

8-17-09

As Approved on Second Reading

STATE OF MICHIGAN

COUNTY OF WASHTENAW

ANN ARBOR TOWNSHIP

ORDINANCE NO. 4 - 2009

STORMWATER MANAGEMENT ORDINANCE
CHAPTER 26, ARTICLE VII OF THE ANN ARBOR CHARTER TOWNSHIP
CODE OF ORDINANCES

An ordinance to prevent water quality degradation, flooding, and drainage problems resulting from stormwater runoff; reduce streambank erosion during and after site development; identify requirements for stormwater management; provide for long-term maintenance of stormwater systems; identify requirements and prohibitions relative to discharge to and use of stormwater systems; achieve compliance with state and federal regulations; and protect the health, safety and general welfare of Ann Arbor Charter Township, its residents and the surrounding areas.

THE TOWNSHIP BOARD OF ANN ARBOR TOWNSHIP, COUNTY OF WASHTENAW, STATE OF MICHIGAN ORDAINS:

DIVISION 1 – General

Section 26-501 Statutory Authority and Title

This ordinance is adopted in accordance with the authority of the Township to adopt ordinances to protect the health, safety and welfare of the Township, its residents, and surrounding areas, and Part 91, Soil Erosion and Sedimentation Control of the Natural Resources and Environmental Protection Act, Act 451 of 1994, MCL § 324.9101 *et seq.*, as amended (“Part 91”).

This ordinance shall be known and may be cited as the Ann Arbor Charter Township (“Township”) Stormwater Ordinance.

DIVISION 1 PURPOSES AND INTERPRETATION

Section 26-502 Purposes

The purposes of this Ordinance shall be:

- A. To protect public health, safety and welfare by requiring stormwater management whenever new, expanded or modified developments are proposed.
- B. To minimize siltation, pollution and streambank erosion.
- C. To reduce the need for future remedial projects.
- D. To ensure that, if wetlands are to be used for stormwater detention, the natural functions and quality of the affected wetlands throughout the Township are maintained.
- E. To ensure that all stormwater conveyance and detention facilities will be properly maintained.
- F. To avoid water resource degradation by reducing and/or preventing the adverse hydrologic effects of stormwater runoff.

Section 26-503 Incorporate by Reference

For the purposes of implementing the standards and requirements of this Ordinance, the following document is incorporated by reference: Rules of the Washtenaw County Drain Commissioner Procedures and Design Criteria for Stormwater Management Systems (latest published edition at the time this Ordinance is adopted, a copy of which is included in the Township Land Development Standards (“County Rules”) which shall serve as the official guide for stormwater principles, methods, and practices under this Ordinance. This Ordinance and applicable Township Land Development Standards shall control in the event of a conflict with the County Rules.

DIVISION 2 DEFINITIONS

Section 26-504 Definition of Terms

The following terms, phrases, words and derivatives shall have the meaning defined below:

Detention basin A structure or facility, natural or artificial, which stores stormwater on a temporary basis and releases it at a controlled rate. A detention basin may drain completely after a storm event, or it may be a pond with a fixed minimum water elevation between runoff events.

First flush. The delivery of a highly concentrated pollutant loading during the early stages of a storm, due to the washing effect of runoff on pollutants that have accumulated on the land

Infiltration facility. A designed structure or designated area which allows runoff to seep gradually into the ground, e.g., bioretention basin, rain garden, French drains, seepage pits, infiltration trenches (dry swale), dry well or perforated pipe.

Non-Point Source. Diffuse source of pollution, distinguished from a point source where the discharge comes from one identifiable location; e.g., a treatment plant outfall. Examples of non-point source pollutants include: (i) excess fertilizers, herbicides, and insecticides from agricultural lands and residential areas, (ii) oil, grease, and toxic chemicals from urban runoff, (iii) sediment from crop and forest lands, and eroding stream banks, and (iv) bacteria and nutrients from livestock, pet wastes and faulty septic systems.

Offsite stormwater management facility. All or part of a drainage system that is located partially or completely off of the development site which it serves.

