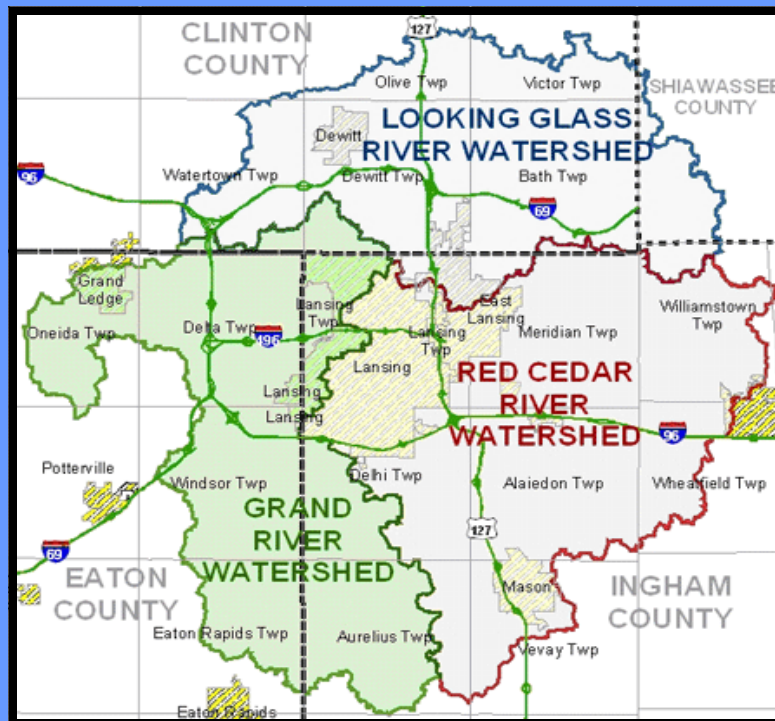




**Greater
Lansing
Regional
Committee**
For Stormwater Management

MODEL ORDINANCES FOR WATERSHED AND NATURAL RESOURCE PROTECTION



PREPARED BY GLRC ORDINANCE COMMITTEE
JUNE 2007

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Tri-County Regional Planning Commission



The Greater Lansing Regional Committee (GLRC) for Stormwater Management is a guiding body comprised of participating Michigan Department of Environmental Quality (MDEQ) National Pollutant Discharge Elimination System (NPDES) permittees, also known as Phase II communities within the Greater Lansing Region. The committee has been established to guide the implementation of the entire Phase II Program for the communities within three identified watersheds; the Grand River, the Red Cedar River and the Looking Glass River watersheds. The participating Phase II communities that make up the GLRC are as follows:

- Bath Charter Township
- City of DeWitt
- City of Grand Ledge
- City of Mason
- Delhi Charter Township
- Delta Charter Township
- DeWitt Charter Township
- DeWitt Public Schools
- City of East Lansing
- Lansing Charter Township
- Lansing Public Schools
- City of Lansing
- Meridian Charter Township
- Oneida Charter Township
- Village of Dimondale
- Watertown Charter Township
- Windsor Charter Township
- Clinton County
- Eaton County
- Ingham County

Michigan State University (MSU) serves as an ad hoc member of the GLRC. In addition, the GLRC has partnered with many stakeholders throughout the planning area, including Drain Commissioners, Road Commissions, School Districts, and major industries. The GLRC also welcomes public participation and involvement, and will host a series of public meetings aimed at educating and motivating interested individuals to assist in the Phase II planning and implementation process.

Subcommittee members that participated in the development of this manual include:

- Ron Overton, Watertown Township
- Richard Brown, Meridian Township
- Mark Ritter, Bath Township
- Sandra Diorka, Delhi Township
- Tracy Miller, Delhi Township
- Ray Severy, Meridian Township
- David Haywood, City of Mason
- Erin Campbell, Tri-County Regional Planning Commission, GLRC

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Introduction

The Greater Lansing Regional Committee (GLRC) for Stormwater Management has developed this manual to provide general guidance for selecting and adopting ordinances and regulations that help protect watersheds and natural resources. The manual will help communities understand regulatory mechanisms that they can adopt in order to reduce and prevent pollutants from reaching surface water and groundwater in the region (Clinton, Eaton, and Ingham Counties). Federal and state programs require selected municipalities to reduce the discharge of pollutants in their stormwater discharges to the maximum extent practicable (MEP). It is not the intent of this manual to dictate the specific ordinance language that should be adopted, but to provide model or template ordinances as a starting point for local communities and their attorney. In order for a community to protect water quality and natural resources in their jurisdiction, a natural resource protection goal must be included in the master plan. The following section discusses the basic method of setting a natural resource protection goal in place, its importance and authority it provides the local community.



Source: Stock.xchng

The manual is organized in a way that is convenient and efficient for local elected officials. No need to initially review ordinance language, you can view the descriptive analysis that quickly describes the objective, introduction, background, variables and issues, procedure for adoption, stakeholders, enforcement, and references for each ordinance or regulation. This synopsis of the ordinance provides a quick review for staff and/or council or board members to understand the basics of the ordinance and if it is something that is viable for the community.

Natural Resource Protection Goal in the Master Plan - Considerations

Objective

In order to enact watershed protection ordinances or language, the community must first have a Natural Resource Protection goal in their Comprehensive Development Plan (CDP) or Master Plan.

