CITY OF WEST BEND ENGINEERING DEPARTMENT
GUIDELINES FOR STORM WATER MANAGEMENT FACILITIES PLAN REVIEW

The following are guidelines used by the City Engineer when reviewing permit application plans for storm water management facilities in the City of West Bend. These guidelines are provided to assist the Developer and his Engineer in the design of storm water management facilities in private developments in the City. Variances from the design guidelines will be considered if valid justification for the variance is submitted in writing at the time of the review.

These guidelines are meant to supplement Chapter 23 of the Municipal Code, the Storm Water Management Code. Storm water facilities must be designed to meet all requirements of NR 151 and NR 216. Facilities designed for any portion of the City annexed after June 10, 2008 must also meet requirements of the Washington County Code, Chapter 17. Regarding the Washington County Code, particular attention should be given to the infiltration requirements.

The guidelines shall not be construed as being all inclusive since project conditions or downstream conditions may dictate the need for additional design considerations. If followed, these guidelines should assist the Developer and his Engineer in the development of all information required by the City Engineer to review the plans submitted, to expedite the review process, and to minimize redesign prior to final approval, as well as provide an aid to understanding other requirements related to the construction of the proposed facilities. In any case where there is a conflict between the provisions in this document and the Storm Water Management Code of the City of West Bend, the Storm Water Management Code shall be taken as correct.

ABBREVIATIONS USED IN TEXT

Adm.	Administrative, as Administrative Code
BMP	Best Management Practice
ch.	Chapter
DNR	Wisconsin Department of Natural Resources
MEP	Maximum Extent Possible
NR xxx	Chapter Designation, Department of Natural Resources, Wisconsin Administrative Code
NRCS	Natural Resources Conservation Service of the U.S. Department of Agriculture
SWM	Storm Water Management
TR – 55	Technical Release 55, Urban Hydrology for Small Watersheds, Second Edition, NRCS, United States Department of Agriculture
Wis.	Wisconsin

GENERAL PROCEDURE

The review process is started with the submittal of a completed application form, City of West Bend Application for Approval Storm Water Management Plans. The application must be submitted to the City of West Bend Engineering Office (third floor, City Hall). Along with the application form submit:

1. One (1) copy of the storm water management plan report
2. Two (2) copies of construction plans
3. The application fee

A basic list of items to be included in the report is contained in Storm Water Management Permit Checklist for Applicant. Copies of the checklist and application form are located in the Appendix at the end of these Guidelines or copies may be obtained from the Engineering Department or from the City web page: http://www.ci.west-bend.wi.us/index.php?option=com_docman&task=cat_view&gid=168&Itemid=69
Reviews are generally completed within two weeks of submission date. Complex plans take longer to review, however, rarely longer than two weeks. Once a review has been completed, written notice will be sent to the applicant indicating approval with any conditions or if the permit is not approved, a list of deficiencies will be sent. If there are deficiencies, revised reports and plans based on the review comments may subsequently be submitted. Each submission should include a complete report and associated plan sheets. The applicant will be charged for the time spent on review. The application fee is subtracted from that total charge and an invoice is issued upon approval of the permit. If the permit is withdrawn by the applicant, an invoice for review time will be sent.

Once the City Engineer has approved the Permit and all other approvals needed for the development have been obtained, construction may begin. A preconstruction conference may be required. Advanced notice of construction will be required.

STORM WATER MANAGEMENT PLAN/PERMIT

The following is a list of minimum requirements for inclusion in permit submittals. See the appendix for the checklist for compliance with Chapter 23 of the Municipal Code for additional guidelines.

1. Name, address, and telephone number for the following or their designees: landowner; developer; project engineer for SWM practice design and certification; person(s) responsible for installation of SWM practices; and person(s) responsible for maintenance of SWM practices prior to the transfer, if any, of maintenance responsibility to another party.

2. A proper legal description of the property proposed to be developed, referenced to the U.S. Public Land Survey system or to block and lot numbers within a recorded land subdivision plat.

3. Pre-development site conditions, including:

a. One or more site maps at a scale of not less than 1 inch equals 100 feet. The site maps shall show the following: site location and legal property description; predominant soil types and hydrologic soil groups; existing cover type and condition; existing topographic contours of the site at a scale not to exceed 2 feet; topography and drainage network including enough of the contiguous properties to show runoff patterns onto, through, and from the site; watercourses within ¼ mile downgradient of the site that may affect or be affected by runoff from the site; flow path and direction for all storm water conveyance sections; watershed boundaries used in hydrology determinations to show compliance with performance standards; lakes, streams, wetlands, channels, ditches, and other watercourses on and immediately adjacent to the site; limits of the 100 year floodplain, flood fringe and wetland boundaries; location of wells and wellhead protection areas covering the project area and delineated pursuant to s. NR 811.16, Wis. Adm. Code.

b. Hydrology and pollutant loading computations as needed to show compliance with performance standards. All major assumptions used in developing input parameters shall be clearly stated. The geographic areas used in making the calculations shall be clearly cross-referenced to the required map(s).

