event.

(9) "Division of land" means the creation from one parcel of [number] or more parcels or building sites of [number] or fewer acres each in area where such creation occurs at one time or through the successive partition within a 5 year period.

(10) "Extra-territorial" means the unincorporated area within 3 miles of the corporate limits of a first, second, or third class city, or within 1 1/2 miles of a fourth class city or village.

(11) "Fee in lieu" means a payment of money to the [governing body] in place of meeting all or part of the storm water performance standards required by the ordinance.

(12) "Financial guarantee" means a performance bond, maintenance bond, surety bond, irrevocable letter of credit, or similar guarantees submitted to the [administering authority] by the permit holder to assure that requirements of the ordinance are carried out in compliance with the storm water management plan.

(13) "Governing body" means town board of supervisors, county board of supervisors, city council, village board of trustees, or village council.

(14) "Impervious surface" means a land cover that releases as runoff all or a large portion of the precipitation that falls on it. Rooftops, sidewalks, driveways, parking lots and streets are examples of surfaces that typically are impervious.

(15) "Infiltration" means the process by which rainfall or surface runoff passes into or through the underlying soil.

(16) "Land development activity" means any construction of residential or other urban or suburban development resulting from the conversion of previously undeveloped or agricultural land uses.

(17) "Land redevelopment activity" means new development that is replacing older development.

(18) "Maintenance agreement" means a legal document that is filed with the County Register of Deeds as a property deed restriction, and which provides for long-term maintenance of storm water management practices.

(19) "Municipality" means a town, county, village, or city.

(20) "Non-storm discharge" means a discharge to the storm sewer system created by some process other than storm water runoff.

(21) "Non-structural measure" means a practice, technique, or measure to reduce the volume, peak flow rate, or pollutants in storm water that does not require the design or installation of fixed storm water management facilities.

(22) "Off-site" means located outside the property boundary described in the permit application for land development or land redevelopment activity.

(23) "Other than residential development" means development which is not residential. This includes the following land uses: commercial; industrial; government and institutional; recreation; transportation, communication, and utilities.

(24) "On-site" means located within the property boundary described in the permit application for the land development or land redevelopment activity.

(25) "Peak flow discharge rate" means the maximum unit volume of storm water discharged during a specified unit of time.

(26) "Performance standard" means a measurable number or measurable narrative for a pollution source specifying the minimum acceptable outcome for a facility or practice.

(27) "Permit" means a written authorization made by the [administering authority] to the applicant to conduct land development or land redevelopment activities.

(28) "Permit administration fee" means a sum of money paid to the [administering authority] by the permit applicant for the purpose of recouping the expenses incurred by the authority in administering the permit.

(29) "Pervious surface" means a surface that infiltrates rainfall during a large portion of the design rainfall event. Lawns, fields and woodlands are examples of pervious surfaces.

(30) "Post-construction storm water discharge" means any storm water discharged from a site following the completion of land disturbing construction activity and final site stabilization.

(31) "Post-development condition" means the extent and distribution of land cover types anticipated to occur under conditions of full development, that will influence storm water runoff and infiltration.

(32) "Pre-development condition" means the extent and distribution of land cover types present before the initiation of land development or land redevelopment activity, assuming that all land uses prior to development activity are managed in an environmentally sound manner.

(33) "Pre-treatment" means the treatment of storm water prior to its discharge to the primary storm water treatment practice in order to reduce pollutant loads to a level compatible with the capability of the primary practice.

(34) "Residential development" means that which is created to house people, including the residential dwellings as well as all attendant portions of the development including lawns, driveways, sidewalks, garages, and access streets. This type of development includes single family, multi-family, apartments, and trailer parks.

(35) "Site restriction" means any physical characteristic which limits the use of a storm water best management practice or management measure.

(36) "Source area" means a component of urban land use from which storm water pollutants are generated during periods of snowmelt and rainfall runoff. Source areas include rooftops, sidewalks, driveways, parking lots, storage areas, streets and lawns.

(37) "Stop work order" means an order issued by the [administering authority] which requires that all construction activity on the site be stopped.

(38) "Storm water management plan" means a document that identifies what actions will be taken to reduce storm water quantity and pollutant loads from land development and land redevelopment activity to levels that meet the purpose and intent of this ordinance.

(39) "Storm water management system plan" is a comprehensive plan developed to address storm water drainage and nonpoint source pollution control problems on a watershed or sub-watershed basis, and which meets the purpose and intent of this ordinance.

(40) "Storm water runoff" means that portion of the precipitation falling during a rainfall event, or that portion of snow-melt, that runs off the surface of the land and into the natural or artificial conveyance or drainage network.