Introduction

Before a community becomes zoned, it must first adopt a CDP. This is not an ordinance, but a Plan for their future growth, development, envisions and sets forth the direction they want to their community to develop over the next 20

years. Two of the main components are the goals and objectives of a community and a map showing their best estimate of their future land uses (Future Land Use Map). This document then serves as the philosophical basis for all zoning ordinances and decisions. It is supposed to be updated every 5 years.



Source: Stock.xchng

Background

While specifics may vary from community to community the Plan is normally prepared by the local Planning Commission and approved by them in coordination with the Board of Trustees. Once this plan is approved, the community can then adopt a zoning ordinance as the means to implement the Plan. In order to adopt environmental and particularly watershed protection ordinances, there must be a specific Goal in the Plan that states that it is the intention of the community to protect their natural resources.

Variables and Issues

The Planning Commission needs to obtain as much community input into the development of the Plan, particularly the goals and objectives. This can be done thru a variety of means, including public hearings, public forums, charrettes, ad hoc committees, community surveys, etc.

Procedure for Adoption

Adopting or amending the Plan is set forth in the appropriate state planning statute. This function is normally performed by the Planning Commission with a required public hearing. The county planning law is PA 282 of 1945 Sec. 125.105; the township planning law is PA 168 of 1959 Sec. 125.328; and, the municipal planning law is PA 285 of 1931 Sec. 125.36.

Stakeholders

These include the planning commission, board of trustees, the citizenry, county officials, developers, and generally everyone involved in the community.

Enforcement

The Plan is not an ordinance and so it is not enforced, per se'. It is a plan to be implemented via zoning and other ordinances. As mentioned, it is normally prepared and updated by the Planning Commission.

References and Resources

Township Planning Act, PA 168 of 1959

County Planning Act, PA 282 of 1945

Municipal Planning Act, PA 285 of 1931

Municipal Code Corporation

<http://www.municode.com>

Stock.xchng photos <http://www.sxc.hu/index.phtml>

NATURAL RESOURCE MANAGEMENT

Goal

Conserve the natural resources and environmental assets of the Township by minimizing negative impacts and disturbances to surface waters and groundwater, wetlands, riparian areas, the natural drainage network, sensitive topography, woodlands and wildlife.

Objectives

Protect natural elements which contribute to the overall quality of the natural character of the township, city, or village, including fence rows, woodlots, fields, natural topography, and wildlife habitat.

Encourage the preservation of natural resources and wooded areas.

Protect surface and groundwater quality.

Protect wildlife habitat and retain indigenous vegetation on developing and developed sites to protect against excessive runoff, soil erosion, and sedimentation.

Designate the [river, lake, stream, etc.] as the municipality's most important natural resource.

Promote the preservation of the [river, lake, stream] through ordinances that regulate setbacks, land uses, and building height.

Preserve and protect landmark trees and unique stands of trees along or around the [river, lake, stream] and in suburbanizing areas.

Protect residential neighborhoods from nuisance affects of commercial development (defined as the increased density of curb cuts, roadway intersections, street signs, traffic lights, and higher density uses) with the use of buffer strips of indigenous plant materials.

Implementation Strategies

Enact slope protection standards in the Zoning Ordinance.

Enact more detailed and encompassing vegetative buffering requirements throughout the township, city, or village.

Institute landmark tree and woodland protection measures in the Zoning Ordinance.

Investigate setting aside a portion of required setbacks and open space in residential developments for native vegetation.

Promote the use of planned unit developments and cluster housing as a means of preserving the natural character of sites. Consider mixed uses when exploring cluster developments to have more walk-able communities.

Retain a natural vegetation strip along water bodies, drainage ditches, and wetlands.

Institute Natural Rivers program regulations along the [river] in an overlay zone.

Develop a conservation easement/land acquisition program for the [river, lake, stream] shoreline.

Require on-site stormwater retention for new residential development.

Increase the amount of formal plantings, including unique arrangements in character with the community.

Limit the density of development for projects using on-site septic systems in areas not served by public sewer.

If public water is not available, a group water system should be considered for high density development that can be linked to the public water system when it becomes available.

Offer development incentives such as density bonuses to developers proposing creative design concepts permitted by the Township, City, or Village.

Institute measures through site plan review and other land use control techniques that help prevent surface water pollution.

Institute a public health water testing educational program with technical guidance from the local Health Department.

Participate in regional and statewide programs to monitor the quality of surface water and groundwater.

Participate in the regional watershed initiative.

Determine the feasibility of a community composting program.

Reestablish natural vegetation by using volunteers and assistance from the Cooperative Extension Service and Soil Conservation Service.

Make educational materials available for river corridor pesticide and herbicide management.

Implement development regulations that encourage approaches to land development that take natural features such as soils, vegetation, wildlife habitat, topography, natural drainage, and open views into account in the process of site design.

Assist with enforcement of State and Federal environmental regulations including floodplain management, wetlands protection, soil erosion, and sedimentation control.

Source: Watertown Charter Township Comprehensive Development Plan (as adopted for this paper), adopted 1997 and updated 2002 with the aid of Wade-Trim, Inc.