4. Post-development site conditions, including:

a. Explanation of the provisions to preserve and use natural topography and land cover features to minimize changes in peak flow runoff rates and volumes to surface waters and wetlands.

b. Explanation of any restrictions on SWM measures in the development area imposed by wellhead protection plans and ordinances.

c. One or more site maps at a scale of not less than 1 inch equals 100 feet showing the following: post-construction pervious areas including vegetative cover type and condition; impervious surfaces including all buildings, structures, and pavement; post-construction proposed topographic contours of the site at a scale not to exceed 2 feet; post-construction drainage network including enough of the contiguous properties to show runoff patterns onto, through, and from the site; locations and dimensions of drainage easements; locations of maintenance easements specified in the maintenance agreement; flow path and direction for all storm water conveyance sections; location and type of all SWM conveyance and treatment practices, including the on-site and off-site tributary drainage area; location and type of conveyance system that will carry runoff from the drainage and treatment practices to the nearest adequate outlet such as a curbed street, storm drain, or natural drainage way; watershed boundaries used in hydrology and pollutant loading calculations and any changes to lakes, streams, wetlands, channels, ditches, and other watercourses on and immediately adjacent to the site and within ¼ mile downgradient of the site.

d. Hydrology and pollutant loading computations as needed to show compliance with performance standards. The computations shall be made for each

discharge point in the development, and the geographic areas used in making the calculations shall be clearly cross-referenced to the required map(s).

e. Results of investigations of soils and groundwater required for the placement and design of SWM measures. Detailed drawings including cross-sections and profiles of all permanent storm water conveyance and treatment practices.

5. A description and installation schedule for the SWM practices needed to meet the performance standards.

6. A maintenance plan developed for the life of each SWM practice including the required maintenance activities and maintenance activity schedule.

7. Other information requested in writing by the City Engineer to determine compliance of the proposed SWM measures with the provisions of the Storm Water Management Code.

8. All site investigations, plans, designs, computations, and drawings shall be stamped by a registered professional engineer and prepared in accordance with accepted engineering practice and requirements.

Alternate Requirements The City Engineer may prescribe alternative submittal requirements for applicants seeking an exemption to on-site SWM performance standards.

DESIGN GUIDELINES

All work constructed in the City right of way must be constructed in accordance with Standard Specifications for Public Works Construction City of West Bend Wisconsin, latest edition. A copy of these Standard Specifications is located on the Engineering section of the City web page, http://www.ci.west-bend.wi.us/index.php?option=com_docman&task=cat_view&gid=219&Itemid=69 Some additional useful information is contained in the Subdivision Guidelines Manual which can also be found In the Engineering Section of the City web page, http://www.ci.west-bend.wi.us/index.php?option=com_docman&Itemid=168 Design runoff computations shall be based on N.R.C.S. TR-55. All plans must satisfy DNR water quality requirements contained in NR 151 and NR 216.

Performance standards

1. For new development, by design, reduce to the maximum extent practicable, the total suspended solids load by 80%, based on the average annual rainfall, as compared to no runoff management controls.

2. For redevelopment, by design, reduce to the maximum extent practicable, the total suspended solids load from parking lots and roads by 40%, based on the average annual rainfall, as compared to no runoff management controls. This requirement applies to all parking areas and roads on the site. There is an exception to this requirement for sites with no increase in parking or road area and where an NOI (Notice of Intent) was filed with the DNR before January 1, 2011.

3. For in-fill development under 5 acres that occurs prior to October 31, 2012, by design, reduce to the maximum extent practicable, the total suspended solids load by 40%, based on the average annual rainfall, as compared to no runoff management controls.

4. For in-fill development over 5 acres and in-fill development under 5 acres that occurs after October 31, 2012, by design, reduce to the maximum extent practicable, the total suspended solids load by 80%, based on the average annual rainfall, as compared to no runoff management controls.

5. Notwithstanding paragraphs 1. through 4. if the design cannot achieve the applicable total suspended solids reduction specified, the SWM plan shall include a written and site-specific explanation why that level of reduction is not attained and the total suspended solids load shall be reduced to the maximum extent practicable.

Peak Discharge

SWM facilities shall limit the calculated peak runoff rate to a rate equal to or less than the calculated peak runoff rate of the property prior to the development activity for the 1, 2, 10, and 100-year – 24 hour design storm. Pre-development conditions shall assume "good hydrologic conditions" for appropriate land covers as identified in TR-55. The meaning of "hydrologic soil group" and "runoff curve number" are as determined in TR-55. However, when pre-development land cover is woodland, grassland or cropland rather than using TR-55 values for cropland, the runoff numbers in the following table shall be used.