Percent Stormwater Impact Surface. The area of stormwater impact surface in acres divided by the net parcel acreage.

Public storm sewer. A drainage system serving a platted subdivision or other development which has been designed and constructed and accepted to be operated and maintained by the WCWRC or other authorized governmental agency.

Retention basin. A holding area for stormwater, either natural or human-made, which does not have an outlet to adjoining watercourses or wetlands. Water is removed from retention basins through infiltration and/or evaporation processes, and retention basins may or may not have a permanent pool of water.

Runoff Coefficient. The ratio of the amount of water not absorbed by the surface to the total amount of water that falls during a rainstorm.

Storm drain. A conduit, pipe, swale, natural channel or manmade structure which serves to transport stormwater runoff. Storm drains may be either enclosed or open.

Stormwater Impact Surface. A surface, including stormwater basins, which has a runoff coefficient in excess of 0.3 as defined by the WCWRC. Stormwater Impact Surface is similar to impervious surface but includes additional surfaces that affect stormwater runoff such as stormwater basins and permeable pavement.

Stormwater management facility. Any facility, structure, channel, area, process or measure which serves to control stormwater runoff in accordance with the purposes and standards of this Ordinance.

Stormwater management plan. Drawings and written information prepared by a registered engineer, registered landscape architect or registered surveyor which describe the way in which soil erosion and/or stormwater flows are proposed to be controlled, both during and after construction, having as its purpose to ensure that the objectives of this Ordinance are met.

Stormwater management system. Entire stormwater conveyance and storage facilities and all appurtenances thereto.

WCWRC. The office of the Washtenaw County Water Resources Commissioner, formerly known as the Washtenaw County Drain Commissioner.

DIVISION 3 GENERAL PROVISIONS

Section 26-505 Applicability; Requirements

A. Any development proposal for which (a) a site plan or (b) a preliminary plat must be submitted to the Planning Commission shall require a stormwater management plan as described in Section 26-506 below. The stormwater management plan must be approved by the Planning Commission as part of and following the same procedures as for (a) preliminary site plan approval or (b) preliminary plat approval for the development, as the case may be, and shall be subject to the same enforcement provisions.

B. Except as otherwise provided in Section 26-505A above, control and management of stormwater runoff associated with or affected by any earth change for which a permit is required under the SESC Ordinance shall be governed by the SESC Ordinance.

DIVISION 4 STORMWATER MANAGEMENT PLAN REQUIREMENTS

Section 26-506 Contents of Stormwater Management Plan

A. Plan Presentation

1. Through plans, illustrations, reports, and calculations, the stormwater management plan shall display the same information required in the County Rules.
2. An area-wide stormwater drainage map showing existing and proposed drainage courses and stormwater basins that are on-site or affect the site. This map shall provide contours.
3. The stormwater management plan must be sufficiently detailed to specify the type, location, and size of stormwater management facilities. The stormwater management plan shall list the receiving water body or watercourse. The stormwater management plan shall include a stormwater narrative consistent with the Township land development standards describing how the stormwater plans comply with the County Rules and this Ordinance. Detailed construction drawings are not required at the stormwater management plan review stage.

4. If a development is proposed to be developed in two or more phases, the stormwater management plan shall be prepared and submitted for the total project unless a variance from this requirement is obtained from the Board based on the criteria set forth in Division 6 below.

B. Plan Preparation

The stormwater management plan shall be prepared by the professionals described in the definition of Stormwater management plan 26-504 above and shall meet the requirements specified in the County Rules and this Ordinance.

C. Scale for Mapping

The stormwater management plan shall be drawn to a scale equal to or larger than 1" = 50'.

D. Required Information

1. Existing Conditions

The information describing existing site conditions for all stormwater management plans as specified in the County Rules.

2. Proposed Conditions

A description of the site after the proposed development as specified in the County Rules.

3. Proposed easements for access, inspections and off site drainage, proposed maintenance plan, and proposed inspection plan and agreements in accordance with Division 5 below.