Note: A GOAL is the ultimate purpose or intent of the Plan. It therefore is the end toward which actions are aimed. An OBJECTIVE is the means of attaining the goal. It refers to some specific accomplishment which is reasonably attainable. A STRATEGY is the action-oriented method of implementation, aimed at attaining a specific objective.

Pet Waste Ordinance

Objective

The objective of the Pet Waste Ordinance is to reduce pollutant loading into local rivers, streams, and lakes. This ordinance will provide municipalities the legal mechanism to reduce the pollution from improperly disposed pet waste.

Introduction

As part of the watershed management planning process, pollutant loading into local rivers, streams, and lakes were reviewed.

Pet waste is not the most toxic or even predominant pollutant for local waterways; however, it is one of many small sources of pollution that can have a big impact on our waterways if left unmanaged. Pollutants from improperly disposed pet waste may be washed into storm sewers by rain or melting snow.



Source: Stock.xchng

Background

When pet waste is washed into river, streams, or lakes the waste then decays using up oxygen that is needed for healthy aquatic life. The decaying waste may also release ammonia. Ammonia, low oxygen levels, and warm temperatures can cause fish and other aquatic life to die. Pet waste also contains nutrients such as phosphorus and nitrogen that can encourage algae and weed growth. The growth of algae and overgrowth of weeds can also harm the more native or previously established aquatic life present in the waterway. Pet waste also carries diseases which make water unsafe for recreation or drinking water purposes. The health risks of pet waste contamination include parasites, bacterial infections, and roundworms.

Variables and Issues

The Pet Waste Ordinance may be adopted by individual communities including townships, cities, or villages. Variables to consider when first considering a Pet Waste Ordinance include, but are not limited to:

- Enforcement: who will enforce the ordinance, is there staff available for this, education may be a substitute for enforcement.
- County Health Department should be supportive since pet waste can be a health risk.
- The regulating body may need to provide materials for disposal on municipal parks and walking trails. These could include additional trash containers, disposal bags, pet waste signs, etc.

Procedure for Adoption

Standard procedures for ordinance adoption by your municipality should be followed. Consult with your City or Township Attorney regarding specific language of the Ordinance.

Stakeholders

Stakeholders that may be affected by a Pet Waste Ordinance include:

- Residents
- MSU Extension office
- Michigan Department of Environmental Quality
- Park and Recreation Departments of local municipalities
- Local kennels, human societies, etc.
- Dog/Cat Groomers
- Local Units of Governments
- Drain Commissioners Office
- Road Commission
- School Districts

Enforcement

The model/template ordinance on the following pages includes a penalty section that lists the fine for a violation of the ordinance. By educating the public about the importance of reducing pet waste contamination in local waterbodies, they will be more inclined to comply with the ordinance, thus reducing the need for time consuming enforcement efforts. Provide fact sheets, or an informational brochure about why proper disposal of pet waste is important. Display an informational poster and educational materials in the appropriate municipal buildings to help outreach to the public. Provide a detailed explanation about the purpose of the ordinance in the local community newsletter to help the public understand the importance of compliance with the ordinance.

References and Resources

Environmental Protection Agency Model Ordinances

<http://www.epa.gov/owow/nps/ordinance/index.htm>

Center for Watershed Protection website. <http://www.cwp.org>

Stormwater Center – Ordinance Section website. <http://www.stormwatercenter.net>

Environmental Protection Agency Menu of Best Management Practices.

<http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm>

Stock.xchng photos <http://www.sxc.hu/index.phtml>

Model Ordinance - Pet Waste

Ordinance # [] - Pet Waste

SECTION I. Purpose:

An ordinance to establish requirements for the proper disposal of pet solid waste in **[insert name of municipality]**, so as to protect water quality and public health, safety and welfare, and to prescribe penalties for failure to comply.

SECTION II. Definitions:

For the purpose of this ordinance, the following terms, phrases, words and their derivations shall have the meanings stated herein unless their use in the text of this Chapter clearly demonstrates a different meaning. When not inconsistent with the context, words used in the present tense include the future, words used in the plural number include the singular number, and words used in the singular number include the plural number. The word "shall" is always mandatory and not merely directory.

- a. Immediate – shall mean that the pet solid waste is removed at once, without delay.
- b. Owner/Keeper – any person who shall possess, maintain, house or harbor any pet or otherwise have custody of any pet, whether or not the owner of such pet.
- c. Person – any individual, corporation, company, partnership, firm, association, or political subdivision of this State subject to municipal jurisdiction.
- d. Pet - a domesticated animal (other than a disability assistance animal) kept for amusement or companionship.
- e. Pet solid waste – waste matter expelled from the bowels of the pet; excrement
- f. Proper disposal – placement in a designated waste receptacle, or other suitable container, and discarded in a refuse container which is regularly emptied by the municipality or some other refuse collector; or disposal into a system designed to convey domestic sewage for proper treatment and disposal.

SECTION III. Requirement for Disposal:

All pet owners and keepers are required to immediately and properly dispose of their pet's solid waste deposited on any property, public or private, not owned or possessed by that person.

SECTION IV. Exemptions:

Any owner or keeper who requires the use of a disability assistance animal shall be exempt from the provisions of this section while such animal is being used for that purpose.

SECTION V. Enforcement:

The provisions of this Article shall be enforced by the **[Police Department and the Local Board of Health]** of **[insert name of municipality]**.