Maximum Pre-Development Runoff Curve Numbers				
Hydrologic Soil Group	**A**	**B**	**C**	**D**
Woodland	30	55	70	77
Grassland	39	61	71	78
Cropland	55	69	78	83

Infiltration

1. BMPs shall be designed, installed, and maintained to infiltrate runoff in accordance with the following or the maximum extent practicable:

a. Low imperviousness – For development up to 40 percent connected imperviousness, such as parks, cemeteries and low density residential development, infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least 90 percent of the pre-development infiltration volume, based on an average annual rainfall. However, when designing appropriate infiltration systems to meet this requirement, no more than 1% of the project site is required as an effective infiltration area.

b. Moderate imperviousness – For development with more than 40 percent and up to 80 percent connected imperviousness, such as medium and high density residential, multi-family development, industrial and institutional development, and office parks, infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least 75 percent of the pre-development infiltration volume, based on an average annual rain fall. However, when designing appropriate infiltration

systems to meet this requirement, no more than 2% of the project site is required as an effective infiltration area.

c. High imperviousness – For development with more than 80 percent connected imperviousness, such as commercial strip malls, shopping centers, and commercial downtowns, infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least 60 percent of the pre-development infiltration volume, based on an average annual rainfall. However, when designing appropriate infiltration systems to meet this requirement, no more than 2% of the project site is required as an effective infiltration area.

2. Pre-development condition shall the same as stated above for Peak Discharge.

3. Before infiltrating runoff, pre-treatment shall be required for parking lot runoff and for runoff from new road construction in commercial, industrial and institutional areas that will enter an infiltration system. The pretreatment shall be designed to protect the infiltration system from clogging prior to scheduled maintenance and to protect groundwater quality in accordance with paragraph 8. below. Pretreatment options may include, but are not limited to oil/grease separation, sedimentation, biofiltration, filtration, swales or filter strips.

4. Exclusions. The runoff from the following areas is prohibited from meeting the above infiltration requirements:

a. Areas associated with tier 1 industrial facilities identified in s. NR 216.21(2)(a), Wis. Adm. Code, including storage, loading, rooftop and parking.

b. Storage and loading areas of tier 2 industrial facilities identified in s. NR 216.21(b), Wis. Adm. Code. Rooftop and parking lot runoff may be infiltrated but may require pretreatment.

c. Fueling and vehicle maintenance areas.

d. Areas within 1000 feet up gradient or within 100 feet down gradient of direct conduits to groundwater.

e. Areas with less than the separation distance from the bottom of the infiltration system to the elevation of seasonal high groundwater or the top of bedrock as specified in the following table:

Separation Distances and Soil Characteristics		
Source Area	Separation Distance	Soil Characteristics
Industrial, Commercial, Institutional Parking Lots and Roads	5 feet or more	Filtering Layer
Residential Arterial Roads	5 Feet or more	Filtering Layer
Roofs Draining to Subsurface Infiltration Practices	1 foot or more	Native or Engineered Soil with Particles Finer than Coarse Sand
Roofs Draining to Surface Infiltration Practices	Not Applicable	
All Other Impervious Source Areas	3 feet or more	Filtering Layer

f. Areas within 400 feet of a community water system well as specified in s. NR 811.16(4), Wis. Adm. Code, or within 100 feet of a private well as specified in s. NR 812.08(4) Wis. Adm. Code, for runoff infiltrated from commercial, industrial and institutional land uses or regional devices for residential development.

g. Areas where contaminants of concern, as defined in NR 720.03(2) Wis. Adm. Code, are present in the soil through which infiltration will occur.

6. Exemptions. The following are not required to meet the requirements of this section.

a. areas where the infiltration rate of the soil is less than 0.6 inches/hour measured at the site.

b. Where the least permeable soil horizon to 5 feet below the proposed bottom of the infiltration system using the U.S. department of agriculture method of soils analysis is one of the following: sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, or clay.

c. Parking areas and access roads less than 5,000 square feet for commercial and industrial development.

d. Parking areas and access roads less than 5,000 square feet for industrial development not subject to infiltration prohibitions.

e. Redevelopment post-construction sites where no previous requirement exists.

f. In-fill development areas less than 5 acres.

g. Roads in commercial, industrial and institutional land uses, and arterial residential roads.

7. Where alternate uses of runoff are employed, such as for toilet flushing, laundry or irrigation, or storage on green roofs where an equivalent portion of runoff is captured permanently by roof top vegetation, such alternative use shall be given equal credit toward the infiltration volume required.