(41) "Structural measure" means source area practices, conveyance measures, and end-of-pipe treatment that are designed to control storm water runoff pollutant loads, discharge volumes, and peak flow discharge rates.

(42) "Storm sewer system" means a conveyance or system of conveyances including roads with drainage systems, streets, catch basins, curbs, gutters, ditches, constructed channels or storm drains which is designed for collecting water or conveying storm water.

(43) "Targeted performance standard" means a performance standard, promulgated under s. NR 151.004 Wis. Admin. Code, that will apply in a specific area and that will require additional storm water controls in order to meet water quality standards.

(44) "Waters of the state" means those portions of Lake Michigan and Lake Superior within the boundaries of Wisconsin, and all lakes, bays, rivers, streams, springs, ponds, wells, impounding reservoirs, marshes, watercourses, drainage systems and other surface water or groundwater, natural or artificial, public or private, within Wisconsin or its jurisdiction.

(45) "Wetland functional value" means the type, quality, and significance of the ecological and

cultural benefits provided by wetland resources, such as: flood storage, water quality protection, groundwater recharge and discharge, shoreline protection, fish and wildlife habitat, floral diversity, aesthetics, recreation, and education.

(46) "Wetlands" means an area where water is at, near, or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which has soils indicative of wet conditions. These wetlands include natural, mitigation, and restored wetlands.

(47) "WPDES Storm Water Permit" means a permit issued by the Wisconsin Department of Natural Resources under s. 283.33 Wis. Stats. that authorizes the point source discharge of storm water to waters of the state.

S. 05. APPLICABILITY AND JURISDICTION

(1) APPLICABILITY. Except as described below, this ordinance applies to construction sites, including land development and redevelopment, upon which land disturbing construction activity affects one or more acres of land.

(a) This ordinance applies to land development and land redevelopment activities that are smaller than one acre if such activities are part of a larger common plan of development or sale that in total affects one or more acres.

(b) This ordinance applies to land development and land redevelopment activity of any size that, in the opinion of the [administering authority], is likely to result in storm water runoff which exceeds the safe capacity of the existing drainage facilities or receiving body of water, which causes undue channel erosion, which increases

water pollution by scouring or the transportation of particulate matter or which endangers property or public safety.

(c) This ordinance does not apply to redevelopment sites with no exposed parking lots or roads.

(d) For sites with less than 10% connected impervious surfaces (based on the completed development of the site), this ordinance applies only to parking lots and rooftops with a cumulative area of one or more acres.

(2) JURISDICTION. This ordinance applies to [land development and land redevelopment activities within the boundaries of the [name of the local municipality]].

or

[land development and land redevelopment activities within the boundaries of the [name of local municipality]. This ordinance applies to the division of land within the boundaries of the [name of the local municipality] and within its extraterritorial plat approval jurisdiction under Chapter 236 Wis. Stats.]

or

[land development and land redevelopment activities within the boundaries of the [name of the local municipality]. This ordinance applies to all lands located within the extraterritorial plat approval jurisdiction of the [name of the local municipality], even if plat approval is not involved.]

S. 06. TECHNICAL STANDARDS

The following methods shall be used in designing the water quality, peak flow shaving and infiltration components of storm water practices needed to meet the water quality standards of this ordinance:

(1) Technical standards developed and disseminated by the Department of Natural Resources under subchapter IV of NR 151, Wis. Admin. Code.

Where technical standards have not been developed and disseminated by the Department of Natural Resources, other technical standards may be used provided that the methods have been approved by the [administering authority].

S. 07. STORM WATER PERFORMANCE STANDARDS

(1) STORM WATER DISCHARGE QUANTITY. Unless otherwise provided for in this ordinance, all land development and land redevelopment activities subject to this ordinance shall establish on-site management practices to control the peak flow rates of storm water discharged from the site and to preserve base flow in streams. The BMPs shall be designed, installed or applied and maintained to the maximum extent practicable in accordance with a storm water management plan for the long-term control of post-construction storm water discharges. All of the following apply.

(a) By design, maintain or reduce the peak runoff discharge rates as compared to pre-development conditions for the 2- and 10-year, 24-hour design storms applicable to the site, assuming "good hydrologic conditions" for pre-development land covers as identified in TR-55 or an equivalent methodology. When pre-

development land cover is cropland, the runoff curve numbers in Table 1 shall be used. This paragraph is not applicable to a site that discharges directly to a lake.

Table 1 - Maximum Pre-Development Runoff Curve Numbers for Cropland Areas				
Hydrologic Soil Group	A	B	C	D
Runoff Curve Number	55	68	77	80

Note: The intent of paragraph (a) is to limit streambank erosion.