SECTION VI. Violations and Penalty:

Any person(s) who is found to be in violation of the provisions of this ordinance shall be subject to a fine not to exceed **[insert amount]**.

SECTION VII. Severability:

Each section, subsection, sentence, clause and phrase of this Ordinance is declared to be an independent section, subsection, sentence, clause and phrase, and the finding or holding of any such portion of this Ordinance to be unconstitutional, void, or ineffective for any cause, or reason, shall not affect any other portion of this Ordinance.

SECTION VIII. Effective date:

This Ordinance shall be in full force and effect from and after its adoption and any publication as may be required by law.

ALL OF WHICH IS ADOPTED this _____ day of _____, 200_, by the _____.

Illicit Discharge Elimination Program Ordinance

Objective

The objective of the Illicit Discharge Elimination Program (IDEP) ordinance is to prohibit non-stormwater discharges into the municipal separate storm sewer system (MS4). This ordinance will provide municipalities the legal mechanism to eliminate illicit discharges and connections.



Source: Stock.xchng

Introduction

The Phase II NPDES watershed based permit requires that through an ordinance or other regulatory mechanism, a prohibition on non-stormwater discharges into the municipal separate storm sewer system (MS4), and appropriate enforcement procedures and actions are in place for those in noncompliance. This is a requirement and must be addressed by all permittees under the watershed based permit in order to meet Phase II requirements.

Background

Discharges from MS4s often include wastes and wastewater from non-stormwater causes, a significant portion of these may be from illicit and/or inappropriate discharges and connections to the MS4. Illicit discharges enter the system through either direct connections (e.g., wastewater piping either mistakenly or deliberately connected to the storm drains) or indirect connections (e.g., infiltration into the MS4 from cracked sanitary systems, spills collected by drain outlets, or paint or used oil dumped directly into a drain). The results of these activities is untreated discharges that contribute high levels of pollutants, including heavy metals, toxics, oil and grease, solvents, nutrients, viruses, and bacteria to receiving waterbodies. Many studies have shown that pollutant levels from these illicit discharges can be high enough to significantly degrade receiving water quality and threaten aquatic, wildlife, and human health.

Variables and Issues

Environmental Protection Agency (EPA) Model Ordinance:

This model ordinance focuses mostly on industrial sites. It does not clearly provide the legal mechanisms for the local government to regulate illicit discharges at a residential level. However, it can be useful for regulating illicit discharges at the industrial level.

City of Mason Ordinance:

This model ordinance is provided in draft form currently being reviewed by the City of Mason's Attorney. This ordinance provides the legal mechanism for the local government to regulate illicit discharges at a residential level. In the City's case, this ordinance will be a new article within the existing code. Many definitions in the ordinance can be used directly from the NPDES Permit.

Procedure for Adoption

Standard procedures for ordinance adoption by your municipality should be followed. Consult with your City or Township Attorney regarding specific language of the ordinance. Some communities might want to consider a stormwater ordinance that has an IDEP component, and not a stand alone IDEP ordinance.

Stakeholders

Stakeholders that may be affected or concerned about an IDEP Ordinance include:

- Residents
- Local businesses and industry
- Adjacent communities
- Drain Commissioners
- Utility workers
- Road Commission
- Construction contractors
- Well drillers
- Cement haulers
- Lawn care companies

Enforcement

Enforcement procedures for an IDEP ordinance could be similar to a civil infraction. It is suggested that the local board, council, or commission provide guidance material and information regarding the ordinance and its importance to all stakeholders in the community.

References and Resources

Environmental Protection Agency Stormwater Publications

http://cfpub.epa.gov/npdes/docs.cfm?program_id=6&view=allprog&sort=name#swmunfund

Environmental Protection Agency IDEP Fact Sheet

<http://www.epa.gov/npdes/pubs/fact2-5.pdf>

Center for Watershed Protection - Scroll down to download the IDEP Manual

<http://www.cwp.org>

Stock.xchng photos <http://www.sxc.hu/index.phtml>

CITY OF MASON ORDINANCE NO. 158

AN ORDINANCE TO AMEND CHAPTER 82 – UTILITIES – OF THE CODE OF THE CITY OF MASON BY AMENDING SECTION 82-1 – DEFINITIONS; BY ADDING NEW ARTICLE V – SEPARATE STORM SEWER SYSTEM; AND BY AMENDING AND RENUMBERING ARTICLE V TO BECOME ARTICLE VI – ENFORCEMENT, IN ORDER TO PROVIDE FOR A MUNICIPAL SEPARATE STORM SEWER SYSTEM, REGULATE DISCHARGES THERETO AND PROHIBIT ILLICIT CONNECTIONS AND DISCHARGES; AND ALSO TO AMEND SECTION 1-2 OF CHAPTER 1 BY AMENDING THE DEFINITION OF PREMISES.

The City of Mason ordains:

Sec. 82-1. Definitions. The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Acquire and *acquiring* mean acquisition by purchase, construction or any other method.

Act or *the Act* means the federal Water Pollution Control Act, also known as the Clean Water Act, as amended, 33 USC 1251 et seq.

Approval Authority means the director of the state department of environmental quality, or, if the state does not have an approved state pretreatment program, the administrator of EPA region 5.