8. Infiltration systems designed in accordance with this paragraph shall, to the extent technically and economically feasible, minimize the level of pollutants infiltrating to groundwater and shall maintain compliance with the preventive action limit at a point of standards application in accordance with ch. NR 140, Wis. Adm. Code. However, if site specific information indicates that compliance with a preventative action limit is not achievable, the infiltration feature may not be installed or shall be modified to allow a lesser infiltration.

Protective Areas

1. This section applies to post-construction sites located within a protective area, except those areas exempted pursuant to 4.

2. “Protective area” means an area of land that commences at the top of the channel of lakes, streams and rivers, or at the delineation boundary of wetlands, and that is the greatest of the following widths, as measured horizontally from the top of the channel or delineated wetland boundary to the closest impervious surface. However,

"protective area" does not include any area of land adjacent to any stream enclosed within a pipe or culvert, such that runoff cannot enter the enclosure at this location.

a. For outstanding resource waters and exceptional resource waters 75 feet.

b. For perennial and intermittent streams identified on a United States geological survey 7.5-minuite series topographic map, or a county soil survey map, whichever is more current, 50 feet.

c. For lakes, 50 feet.

d. For highly susceptible wetlands, 75 feet.

e. For less susceptible wetlands, 10 percent of the average wetland width, but no less than 10 feet nor more than 30 feet.

f. For wetland not covered under d. or e. 50 feet.

g. Determinations of the extent of the protective are adjacent to wetlands shall be made on the basis of the sensitivity and runoff susceptibility of the wetland in accordance with the standards and criteria in s. NR 103.03.

h. For concentrated flow channels with drainage areas greater than 130 acres, 10 feet.

3. The following requirement shall be met:

a. Impervious surfaces shall be kept out of the protective area. The City Engineer may approve impervious surface in the protective area if in the judgment of the City Engineer a variance of this restriction is warranted. The SWM plan shall contain a written site-specific explanation for any parts of the protective are that are disturbed during construction.

b. Where land disturbing activity occurs within a protective area, and where no impervious surface is present, adequate sod or self-sustaining vegetative cover of 70% or greater shall be established and maintained. Non-vegetative materials, such a rock riprap, may be used on the bank as necessary to prevent erosion, such as on steep slopes or where high velocity flows occur.

c. Best management practices such as filter strips, swales, or wet detention basins, that are design to control pollutants from non-point sources may be located in the protective areas.

4. Exceptions. These requirements do not apply to the following:

a. Redevelopment post-construction sites unless there are existing requirements.
b. In-fill development areas less than 5 acres.
c. Structures that cross or access surface waters such as boat landing, bridges and culverts.
d. Structures constructed in accordance with s. 59.692(1v), Wis. Stats.
e. Post-construction sites from which runoff does not enter the surface water, except to the extent that vegetative ground cover is necessary to maintain bank stability.

Fueling and Vehicle Maintenance Areas Fueling and vehicle maintenance areas shall, to the maximum extent practicable, have BMP's designed, installed and maintained to reduce petroleum within runoff, such that the runoff that enters waters of

the state contains no visible petroleum sheen.

General Considerations for On-Site and Off-Site Storm Water Management measures. The following considerations shall be observed in managing runoff:

1. 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.

2. 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.

Location and Regional Treatment Option

The discharge of runoff from a BMP, such as a wet detention pond, or after a series of such BMPs is subject to this section. This section does not supersede any other applicable federal, state or local regulation such as ch. NR 103, Wis. Adm. Code and ch. 30, Wis. Stats.

1. The BMPs may be located on-site or off-site as part of a regional storm water device, practice or system.

2. Except as allowed under par. 4, post-construction runoff from new development shall meet the post-construction performance standards prior to entering a navigable surface water.

3. All BMPs shall be located to treat runoff prior to discharge to navigable surface waters.

4. The City Engineer may approve off-site management measures provided that all of the following conditions are met:

a. The post-construction runoff is covered by a SWM system plan that is approved by the City Engineer and that contains management requirements consistent with the purpose and intent of the Storm Water Management Code.

b. The off-site facility meets all of the following conditions:

- The facility is in place.
- 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 NR 151.
- The facility has a legally obligated entity responsible for its long-term operation and maintenance.

6. Where a regional treatment option exists such that the City Engineer exempts the applicant from all or part of the minimum on-site SWM requirements, the applicant may be required to pay a fee in an amount determined in negotiation with the City Engineer or her designee. In determining the fee for post-construction runoff, the City Engineer shall consider an equitable distribution of the cost for land, engineering design, construction, and past and/or future maintenance of the regional treatment option.

Alternative Requirements. The City Engineer may establish SWM requirements more stringent than those set forth in this section if the City Engineer determines that an added level of protection is needed to protect sensitive resources.

Maintenance Plan
All storm water management permits shall be accompanied by a maintenance plan covering all BMPs and storm water management facilities.