(b) Discharge velocities must

(c) By design, infiltrate initial runoff from the site in accordance with either subd. 1. or 2, except as provided in subd. 3.

1. The inches of initial runoff to be infiltrated across the site per runoff event shall be equal to or greater than the levels given in Table 2.

Table 2 – Inches of Initial Runoff to be Infiltrated across the Site Per Runoff Event		
Hydrologic Soil Group	1 & 2 Family Residential Land Use	Land Uses Other Than 1 & 2 Family Residential
A	0.26	0.40

B	0.23	0.30
C	0.12	0.14

2. The inches of initial runoff to be infiltrated across the site per runoff event shall be equal to or greater than the levels calculated using the following equation: I = CI x F. "I" is the inches of initial runoff to be infiltrated across the site per runoff event. "CI" is the percent of connected imperviousness across the site. "F" is a factor defined as follows:

   a. For one and 2 family residential land use, "F" shall have a value of 0.62 for type A, 0.55 for type B and 0.28 for type C hydrologic soil groups.

   b. For land use other than one & 2 family residential, "F" shall have a value of 0.44 for type A, 0.33 for type B and 0.15 for type C hydrologic soil groups.

   Note: There may be pretreatment necessary prior to infiltrating runoff. That portion of the runoff from industrial manufacturing areas that is not contaminated may be infiltrated. The one & 2 family residential land use infiltration levels given achieve approximately 90% of annual average runoff infiltration when compared to predevelopment conditions. All other land use infiltration levels given achieve approximately 70% runoff infiltration when compared to predevelopment conditions based on annual averages. The levels given in Table 2 are based on a site with 42% connected imperviousness for one & 2 family residential and 90% connected imperviousness for all other land uses. Infiltration devices and practices include, but are not limited to: decreasing the amount of impervious surface, directing runoff from rooftops and parking areas to natural pervious areas such as grassed lawns or swales or where space is limited for natural infiltration directing runoff to infiltration

devices such as ponds or trenches. Infiltration within wellhead protection areas should be accomplished by directing uncontaminated runoff into natural pervious areas. Infiltration devices such as ponds and trenches may be prohibited within wellhead protection areas.

3. Runoff from the following areas and conditions are exempt from meeting this paragraph.

   a. Areas associated with industrial manufacturing including storage, loading, rooftop and parking.

   b. Storage and loading areas of non-manufacturing industries. Parking and rooftop areas are not exempt from this infiltration requirement for non-manufacturing facilities.

   c. Conditions when infiltration is limited due to frozen ground.

   d. Areas composed of hydrologic soil group D.

   Note: Areas described in subdivision paragraphs a. and b. are exempted from infiltration due to the potential of high contamination of runoff from these areas which could lead to ground water contamination if infiltrated.

(d) Minimize to the extent practical increases or decreases in the hydrology of wetlands. Where such changes are proposed, the impact of the proposal on wetland functional values shall be assessed using a methodology acceptable to the [administering authority]. Significant degradation of wetland functional values shall be avoided.

Note: The administering authority is encouraged to review NR 103 Wis. Admin. Code as a guide to administering the wetland protection provisions of the model ordinance. The Department of Natural Resources has also prepared a guide to administering wetland standards that can serve as a handbook for the local authority charged with administering this ordinance (Water Quality Standards for Wetlands: A Regulator's Guide. Wisconsin DNR, Bureau of Water Regulation and Zoning. September, 1992). This guide references several wetland assessment methodologies that can be specified for use by the administering authority.

(2) STORM WATER DISCHARGE QUALITY. Unless otherwise provided for in this ordinance, all land development and land redevelopment activities subject to this ordinance shall establish on-site management practices to control the discharge of storm water pollutants. The BMPs shall be designed, installed or applied and maintained, in accordance with a storm water management plan for the long-term control of post-construction storm water discharges, to control total suspended solids and other pollutants carried in runoff to the maximum extent practicable. All of the following apply:

(a) By design, reduce the annual average total suspended solids load in runoff by 80% as compared to no controls for the site.

Note: Achieving this standard will have the effect of achieving about a 50% annual average load reduction in phosphorus and about a 50% annual average load reduction for heavy metals.

(b) If 80% of the total suspended solids load will not be controlled from the site by design, then the storm water management plan shall include a reasonable justification for not controlling 80% of the total suspended solids load from the site as compared to no sediment controls.