Section 26-507 Amendment or Revision of Plan

A request for an amendment to or revisions of the stormwater management plan must be submitted to the Planning Commission. The Planning Commission shall determine if the proposed amendment or revision is a major or minor change. If the change to the stormwater management plan and any other changes to the development results in a major change to the site plan or plat for the development, then the change to the stormwater management plan shall also be considered a major change, unless otherwise determined by the Planning Commission based on specific facts and circumstances surrounding the development or stormwater management plan. Any other change shall be considered a minor change, unless otherwise determined by the Planning Commission based on specific facts and circumstances surrounding the development or

stormwater management plan. In the event of a major change, a new stormwater management plan shall be submitted for review and approval in accordance with the procedures of this Ordinance. In the case of a minor change, only revisions to the stormwater management plan needed to show the change are required, and the revisions shall be submitted to the Township for purposes of the record. All requirements and standards for stormwater management plans set forth in Division 4 shall apply to the amendment or revision.

Section 26-508 Standards for Stormwater Management Plan Approval

All developments requiring a stormwater management plan shall be designed, constructed, and maintained to prevent flooding, mimic natural hydrology and protect water quality. The particular facilities and measures required on-site shall take into consideration the natural features, wetlands, and watercourses on the site; the potential for on-site and off-site adverse stormwater impacts, water pollution, and erosion; and the size of the site.

A. General Standards for On-Site and Off-site Stormwater Management

1. Stormwater management conveyance, storage and infiltration measures and facilities shall be designed to prevent flood hazards and water pollution related to stormwater runoff, to prevent accelerated soil erosion from the proposed development, and shall conform with the requirements specified in the County Rules. Additionally, infiltration facility testing and design shall conform to the requirements in Section 26-508(B) and 26-508(C) below.
2. Natural topography and site drainage shall be preserved and site grading shall be minimized to the maximum extent reasonably achievable considering the nature of the development. Watercourses shall not be obstructed.
3. Unless otherwise approved, stormwater runoff shall be conveyed through swales and vegetated buffer strips so as to decrease runoff velocity, allow for natural infiltration, allow suspended sediment particles to settle, and to remove pollutants.
4. Runoff rates from detention basins shall conform with the requirements specified in the County Rules.
5. Watercourses shall not be deepened, widened, dredged, cleared of native vegetation, straightened, stabilized or otherwise altered without applicable permits or approvals from the Township Board pursuant to the Township Wetland Ordinance, relevant county agencies and the Michigan Department of Environmental Quality.
6. Drainage systems shall be designed to protect public health and safety and to facilitate efficient and effective maintenance.

7. All sources contributing runoff to stormwater facilities must have traps, sumps, or filters of some type that will limit solids, leaves, trash, etc. from reaching and accumulating in the facility.
8. Developments with a percent stormwater impact surface greater than 20 will be required to establish special mitigation procedures to retain on-site or infiltrate that portion of cumulative water volumes in excess of that produced by a 20 percent stormwater impact surface using a coefficient of runoff of 0.95. Special mitigation methods shall include best management practices such as retention basins, infiltration systems, permeable pavement and green roofs.

See sample calculation with a description of mitigation process in the Land Development Standards.

B. Infiltration Facilities

1. The Township requires the use of infiltration facilities as integral components of stormwater management plans. Site runoff for the first flush rainfall event, defined as the first 0.5 inches, must be infiltrated on-site, except for facilities listed below, as long as all the other conditions of this section are met.
2. Infiltration facilities will not be required in the following areas: a) on steep, unstable slopes; b) within the 100-year floodplain or c) where the infiltration rate is less than 0.5 inches per hour.
3. Infiltration facilities shall not be allowed in the following areas: a) containing pollutants at sediment or groundwater concentrations above Michigan Department of Environmental Quality criteria; b) entirely covered by Washtenaw County soil group D, or c) directly upslope or within close proximity (< 25 feet) to basements, sensitive structural foundations, water supply wells or septic tanks and drainfields, or where the bottom of the planned infiltration facility is less than three feet from the seasonably high water table
4. For all infiltration facilities, a minimum infiltration rate of 0.5 inches per hour (average rate for a loam soil texture class) is required. If the infiltration capacity of existing soils or engineered soils exceeds this criterion, the size of infiltration facilities may be increased and a proportionate decrease in the size of retention and detention facilities allowed.