EXISTING STORM WATER MANAGEMENT PLANS

Redevelopment of properties covered under existing storm water management plans shall be designed to meet all performance standards of the existing plan or of DNR Chapter NR 151 (latest version) whichever is more stringent.

MAINTENANCE AGREEMENT

Maintenance Agreement Required. The maintenance agreement required for SWM practices shall be an agreement between the City of West Bend and the responsible party to provide for maintenance of storm water practices beyond the duration period of this permit. The maintenance agreement shall be filed with the County Register of Deeds as a property deed restriction so that it is binding upon all subsequent owners of the land served by the SWM practices. See sample agreement in the Appendix.

Agreement Provisions. The maintenance agreement shall contain the following information and provisions and be consistent with the maintenance plan:

1. Identification of the storm water facilities and designation of the drainage area served by the facilities.

2. A schedule for regular maintenance of each aspect of the SWM system consistent with the SWM plan. Maintenance activities shall include regular inspections by the owner of the facility. These inspections are necessary to make periodic evaluation of the condition of each aspect of the SWM system and to determine if maintenance is required in addition to the activities scheduled. Written inspection reports are required.

3. Identification of the responsible party(s), organization or city, county, town or village responsible for long term maintenance of the SWM practices identified in the SWM plan.

4. Requirement that the responsible party(s), organization, or city, county, town or village shall maintain SWM practices in accordance with the schedule included in par. 2.

5. Authorization for the City Engineer to access the property to conduct inspections of SWM practices as necessary to ascertain that the practices are being maintained and operated in accordance with the agreement.

6. The owner of the SWM practice shall submit to the City Engineer the results of the site inspections and maintenance performed. The City Engineer will maintain records of the inspections and maintenance reports for 10 years.

7. Agreement that the party designated under par. 3, as responsible for long term maintenance of the SWM practices, shall be notified by the City Engineer of maintenance problems which require correction. The specified corrective actions shall be undertaken within a reasonable time frame as set by the City Engineer.

8. Authorization for the City Engineer to perform the corrective actions identified in the notice to the responsible party designated under par. 3 if the required corrections are not made in the specified time period. The City Engineer shall enter the amount due on the tax rolls and collect the money as a special charge against the property pursuant to subch. VII of ch. 66, Wis. Stats.

DEFINITIONS

The following are definitions of some of the terms used in the Guidelines. Please see the Storm Water Management Code for additional definitions..

1. "Average annual rainfall" means a calendar year of precipitation, excluding snow, which is considered typical.

2. "Effective infiltration area" means the area of the infiltration system that is used to infiltrate runoff and does not include the area used for site access, berms or pretreatment.

3. "Exceptional resource waters" means waters listed in s. NR 102.11, Wis. Adm. Code.

4. "In-fill area" means an undeveloped area of land located within the urban service area.

5. "Maintenance agreement" means a legal document that provides for long-term maintenance of SWM practices.

6. "Maximum extent practicable" or “MEP” means the highest level of performance that is achievable but is not equivalent to a performance standard identified in the Storm Water Management Code. The highest level of performance that is achievable shall be determined in accordance with NR 151.006, Wis. Adm. Code.

7. "New development" means development resulting from the conversion of previously undeveloped land or agricultural land uses.

8. "Ordinary high-water mark" has the meaning given in s. NR 115.03(6), Wis. Adm. Code.

9. "Outstanding resource waters" means waters listed in s. NR 102.10, Wis. Adm. Code.

10. "Performance standard" means a narrative or measurable number specifying the minimum acceptable outcome for a facility or practice.

11. "Permit" means a written authorization made by the [administering authority] to the applicant to conduct land disturbing construction activity or to discharge post-construction runoff to waters of the state.

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

13. "Preventive action limit" has the meaning given in s. NR 140.05(17), Wis. Adm. Code.

14. "Responsible party" means any entity holding fee title to the property or other person contracted or obligated by other agreement to implement and maintain post-construction storm water BMPs.

15. "Separate storm sewer" means a conveyance or system of conveyances including roads with drainage systems, streets, catch basins, curbs, gutters, ditches, constructed channels or storm drains, which meets all of the following criteria:

(a) Is designed or used for collecting water or conveying runoff.
(b) Is not part of a combined sewer system.
(c) Is not part of a publicly owned wastewater treatment works that provides secondary or more stringent treatment.
(d) Discharges directly or indirectly to waters of the state.

16. "Technical standard" means a document that specifies design, predicted performance and operation and maintenance specifications for a material, device or method.

17. "Top of the channel" means an edge, or point on the landscape, landward from the ordinary high- water mark of a surface water of the state, where the slope of the land begins to be less than 12% continually for at least 50 feet. If the slope of the land is 12% or less continually for the initial 50 feet, landward from the ordinary high-water mark, the top of the channel is the ordinary high-water mark.