(c) Petroleum products in runoff from gas station pump areas and vehicle maintenance areas shall be controlled with a properly designed and maintained oil and grease separator or other equivalent practice, and shall remove all visible sheen from the runoff prior to discharge to waters of the state. A gas station pump area which has a properly designed canopy that catches and directs storm water away from the potential spill areas beneath them and the availability and use of petroleum absorbent pads to immediately clean up spills shall as an equivalent practice to meet this paragraph.

(d) Sufficient permanent vegetative cover shall be provided in riparian areas to provide for bank stability, maintenance of fish habitat and filtering of pollutants from upslope overland flow areas. The minimum width of the riparian area is the width calculated using the procedures in NRCS standard 393, dated January, 1995, or 35 feet, whichever is greater. Riparian area widths are measured from the ordinary high water mark of lakes, streams and wetlands. This paragraph is not applicable to redevelopment sites or to structures that cross or access surface waters such as boat landings, bridges and culverts.

(e) Discharge of urban storm water pollutants to wetlands from land development and land redevelopment sites shall be minimized to the extent practical. Where such discharges are proposed, the impact of the proposed discharge on wetland functional values shall be assessed using a method acceptable to the [administering authority]. At a minimum, storm water discharges shall be pre-treated prior to discharge to wetlands. Significant degradation of wetland functional values due to storm water pollutant loads shall be avoided.

Note: The administering authority is encouraged to review NR 103 Wis. Admin. Code as a guide to administering the wetland protection provisions of the model ordinance. The Department of Natural Resources has also prepared a guide to administering wetland standards that can serve as a handbook for the local authority charged with administering this ordinance (Water Quality Standards for Wetlands: A Regulator's Guide. Wisconsin DNR, Bureau of Water Regulation and Zoning. September, 1992). This guide references several wetland assessment methodologies that can be specified for use by the administering authority.

(f) Storm water shall not be injected underground through excavations or openings in a manner that would violate s. NR 812.05 Wis. Admin. Code.

(g) Storm water ponds and infiltration devices shall not be located closer to water supply wells than as indicated below without first notifying and obtaining approval from the [administering authority]:

1. 100 feet from a well serving a private water system or a transient, non-community public water system;

2. 1,200 feet from a well serving a municipal public water system, an other-than municipal public water system, or a non-transient non-community public water system;

3. the boundary of a recharge area to a wellhead identified in a wellhead area protection plan.

(3) ALTERNATE REQUIREMENTS. The [administering authority] may establish storm water management requirements either more stringent or less stringent than those set forth

in subs. (1) and (2) provided that at least one of the following conditions applies.

(a) The [administering authority] determines that an added level of protection is needed to protect sensitive resources.

(b) The [administrating authority] determines that the land development and land redevelopment activity is covered by an approved storm water management system plan that contains management requirements consistent with the purpose and intent of this ordinance.

(c) Provisions are made to manage storm water by an off-site facility, provided that all of the following conditions for the off-site facility are met:

1. The facility is in place,

2. The facility is designed and adequately sized to provide a level of storm water control equal to or greater than that which would be afforded by on-site practices meeting the performance standards of this ordinance,

3. The facility has a legally obligated entity responsible for its long-term operation and maintenance.

(d) The [administering authority] finds that meeting the minimum on-site management requirements of this ordinance is not feasible due to space or site restrictions.

(4) FEE IN LIEU OF ON-SITE STORM WATER MANAGEMENT PRACTICES. Where the [administering authority] waives under sub. (3) all or part of the minimum on-site

storm water management requirements, notwithstanding s.08(3)(a) the applicant shall be required to pay a fee in an amount determined in negotiation with the [administering authority]. The purpose of the fee is to fund alternative municipal storm water management measures to offset the environmental impacts of waiving the requirements. In determining the fee for land development and land redevelopment projects, the [administering authority] shall consider an equitable distribution of the cost needed for land, engineering design, construction, and maintenance of storm water management practices.

(5) GENERAL CONSIDERATIONS FOR ON-SITE AND OFF-SITE STORM WATER MANAGEMENT MEASURES. The following considerations shall be observed in managing storm water runoff:

(a) Natural topography and land cover features such as natural swales, natural depressions, native soil infiltrating capacity, and natural groundwater recharge areas shall be preserved and used, to the extent possible, to meet the requirements of this section.

(b) Emergency overland flow for all storm water facilities shall be provided to prevent exceeding the safe capacity of downstream drainage facilities and prevent endangerment of downstream property or public safety.

S. 08. PERMITTING REQUIREMENTS, PROCEDURES AND FEES

(1) PERMIT REQUIRED. No land owner or land operator may undertake a land development or land redevelopment activity subject to this ordinance without receiving a permit from the [administering authority] prior to commencing the proposed activity.