Authority shall mean the director of public works or designee.

Authorized Enforcement Agency means the Director of Public Works or his designees.

Authorized representative of industrial user means:

- (1) The principal executive officer of at least the level of vice-president, if the industrial user is a corporation;
- (2) The general partner or proprietor if the industrial user is a partnership or proprietorship; or
- (3) A duly authorized representative of the individual designated in subsection (1) or (2) of this definition if such representative is responsible for the overall operation of the facilities from which the discharge originates.

Available municipal water supply means a municipal water main carrying potable water located in a right-of-way, easement, highway, street or public way which crosses, adjoins or abuts the property and located no more than 300 feet from the nearest point of any structure used or designed for human occupancy.

Available public sanitary sewer means a public sanitary sewer system located in a right-of-way, easement, highway, street or public way which crosses, adjoins, or abuts the property and located no more than 300 feet from the nearest point of the structure from which sanitary sewage originates.

Backflow shall mean water of questionable quality, wastes or other contaminants flowing into a public water supply due to a reversal of flow.

Best Management Practices (BMPs) means those schedules of activities, prohibitions or practices, general good house keeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to storm water, receiving waters, or separate storm water conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

Biochemical oxygen demand (BOD) means the quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure five days at 20 degrees Celsius expressed in terms of weight and concentration (mg/l).

Building drain or house drain means that part of the lowest horizontal piping of a drainage system which receives the discharge of wastewater from within a structure and conveys it to the building sewer.

Building sewer means a sewer conveying wastewater from the premises of a user to the POTW.

Categorical standards means National Categorical Pretreatment Standards or pretreatment standard.

Combined sewer means a sewer receiving sanitary and storm sewage.

Compatible pollutant means a substance amenable to treatment in the city POTW such as biochemical oxygen demand, suspended solids, pH, and fecal coliform bacteria, plus additional pollutants identified in the NPDES permit of the city POTW designed to treat such pollutants and which does in fact remove such pollutants to a substantial degree. Examples of additional pollutants may include chemical oxygen demand, total organic carbon, phosphorus and phosphorus compounds, nitrogen and nitrogen compounds, fats, oils, and greases of animal or vegetable nature.

Construction Activity means activities subject to NPDES Construction Permits. Generally these include construction projects resulting in land disturbance of 1 acre or more. Such activities include clearing and grubbing, grading, excavating, and demolition.

Control Authority means the Approval Authority or the Authority if the city has an approved pretreatment program under the provisions of 40 CFR 403.11.

Cooling water means the water discharged from any use such as air conditioning, cooling or refrigeration, or to which the only pollutant added is heat.

Cross connection shall mean a connection or arrangement of piping or appurtenances through which a backflow could occur.

Cross connection control inspector shall mean the legally designated person whose duty it is to perform periodic inspections of premises within the city for detection of cross connections.

Curb box shall mean a fixture located between the structure served and the water main that provides protection and access to the water service shut off valve.

Direct discharge means the discharge of treated or untreated wastewater directly to the waters of the state.

Environmental Protection Agency or EPA means the U.S. Environmental Protection Agency, or where appropriate the term may also be used as a designation for the administrator or other duly authorized official of the agency.

Garbage means solid waste from the preparation, cooking and dispensing of food, and from the handling, storage, processing and sale of produce. Properly shredded garbage is garbage that has been cut to such a degree that all particles will be carried freely under flow conditions normally prevailing in public sewers, with no particle greater than one-half inch in any dimension.

Grab sample means a sample which is taken from a waste stream on a one-time basis with no regard to the flow in the waste stream and without consideration of time.

Health department means the official department of health of the county.

Holding tank waste means any waste from holding tanks such as vessels, chemical toilets, campers, trailers, septic tanks, and vacuum-pump tank trucks.

Illicit Connection means a physical connection to the municipal separate storm sewer system that conveys illicit discharges into the system and/or is not authorized or permitted by the city; or any drain or conveyance connected from a commercial or

industrial land use to the separate storm sewer system which has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.

Illegal Discharge means any discharge to the city storm water system that is not composed entirely of storm water except discharges pursuant to a NPDES permit or as otherwise exempted by Sec. 82-274 of this article.

Imminent hazards shall mean, in the judgment of the Authority, there is a violation or a condition which may cause a violation of this code at a public water supply connection requiring immediate action to prevent endangering the health of the people.

Incompatible pollutant means any pollutant which is not a compatible pollutant.

Industrial Activity means activities subject to NPDES Industrial Permits as defined in 40 CFR, Section 122.26 (b) (14).

Industrial discharge means the discharge or the introduction of nondomestic pollutants from any source regulated under Section 307(b) or Section 307(c) of the Act into the POTW (including holding tank waste discharged into the system).

Indirect user means a source of indirect discharge which does not constitute a discharge of pollutants under regulations issued pursuant to Section 402 of the Act.

Industrial waste means liquid waste, solids or semisolids from industrial processes, trades or businesses as distinct from sanitary sewage.

Interference means the inhibition or disruption of the POTW treatment process or operations which contributes to a violation of any requirement of the city's NPDES permit or reduces the efficiency of the POTW. The term also includes interference in the use of sanitary sewage sludge or its disposal by the POTW under the criteria, guidelines or regulations contained in the city's approved sludge management plan.