18. "TR-55" means the United States Department of Agriculture, Natural Resources Conservation Service (previously Soil Conservation Service), Urban Hydrology for Small Watersheds, Second Edition, Technical Release 55, June 1986.

19. "Type II distribution" means a rainfall type curve as established in the "United States Department of Agriculture, Soil Conservation Service, Technical Paper 149, published 1973". The Type II curve is applicable to all of Wisconsin and represents the most intense storm pattern.

APPENDIX

FORM 17
03/31/94

CHECKLIST FOR COMPLIANCE WITH CHAPTER 23
STORM WATER MANAGEMENT PLAN

	1.	2.	3.
Reviewed By:	_____	_____	_____
Date of Review:	_____	_____	_____
Time Start:	_____	_____	_____
Time Stop:	_____	_____	_____

Name of Development Being Reviewed: _____

ITEM REVIEWED	N.A. OR O.K. OR COMMENT
1. Was application date-stamped in?	1. _____
2. Was application fee ($50) received?	2. _____
3. Was a legal description of the property submitted?	3. _____
4. Was a topographical map submitted with	
a. the property boundaries shown	4a. _____
b. a minimum scale of 1"=100'	4b. _____
c. directly affected adjoining areas shown	4c. _____
5. Was a plan sheet submitted with	
a. a minimum scale of 1"=100'	5a. _____
b. name, phone, & address of property owner	5b. _____
c. name & phone of person who will maintain facilities	5c. _____
d. limits of flood plain for 100 year event and existing use	5d. _____
e. limits of flood plain for 100 year event and proposed use	5e. _____
f. location of all conveyance of storage facilities	5f. _____
g. cross section & profiles of all conveyance of storage facilities	5g. _____
6. Was a hydraulic computation sheet provided which estimates the volume of runoff from the property using Soil Conservation Service TR-55 dated June 1986 for	
a. existing land use and 100 year event	6a. _____
b. existing land use and design year event of receiving structure	6b. _____
c. proposed land use and 100 year event	6c. _____
d. proposed land use and design year event of receiving structure	6d. _____

CHECKLIST FOR COMPLIANCE WITH CHAPTER 23
STORM WATER MANAGEMENT PLAN

ITEM REVIEWED	N.A. OR O.K. OR COMMENT
7. Was a hydraulic computation sheet provided which estimated the peak rate of runoff from the property using soil conversation service TR-55 dated June 1986 for	
a. existing land use and 100 year event	7a. _____
b. existing land use and design year event of receiving structure	7b. _____
c. proposed land use and 100 year event	7c. _____
d. proposed land use and design year event of receiving structure	7d. _____
8. Was a hydraulic computation sheet provided which estimates the peak rate of runoff at critical locations on the site or downstream from the site using S.C.S. TR-55 for	
a. existing land use and 100 year event	8a. _____
b. existing land use and design year event of receiving structure	8b. _____
c. proposed land use and 100 year event	8c. _____
d. proposed land use and design year event of receiving structure	8d. _____
9. Was a hydraulic computation sheet provided for each conveyance or storage facility that shows	
a. volume of storage	9a. _____
b. peak rate of flow	9b. _____
c. velocity of flow	9c. _____
10. Were provisions made to carry runoff from the property to the nearest storm sewer, natural waterway, etc.	10. _____
11. Were provisions made to maintain the facilities for the life of the improvements	11. _____
12. Were the dates estimated for	
a. beginning construction of storm water facilities	12a. _____
b. completion of construction	12b. _____
13. Are consent and waivers recorded as needed (if off-site facilities are proposed)	13. _____
14. Has the applicant been notified in writing of the results of this review via	
a. permit signed by applicant and City Engineer	14a. _____
b. letter sent informing applicant of reasons for denial	14b. _____

FORM 16
04/28/94

CITY OF WEST BEND
APPLICATION FOR APPROVAL
STORM WATER MANAGEMENT PLANS

Review No._____

	Property Owner	Applicant	Party Responsible for Maintenance
Name:	_____	_____	_____
Address:	_____	_____	_____
	_____	_____	_____
Phone:	_____	_____	_____

Approval is hereby requested for the Storm Water Management Plan attached for property located at _____ and legally described as:

_____
_____
_____
_____
_____

AGREEMENTS: The property owner and/or the property owner's agent, hereafter referred to as the applicant, agree as follows:

1. All construction and development will be carried out pursuant to the Storm Water Management Plan as approved by the City Engineer.

2. The applicant shall give the City Engineer written notice not less than 2 working days nor more than 10 working days prior to the start of any land development activity.

3. The applicant shall give the City Engineer written notice of completion of installation of all facilities covered by this permit within 10 days after completion.