(2) PERMIT APPLICATION AND FEE. Unless specifically excluded by this ordinance, any land owner or operator desiring a permit shall submit to the [administering authority] a permit application made on a form provided by the [administering authority] for that purpose.

(a) Unless otherwise excepted by this ordinance, a permit application must be accompanied by the following in order that the permit application be considered for approval by the [administering authority]: a storm water management plan, a maintenance agreement and a non-refundable permit administration fee established in s.12 of this ordinance.

(b) The storm water management plan shall be prepared to meet the requirements of ss. .07 and .09 of this ordinance, the maintenance agreement shall be prepared to meet the requirements of s.10 of this ordinance, the financial guarantee shall meet the requirements of s.11 of this ordinance, and fees shall be those established by the [governing body] as set forth in s.12 of this ordinance.

(3) REVIEW AND APPROVAL OF PERMIT APPLICATION. The [administering authority] shall review any permit application that is submitted with a storm water management plan, maintenance agreement, and the required fee. The following approval procedure shall be used:

(a) Within [number] business days of the receipt of a complete permit application, including all items as required by s.08(2)(a), the [administering authority] shall inform the applicant whether the application, plan and maintenance agreement are approved or disapproved. The [administering authority] shall base the decision on requirements set forth in s.07, s.09, and s.10 of this ordinance.

(b) If the storm water permit application, plan and maintenance agreement are approved, or if an agreed upon payment of fees in lieu of storm water management practices is made, the [administering authority] shall issue the permit.

(c) If the storm water permit application, plan or maintenance agreement are disapproved, the [governing body] shall detail in writing of the reasons for disapproval.

(d) The [administering authority] may request additional information from the applicant. If additional information is submitted, the [administering authority] shall have [number] business days from the date the additional information is received to inform the applicant that the plan and maintenance agreement are either approved or disapproved.

(e) Failure by the [administering authority] to inform the permit applicant of a decision within [number] business days of a required submittal shall be deemed to mean approval of the submittal and the applicant may proceed as if a permit had been issued.

(4) PERMIT CONDITIONS. All permits issued under this ordinance shall be subject to the following conditions, and holders of permits issued under this ordinance shall be deemed to have accepted these conditions. The [administering authority] may suspend or revoke a permit for violation of a permit condition, following written notification of the permittee. An action by the [administering authority] to suspend or revoke this permit may be appealed in accordance with s.14 of this ordinance.

(a) Compliance with this permit does not relieve the permit holder of the responsibility to comply with other applicable federal, state, and local laws and regulations.

(b) The permit holder shall design and install all structural and non-structural storm water management measures in accordance with the approved storm water management plan and this permit.

(c) The permit holder shall notify the [administering authority] at least [number] business days before commencing any work in conjunction with the storm water management plan, and within [number] business days upon completion of the storm water management practices. If required as a special condition under par. (d), the permit holder shall make additional notification according to a schedule set forth by the [administering authority] so that practice installations can be inspected during construction.

(d) Permits issued under this subsection may include any special conditions needed to meet the performance standards in s.07 or a financial guarantee as provided for in s.11 of this ordinance.

(e) Practice installations required as part of this ordinance shall be certified "as built" by a licensed professional engineer. Completed storm water management practices must pass a final inspection by the [administering authority] or its designee to determine if they are in accordance with the approved storm water management plan and ordinance. The [administering authority] or its designee shall notify the permit holder in writing of any changes required in such practices to bring them into compliance with the conditions of this permit.

(f) The permit holder shall notify the [administering authority] of any significant modifications it intends to make to an approved storm water management plan. The [administering authority] may require that the proposed modifications be submitted for approval prior to incorporation into the storm water management plan and execution.

(g) The permit holder shall maintain all storm water management practices in accordance with the storm water management plan until the practices either become the responsibility of the [governing body], or are transferred to subsequent private owners as specified in the approved maintenance agreement.

(h) The permit holder authorizes the [administering authority] to perform any work or operations necessary to bring storm water management measures into conformance with the approved storm water management plan, and consents to a special assessment or charge against the property as authorized under s. 66.60(16) Wis. Stats., or to charging such costs against the financial guarantee posted under s.11 of this ordinance.

(i) If so directed by the [administering authority], the permit holder shall repair at the permit holder's own expense all damage to adjoining municipal facilities and drainage ways caused by storm water runoff, where such damage is caused by activities that are not in compliance with the approved storm water management plan.

(j) The permit holder shall permit property access to the [administering authority] or its designee for the purpose of inspecting the property for compliance with the