C. Discharge to Watercourses

Where stormwater is discharged directly to a watercourse, or to a conveyance system that discharges to a watercourse, streambank erosion and effects on water quality in streams

shall be minimized through the selection, design, installation, and maintenance of temporary and permanent controls.

Direct discharge of untreated stormwater to a natural watercourse is prohibited. All runoff from the development will be pre-treated to remove sediment and other pollutants prior to discharge to a watercourse. Such treatment facilities shall be the first constructed elements of an approved plan.

Vegetated buffers, a minimum of 25 feet in width, shall be created or retained along the setback edges of watercourses. A permit must be obtained for any encroachment into the 100 ft setback or 25 ft vegetated buffer setback required by the Township Natural Features Ordinance.

D. Automated Watering Systems

Automated watering systems for developments subject to this Ordinance shall be equipped with rain sensors that can disable watering systems during and following rainstorms. All rain sensors shall be adjusted to automatically shut off the irrigation system for at least 24 hours after a rainfall event of one-fourth ($\frac{1}{4}$) inch or greater shall be installed in a location that will provide full exposure to rainfall such that accuracy of operation is assured, and shall be maintained in good working condition.

Section 26-509 Off-Site Stormwater Management

A. Requirements

1. In lieu of on-site stormwater detention, the use of off-site stormwater conveyance, infiltration, and/or detention areas may be proposed to maintain natural hydrologic characteristics. Off-site stormwater management areas shall be designed to comply with the requirements specified in the County Rules.
2. Off-site stormwater management areas may be shared with other landowners, provided that proper easements (as described in Section 26-512 below) are provided, and a County drainage district is established pursuant to the County Rules that encompasses all land areas within the off site stormwater management area and the proposed development.
3. Adequate provision and agreements providing for maintenance and inspection of stormwater management areas and facilities shall be made by recorded instrument, including an access easement, approved by the Township pursuant to Section 26-512 and the WCWRC for easements under the WCWRC jurisdiction.

B. Performance Guarantees, Inspections, Maintenance, and Enforcement

All provisions of this Ordinance including Division 5 shall apply to off-site stormwater management areas and facilities.

**DIVISION 5. PERFORMANCE GUARANTEES, EASEMENTS, AND
MAINTENANCE**

Section 26-510 Performance Guarantees

For developments whose stormwater management facilities will be installed, inspected and maintained under the jurisdiction of the WCWRC, the applicant and owner shall provide for performance guarantees required by the WCWRC, copies of which shall be provided to the Township. Performance guarantees for other stormwater management facilities are set forth in the requirements for site plan approval, plat approval or SESC Plan approval, as applicable.

Section 26-511 Construction Modifications

During construction of stormwater management facilities the Township engineer may require, or the applicant may request, that the construction of stormwater management facilities and associated project designs be modified if physical conditions are discovered on the site which are inconsistent with the assumptions upon which the approval was based, including, but not limited to, unexpected soil and/or water conditions, weather generated problems, or changes in the design of the improved areas. Modifications shall be submitted to the Township engineer for approval prior to implementation. If modifications require a change in the stormwater management plan, the procedures set forth in Section 26-507 above shall apply.

Any such modifications made during the construction of stormwater management facilities shall be recorded on the final approved stormwater management plan, a revised copy of which shall be filed by the Township.