4. Approval in writing must be obtained from the City Engineer prior to any modifications to the approved Storm Water Management Plan.

5. The applicant shall be responsible for maintaining all public rights of way, streets, and drainage systems or ways specified in the approved Storm Water Management Plan until they are accepted and become the responsibility of the governmental entity concerned.

6. The City Engineer may enter onto the land regulated under this chapter for the purpose of inspecting for compliance with the approved Storm Water Management Plan.

7. The applicant shall provide and install, at his expense, all storm water management improvements required by Chapter 23 of the Municipal Code of West Bend, Wisconsin and the approved Storm Water Management Plan.

8. The applicant authorizes the City Engineer acting pursuant to sec. 66.60(16), Wis. Stats., to perform any work or operations necessary to bring the condition of the lands into conformity with the approved Storm Water Management Plan as modified by the City Engineer and further consents to the City placing the total of the costs and expense of such work and operations upon the tax roll as a special charge against the property.

9. The applicant shall pay an application fee of $50.00 at the time the Storm Water Management Plan is submitted for initial review.

10. The applicant shall pay a Storm Water Management Plan review fee equal to the actual costs to the City to review the plan, minus the $50 application fee, at the time the plan is approved or denied. The applicant shall pay the actual cost of review for subsequently modified plans.

11. The applicant shall pay an inspection fee equal to the actual costs to the City to inspect the storm water management measures upon completion of construction of the storm water management measures.

12. All conditions and requirements of Chapter 23 of the Municipal Code of West Bend, Wisconsin shall apply to the Storm Water Management Plan.

13. Approval of this Storm Water Management Plan does not relieve the owner/developer of any obligation he may have to obtain state and federal permits, including a Wisconsin Pollutant Discharge Elimination System (WPDES) permit from the Wisconsin DNR.

14. The property owner shall be responsible for the maintenance of all on-site storm water management facilities.

15. Calculation and plan sheets received in the office of the City Engineer on the dates listed below form a part of this permit.

_____

_____ _____

Signature of Applicant Date

Approval of the Storm Water Management Plan is hereby granted under the following special conditions:

☐ * See attached sheet if this box is checked. _____

_____

_____

_____

_____

All storm water measures depicted or described in the Storm Water Management Plan shall be completed by December 31, _____ or this approval shall be null and void.

_____ _____

Signature of City Engineer Date

STORM WATER MANAGEMENT PRACTICES MAINTENANCE AGREEMENT

Return to:
City of West Bend – Clerk's Office
1115 South Main Street
West Bend, WI 53095

Parcel No.: _____

THIS AGREEMENT, made and entered into this _____ day of _____, 20___, by and between _____, hereinafter called the "Owner," and the City of West Bend, a municipal corporation located in Washington County, Wisconsin, hereinafter called the "City."

WITNESSETH:

WHEREAS, the Owner is the owner of the following described lands situated in the City of West Bend, Washington County, State of Wisconsin:

[Type in legal land description]

hereinafter called the "Property."

WHEREAS, the Owner is developing the Property; and

WHEREAS, the Site Plan/Subdivision Plan known as _____ identified by City Engineer Storm Water Management Permit Number _____ and dated _____, 20___, hereinafter called the "Plan," which is expressly made a part hereof, as approved or to be approved by the City, provides for on-site storm water management practices within the confines of the Property; and

WHEREAS, the City and the Owner agree that the health, safety and welfare of the residents of the City of West Bend, require that on-site storm water management practices as required by Chapter 23, Storm Water Management, of the Municipal Code be constructed and maintained on the Property; and

WHEREAS, the City requires that on-site storm water management facilities as shown on the Plan be constructed and adequately maintained by the Owner.

NOW, THEREFORE, in consideration of the foregoing recitals, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

1. The on-site storm water management facilities shall be constructed by the Owner in accordance with the plans and specifications indicated in the Plan and applicable statutes, ordinances and rules. The storm water management practices shall serve the drainage area designated in the Plan.

2. The Owner shall regularly inspect the storm water management facilities and specifically the function of the approved storm water management system as often as conditions require, but in any event at least once each year. The Operations and Maintenance Manual attached to this agreement as Exhibit A and the Storm Water Pond/Wetland Maintenance Inspection Checklist attached to this agreement as Exhibit B, and each by this reference made a part hereof, shall be followed for the regular inspections of the storm water

management facilities. The Owner shall keep the operation and maintenance reports from past inspections as well as a log of maintenance activities indicating the date and type of maintenance completed. The reports and maintenance log shall be submitted to the City Engineer and retained by the City for a period of 10 years. The purpose of the inspections is to assure safe and proper functioning of the facilities. The inspections shall cover all facilities including, but not limited to, berms, outlet structures, pond areas and access roads. Deficiencies shall be noted in the operation and maintenance reports.