MDEQ means the Michigan Department of Environmental Quality.

Municipal separate storm sewer system (MS4) means those facilities located within the city and owned by the city or the county drain commissioner or the county board of road commissioners by which storm water may be collected and conveyed to the waters of this state, including any streets or roads with drainage systems, inlets, curbs, gutters, storm pipes and retention, detention or infiltration basins, which are not part of the publicly-owned treatment works as defined by 40 CFR § 122.2.

National Categorical Pretreatment Standard or *pretreatment standard* means any regulation containing pollutant discharge limits promulgated by the EPA in accordance with Section 307(b) and Section 307(c) of the Act which applies to a specific category of industrial users.

National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permit means a permit issued by MDEQ that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

National Prohibited Discharge Standard or *prohibited discharge standard* means any regulation developed under the authority of Section 307(b) of the Act and 40 CFR 403.5.

Natural outlet means any watercourse, pond, ditch, lake or other body of water, either surface water or groundwater.

New source means:

- (1) Any building, structure, facility or installation from which there is or may be a discharge of pollutants, the construction of which commenced after the publication of proposed pretreatment standards under Section 307(c) of the act, which will be applicable to such source if such standards are thereafter promulgated in accordance with that section, provided that:
 - a. The building, structure, facility or installation is constructed at a site at which no other source is located;
 - b. The building, structure, facility or installation totally replaces the process or production equipment that causes the discharge of pollutants at an existing source; or
 - c. The production or wastewater generating processes or the building, structure, facility or installation are substantially independent of an existing source at the same site. In determining whether these are substantially independent factors such as the extent to which the new facility is integrated with the existing plant, the extent to which the new facility is engaged in the same general type of activity as the existing source should be considered.
- (2) Construction on a site at which an existing source is located results in a modification rather than a new source if the construction does not create a new installation meeting the criteria of this section but otherwise alters, replaces, or adds to existing processes or production equipment.
- (3) Construction of a new source has commenced if the owner or operator has:
 - a. Begun or caused to begin as part of a continuous on-site construction program:
 1. Any placement, assembly or installation of facilities or equipment;

2. Significant site preparation work, including clearing, excavation, or removal of existing buildings, structures or facilities which is necessary for the new source facilities or equipment; or
- b. Entered into a binding contractual obligation for the purchase of facilities or equipment which are intended to be used in its operation within a reasonable time. Options to purchase or contracts which can be terminated or modified without substantial loss, and contracts for feasibility, engineering, and design studies do not constitute a contractual obligation under this subsection.

Non-Storm Water Discharge means any discharge to the separate storm sewer system that is not composed entirely of storm water.

Normal domestic strength wastewater means sanitary sewage or other wastewater which shall be a compatible pollutant and with BOD of 300 mg/l or less, suspended solids of 350 mg/l or less, and total phosphorus of 20 mg/l or less (as P).

NPDES permit means a permit issued pursuant to the National Pollution Discharge Eliminations System prescribed in Section 402 of the Act.

Nuisance shall mean the maintenance of a condition or activity upon private property or publicly owned property which endangers the public health or safety and includes all conditions and activities which violate state and local health statutes and ordinances.

Operation and maintenance means all work, materials, equipment, utilities and other efforts required to operate and maintain the wastewater transportation and treatment systems consistent with ensuring adequate treatment of wastewater to produce an effluent in compliance with the NPDES permit and other applicable state and federal regulations, and including the cost of replacement.

Operations upset means an exceptional incident in which there is unintentional and temporary noncompliance with categorical pretreatment standards because of factors beyond the reasonable control of the user. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

pH means the logarithm (base 10) of the reciprocal of the weight of hydrogen ions expressed in grams per liter of solution.

Pipings shall mean water conveying water pipes, appurtenances, and related or connected devices, equipment or facilities.

Plans and specifications shall mean drawings, data and true description or representation of an entire waterworks system or parts thereof as it exists or is to be constructed, and a statement on how a waterworks system is to be operated.

Pollutant means anything which causes or contributes to pollution. Pollutants may include: paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter or other discarded or abandoned objects, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and other pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

Pollution means the manmade or man-induced alteration of the chemical, physical, biological and radiological integrity of water.

Potable water shall mean water free from impurities present in amounts sufficient to cause disease or harmful physiological effects. Its bacteriological and chemical qualities shall conform to the requirements of the Michigan Safe Drinking Water Act, being Act No. 399 of the Public Acts of Michigan of 1976 (MCL 325.1001 et seq.), as amended.

Pretreatment or treatment means the reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater to a less harmful state prior to or in lieu of discharging or otherwise introducing such pollutants into the POTW. The reduction or alteration can be obtained by physical, chemical or biological processes, in plant process changes, or other means except as prohibited by 40 CFR 403.6(d).

Pretreatment requirements means any substantive or procedural requirements related to pretreatment, other than a national pretreatment standard imposed on an industrial user.

Private sewage disposal system means any septic tank, cesspool or other facilities intended or used for the disposal of sanitary sewage.

Public improvements means the public water supply and sanitary sewage disposal system improvements within and outside the city which are functional components of the respective system.

Public sanitary sewer means a sanitary sewer in which all owners of the abutting property have access and which is controlled by the Authority.