Section 26-512 Stormwater Management Easements

A. Necessity of Easements

For developments whose stormwater management facilities will be installed, inspected and maintained under the jurisdiction of the Township, stormwater management easements shall be provided in a form approved by the Township and recorded as directed by the Township for the benefit of the Township and those performing maintenance, monitoring and inspections to assure (1) access for inspections; (2) access

to stormwater management facilities for maintenance purposes; and (3) preservation of existing drainageways which are needed to serve stormwater management needs of other properties. For developments whose stormwater management facilities will be installed, maintained and inspected under the jurisdiction of the WCWRC, the owner and applicant shall comply with the easement requirements of the WCWRC with copies provided to the Township. A listing of proposed necessary easements shall be included in the stormwater management plan for review by the Planning Commission. Final easements must be approved by the Township Board after review by the Township attorney and engineer. All costs of inspection, installation and maintenance shall be borne by the developer and the owners of the development.

B. Easements for Off-site Stormwater Management

The owner/applicant shall obtain easements assuring access to all areas used for off-site stormwater management, including wetlands. Adequate provision and agreements for maintenance and inspection of stormwater management facilities shall be made by recorded instrument, including an access easement, approved by the WCWRC and the Township with copies provided to the Township.

C. Recording of Easements

After approval by the Township, Easements shall be recorded with the Washtenaw County Register of Deeds according to applicable recording requirements and the cost of recording paid by the applicant or owner.

D. Recording Prior to Building Permit Issuance

The owner/applicant must provide the Township building official with evidence of the recording of the easement prior to issuance of a construction permit, SESC permit or building permit and prior to any grading, construction, alteration or earth change pertaining to the development.

Section 26-513 Maintenance Agreement and Inspection

A. Purpose of Maintenance Agreement

The purpose of the maintenance agreement is to assure perpetual and continued property maintenance of stormwater management facilities.

B. Maintenance Agreement Required

A maintenance agreement sufficient to assure perpetual and continued proper maintenance of stormwater management facilities shall be included as part of the

stormwater management plan. For stormwater management facilities under the jurisdiction of the Township, the maintenance agreement shall be submitted for review and recommendation by the Township Planning Commission and approval by the Township Board. All costs of maintenance shall be the responsibility of the developer and owners of the development as described in D.1. below. For stormwater management facilities under the jurisdiction of the WCWRC, the maintenance agreement shall be reviewed and approved by the WCWRC with copies provided to the Township.

C. Maintenance Agreement Provisions

1. The maintenance agreement shall include a plan for routine, emergency and long-term maintenance of all stormwater management facilities with a detailed annual estimated budget for the initial three years, and a mechanism for funding all maintenance costs.
2. The maintenance agreement shall be binding on all owners of land served by the stormwater management facilities, and shall be recorded in the office of the Washtenaw County Register of Deeds after approval of the Township Board and Township attorney for stormwater management facilities under the jurisdiction of the Township or approval by the WCWRC for stormwater management facilities under the jurisdiction of the WCWRC.

D. Maintenance and Inspection

1. Responsibility for Maintenance and Inspection. Stormwater management facilities, source controls, and stormwater treatment facilities required by this Ordinance, shall be maintained in accordance with the provision of the stormwater management plan and maintenance agreement by the owner or owners of the property or other responsible party, such as a homeowners association, to the extent such responsible party is determined to be capable of enforcement and funding of maintenance responsibilities as recommended by the Planning Commission and approved by the Township Board. The owner and other responsible party shall inspect permanent stormwater management facilities at least annually, and shall inspect temporary stormwater management facilities as needed to determine that the facilities function at design capacity. The Township Engineer may require the owner or the responsible party to conduct more frequent inspections and/or maintenance when necessary to insure functioning at design capacity. The owner or other responsible party shall inform future purchasers and other successors and assigns to the property of the existence of stormwater management facilities and the elements of the stormwater management plan, limitations of the stormwater management facilities, and the requirements for continued inspection and maintenance of the stormwater management facilities by written notice in a disclosure statement in a form approved by the Township as part of the stormwater management plan approval.