3. The Owner shall adequately maintain the storm water management facilities including, but not limited to, all pipes and channels built to convey storm water to the facility, as well as all structures, improvements and vegetation provided to control the quantity and quality of the storm water. Adequate maintenance, in accordance with Exhibit A, is herein defined as keeping the storm water management facilities in good working condition so that these facilities are performing their design functions and are maintained in accordance with the Plan.

4. The Owner hereby grants permission to the City, its authorized agents and employees, to enter upon the Property and to inspect the storm water management facilities whenever the City deems necessary. The purpose of the City's inspection is to investigate reported deficiencies and/or to respond to citizen complaints. The City shall provide the Owner with copies of the inspection findings and a directive to commence with repairs if necessary. Corrective actions shall be taken within a reasonable timeframe as established by the City Engineer.

5. If the Owner fails to maintain the storm water management facilities in good working condition, consistent with the terms of the Plan and does not perform the required corrective actions and inspections in the specified time, the City may perform the corrective actions identified in the inspection report and charge the Owner for the cost of such work. If the Owner fails pay such costs to the City within 30 days as required by Section 7, below, the cost of such work may be specially assessed against the Property pursuant to Wisconsin Statutes Section 66.0703. The Owner hereby acknowledges that the Property benefits from the corrective actions taken by the City and hereby waives any right to notice or hearing of said special assessment pursuant to Section 66.0703(7)(b), Stats.

6. The Owner shall perform the work necessary to keep the storm water management facilities in good working order as appropriate. In the event a maintenance schedule for the storm water management facilities (including sediment removal) is outlined on the approved plans, the schedule shall be followed. The minimal amount of maintenance on the storm water management facilities shall be in accordance with Exhibits A and B.

7. In the event the City, pursuant to this Agreement, performs work of any nature or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like, the Owner shall reimburse the City within 30 days of receipt of an invoice for all actual costs incurred by the City hereunder.

8. This Agreement imposes no liability of any kind whatsoever on the City, its officers, agents and employees, and the Owner agrees to indemnify and hold the City harmless as and against any and all claims, actions, causes of action, demands, including attorney fees and court costs which the City may incur as a result of the failure of the storm water

management system and/or actions taken or not taken by the City to enforce the terms of this Agreement including, but not limited to, the performance of maintenance activities.

9. This Agreement shall be recorded at the Washington County Register of Deeds Office and shall constitute a covenant running with the land and shall be binding on the Owner, its administrators, executors, assigns, heirs and any other successors in interests or future owners of the Property, including any homeowners or condominium association.

10. The Owner shall provide the City with a copy of any document which creates a homeowners or condominium association that is responsible for the storm water management facilities. This Agreement shall be attached as an exhibit to any document which creates a homeowners or condominium association that is responsible for maintenance of the storm water management facilities and such document shall be recorded at the Washington County Register of Deeds Office and shall constitute covenant running with the land.

11. Notwithstanding anything in this Agreement to the contrary, in the event the Owner, or the Owner's successors and assigns, sell or otherwise transfer ownership in the Property, the Owner or the successor or assigns making said transfer, is hereby released from any and all liabilities and obligations under the terms of this Agreement. The liabilities and obligations under this Agreement shall transfer with the ownership of the Property to the new owner of the Property.

CITY OF WEST BEND

By: _____ Dated: _____
Kraig K. Sadownikow, Mayor

By: _____ Dated: _____
Amy Reuteman, City Clerk

A C K N O W L E D G M E N T

STATE OF WISCONSIN)
)ss.
WASHINGTON COUNTY)

Personally came before me the ____ day of _____, 2____ the above named Kristine M. Deiss, to me known to be the Mayor of the City of West Bend and to me known to be the person who executed the foregoing document and acknowledged the same.

_____
Notary Public, State of Wisconsin
Washington County.
My Commission is permanent. (If NOT, expiration date is: _____)

A C K N O W L E D G M E N T

STATE OF WISCONSIN)
)ss.
WASHINGTON COUNTY)

Personally came before me the ____ day of _____, 2_____ the above named Amy Reuteman, to me known to be the Clerk of the City of West Bend and to me known to be the person who executed the foregoing document and acknowledged the same.

_____
Notary Public, State of Wisconsin
Washington County.
My Commission is permanent. (If NOT, expiration date is: _____)

OWNER'S NAME

By: _____ Dated: _____
Name, Title

A C K N O W L E D G M E N T

STATE OF WISCONSIN)
)ss.
_____ COUNTY)

Personally came before me the ____ day of _____, 2___ the above named _____, to me known to be the _____ of _____ and to me known to be the person who executed the foregoing document and acknowledged the same.

_____
Notary Public, State of Wisconsin
Washington County.
My Commission is permanent. (If NOT, expiration date is: _____)

This Document Drafted By *[dated]*