Publicly owned treatment works (POTW) means the treatment works as defined by section 212 of the Act which is owned in this instance by the city. This definition includes any sewers that convey wastewater to the POTW treatment plant. For the purposes of this article, POTW shall also include any sewers that convey wastewater to the POTW from persons outside the city who are, by contract or agreement with the city, users of the city's POTW.

POTW treatment plant means that portion of the POTW designed to provide treatment to wastewater.

Replacement means the replacement in whole or part of any equipment or facilities in the wastewater transportation or treatment systems to ensure continuous treatment of wastewater in accordance with the NPDES permit and other applicable state and federal regulations.

Residential equivalent unit or *REU* shall mean the factor representing a ratio of the estimated sewage generated by a class of user to that generated by the normal single family user, usually measured in gallons per day, as established by resolution of the city council.

Residential users means all users that are domiciles or housing units, either single-family or multifamily.

Revenues and *net revenues* mean as defined in Section 3 of the Revenue Bond Act of 1933 (MCL 141.103).

Safe air gap shall mean the minimum distance of a water inlet or opening above the maximum highwater level or overflow rim in a fixture, device or container to which public water is furnished which shall be at least two times the inside diameter of the water inlet pipe and which shall not be less than one inch and need not be more than 12 inches.

Sanitary sewage means the liquid or water-carried waste discharge from the sanitary conveniences of dwellings (including apartment houses and hotels), office buildings, factories or institutions.

Sanitary sewer means a sewer used or intended for the collection and transportation of sanitary sewage and wastewater or either of them and to which storm waters, surface waters and groundwater are not intentionally admitted.

Seal shall mean a device installed by the Authority so as to prevent the use of any piping, equipment facilities or appurtenances which would be a violation of this division.

Secondary water supply shall mean a water supply system maintained in addition to a public water supply system, including but not limited to water systems from ground or surface sources not meeting the requirements of the Michigan Safe Drinking Water Act, being Act No. 399 of the Public Acts of Michigan of 1976 (MCL 325.1001 et seq.), as amended, or water from a public water supply which in any way has been treated, processed or exposed to any possible contaminant or stored in other than an approved storage facility.

Sewage means any combination of sanitary sewage, storm water, industrial waste, and uncontaminated industrial waste, or any of them.

Sewer means any pipe, tile, tube or conduit for carrying sewage.

Significant industrial user means:

- (1) Except as provided in subsection (2) of this definition:
 - a. All industrial users subject to categorical pretreatment standards under 40 CFR 403.6 and 40 CFR Chapter (I), Subchapter (N); and
 - b. Any other industrial user that discharges an average of 25,000 gallons per day or more of processed wastewater to the POTW (excluding sanitary non-contact cooling and boiler blow down wastewater); contributes a processed waste stream which makes up five percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Authority on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement.
- (2) Upon a finding that an industrial user meeting the criteria of this definition has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, the Authority may at any time, on his own initiative or in response to a petition received from an industrial user, and in accordance with 40 CFR 403.8(f)(6), determine that such industrial user is not a significant industrial user.

Standard Industrial Classification (SIC) means a classification pursuant to the Standard Industrial Classification Manual issued by the Executive Office of the President, Office of Management and Budget, 1972.

Storm sewer or *storm drain* means an enclosed sewer or open ditch which carries storm water and/or uncontaminated industrial wastes.

Storm Sewer System or *Storm Drainage System* means those publicly-owned facilities by which storm water is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.

Storm Water means atmospheric precipitation, surface water runoff, and flows from footing drains that travel to the nearest stream, channel, or impoundment.

Storm Water Pollution Prevention Plan (SWPP) means a document which describes the Best Management Practices and activities to be implemented by a person or business to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharge to storm water, storm water conveyance systems, and/or receiving waters to the maximum extent practicable.

Submerged inlet shall mean a water pipe or extension thereto from a public water supply system terminating in a tank, vessel, fixture or appliance which may contain water of questionable quality, waste or other contaminant which is unprotected against backflow.

Suspended solids means the total suspended matter that floats on the surface of or is suspended in water, wastewater or other liquids, and which is removable by laboratory filtering.

The system or system means the complete public water supply and sanitary sewage disposal system of the city, all wells, water mains, laterals, pumping stations, storage tanks, main and lateral sewers, sanitary sewage disposal plant and all related works, instrumentalities and properties used or useful in connection with the combined water supply and sanitary sewage disposal system, together with all additions, extensions and improvements.

Toxic pollutant means any pollutant or combination of pollutants listed as toxic in regulations promulgated by the Environmental Protection Agency under the provisions of CWA 307(a) or other acts.

Uncontaminated Industrial Wastes means water which has not come into contact with any substance used in or incidental to industrial processing operations.

Useful life means the estimated period during which the POTW will be operated.

User means any person who contributes, causes or permits the contribution of wastewater into the city's POTW and/or uses or consumes potable water supplied by the city.

User charge means a charge levied on users of the city's POTW for the cost of operation and maintenance of such works, and includes the cost of replacement.

Wastewater means the liquid and water-carried industrial or domestic wastes from dwellings, commercial buildings, industrial facilities, and institutions, together with any pollutants which may be present, whether treated or untreated, or any water or other liquid, other than uncontaminated storm water discharged from a facility, which is contributed into or permitted to enter the POTW..