2. Inspection Program. The owner/applicant shall propose and the Planning Commission shall review and modify if necessary, as part of the stormwater management plan an inspection program including a proposed schedule during and after construction to insure compliance with the requirements of this Ordinance and including joint inspections with other applicable agencies. The inspection program shall be consistent with the size and scope of the development and shall include: routine inspections; random inspections; inspections based upon complaints or other notice of possible violations; inspection of drainage basins or areas identified as higher than typical sources of sediment or other contaminants or pollutants; inspection of businesses or industries of a type associated with higher than usual discharges of a type which are more likely than the typical discharge to cause violations of state or federal water or sediment quality standards; and joint inspections with other agencies inspecting under environmental or safety laws. Inspections shall include as appropriate for the project: reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and material or water in drainage control facilities; and evaluating the condition of stormwater management facilities and other best management practices. The inspections shall be conducted by the owner/applicant's qualified stormwater inspector (as approved by the Township) and reports shall be submitted to the Township for review and approval by the Township. All costs of the inspections, including review by the Township engineer, the Township building official, other inspectors engaged by the Township shall be borne by the developer, owner of the development or other responsible party approved by the Township. For stormwater management facilities under the jurisdiction of the WCWRC, the WCWRC shall approve the inspection program, with copies of the inspection program, reports and approvals being delivered to the Township.

3. Entry for Inspection and Abatement Purposes. Access for inspection shall be provided in the easements described in Section 26-512 and shall include the following:

When any new stormwater management facility is installed on private property in accordance with a stormwater management plan, and when any new connection is made between private property and a public stormwater management system, the property owner shall execute an easement under which the property owner grants to the Township the right to enter the property at reasonable times and in a reasonable manner pursuant to an inspection program established pursuant to subsection 2 above, and to enter the property when the Township has a reasonable basis to believe that a violation of this Ordinance is occurring or has occurred, and to enter when necessary for abatement of a public nuisance or correction of violation of this Ordinance. Stormwater management facilities under the

jurisdiction of the WCWRC shall be subject to inspection by the WCWRC.

4. Disposal of Waste from Maintenance Activities. Disposal of waste from maintenance of stormwater management facilities established pursuant to a stormwater management plan required by the Ordinance shall be conducted in accordance with applicable federal, state and local regulations.

Section 26-514 Establishment of County Drains and Stormwater Systems for Multiple Users

Prior to final approval, all stormwater management facilities for developments subject to this Ordinance, including but not limited to platted subdivisions, site condominiums and any other circumstance in which multiple owners will use common stormwater facilities, shall be established as county drains, as authorized in Section 433, Chapter 22 of the Michigan Drain Code (P.A. 40 of 1956, as amended) for long-term maintenance unless such establishment is not recommended as determined jointly by the WCWRC and the Township.

DIVISION 6 VARIANCES

Section 26-515 Township-Board Authority

The Township Board shall have the authority to grant variances from the terms of this Ordinance in accordance with the terms specified below. The application for a variance shall be submitted to the Planning Commission for a public hearing and recommendation to the Township Board.

Section 26-516 Written Application Requirements

A written application for a variance shall be submitted to the Township Clerk and must demonstrate that:

1. Special conditions and circumstances exist that are peculiar to the land or project involved, and that are not generally applicable to other plans or projects; and that,
2. The special conditions and circumstances do not result or have not resulted from the actions of the applicant or the applicant's predecessor; and that,
3. Literal interpretation of the provisions of this Ordinance would deprive the applicant of reasonable use of the property as a whole.
4. The application shall include a plan demonstrating an alternate means to achieve the objectives of this Ordinance.

Section 26-517 Hearing Required

Variations from the terms of this Ordinance shall not be granted unless and until a public hearing shall be held.

Section 26-518 Conditions for Approval

The Township Board may prescribe appropriate conditions and safeguards consistent with the purposes and standards of this Ordinance in connection with the grant of a variance.

CERTIFICATION

It is hereby certified that that foregoing Ordinance was adopted by the Township Board of Ann Arbor charter Township, Washtenaw County, Michigan, at a meeting of the Board duly called and held on August 17, 2009.

ANN ARBOR CHARTER TOWNSHIP

By: _____
Michael C. Moran, Supervisor

By: _____
Rena Basch, Clerk

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