Wastewater discharge permit means a permit as set forth in section 82-187.

Water utility shall mean a governmental unit, municipal or private corporation, association, partnership or individual engaged in furnishing potable water to the public.

Waters of the state means all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state or any portion of the state, or are designated as such on the USGS topographic map.

The City of Mason further ordains that Article V – Municipal Separate Storm Sewer System is hereby added to Chapter 82, which added article shall read as follows:

ARTICLE V. MUNICIPAL SEPARATE STORM SEWER SYSTEM

Sec. 82-271. *Purpose and policy.*

- (a) The purpose of this article is to provide for the health, safety, and general welfare of the citizens of the City of Mason through the regulation of non-storm water discharges to the separate storm sewer system to the maximum extent practicable as required by federal and state law.
- (b) This article establishes methods for controlling the introduction of pollutants into the municipal separate storm sewer system in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) permit process.
- (c) The objectives of this article are:
 - (1) To regulate the contribution of pollutants to the municipal separate storm sewer system by storm water discharges by any user.
 - (2) To prohibit illicit connections and illicit discharges to the municipal separate storm sewer system.
 - (3) To establish legal authority to carry out all inspection, surveillance and monitoring procedures necessary to ensure compliance with this article.
- (d) This article shall apply to all water entering the separate storm sewer system generated on any developed and/or undeveloped lands unless explicitly exempted by Section 82-274.
- (e) The City of Mason shall administer, implement, and enforce the provisions of this article. Any powers granted or duties imposed upon the City may be delegated in writing by the City Administrator to persons or entities acting in the beneficial interest of or in the employ of the City of Mason. Except as otherwise provided herein, the Director of Public Works shall, acting under the supervision of the city administrator, administer, implement and enforce the provisions of this article.

- (f) The standards set forth herein and promulgated pursuant to this article are minimum standards; therefore this article does not intend nor imply that compliance by any person will ensure that there will be no contamination, pollution, nor unauthorized discharge of pollutants.

Sec. 82-272. *General Requirements and Prohibitions.*

- (a) Any person engaged in activities which will or may result in pollutants entering a storm sewer system shall undertake reasonable measures to reduce such pollutants.
- (b) No person shall throw, deposit, leave, maintain, keep or permit to be thrown, deposited, placed, left or maintained, any refuse, rubbish, garbage or other discarded or abandoned objects, articles, and accumulations, in or upon any street, alley, sidewalk, storm drain inlet, catch basin, conduit or other drainage structures, parking area, or upon any public or private plot of land so that the same might be or become a pollutant, except where such material is being temporarily stored in properly contained waste receptacles or is part of a well defined compost system.
- (c) No person shall cause or permit any dumpster, solid waste bin, or similar container to leak such that any pollutant is discharged into any street, alley, sidewalk, storm drain, inlet, catch basin, conduit or other drainage structures, business place, or upon any private plot of land in the city.
- (d) The occupant or tenant, the owner, lessee, or proprietor of any real property in the city where there is located a paved sidewalk or parking area shall maintain said paved surface free of dirt or litter to the extent reasonable and practicable and provide an adequate means for the disposal of refuse, rubbish, garbage, or other articles so as to prevent such matter from entering a storm drain system. Sweeping from said sidewalk shall not be swept or otherwise made or allowed to go into the gutter or street, but shall be disposed of in receptacles maintained in said real property.
- (e) No person shall throw or deposit any pollutant in any fountain, pond, lake, stream, or any other body of water in a park or elsewhere in the city, except as otherwise permitted under local, state or federal law.

Sec. 82-273. *Prohibition of Illicit Discharges.*

No person shall discharge or cause or continue to be discharged into the municipal separate storm sewer system or watercourses any illicit discharge, materials, pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than storm water.

Sec. 82-274. *Exempt Discharges.*

The following discharges are authorized, or otherwise exempt from discharge prohibitions established by this article, provided that they do not result in a violation of State of Michigan water quality standards:

- Water line flushing
- Landscape irrigation runoff
- Diverted stream flows
- Rising groundwaters
- Uncontaminated groundwater infiltration (as defined by 40CFR 35.2005(20))
- Pumped groundwaters (except for groundwater cleanups not specifically authorized by NPDES permits)
- Discharges from potable water sources
- Air conditioning condensates
- Irrigation waters
- Springs
- Water from crawl space pumps
- Foundation drains, footing drains and sump pumps
- Roof drains
- Lawn watering runoff
- Waters from non-commercial car washing
- Flows from riparian habitats and wetlands
- Residential swimming pool waters and other permitted, dechlorinated swimming pool waters
- Residual street wash waters
- Fire fighting and fire training activities
- Any other water source not containing pollutants

- (1) Discharges specified in writing by the city as being necessary to protect public health and safety.
- (2) Dye testing is an allowable discharge, but requires written authorization from MDEQ for the dye used, plus a verbal notification to MDEQ prior to the time of the test.
- (3) The prohibition shall not apply to any non-storm water discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the federal Environmental Protection Agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the storm water system.
- (4) Whenever building footing/foundation drains are utilized, a direct connection between the footing/foundation drain through a sump pump-

check valve system to a storm drain shall be utilized. A gravity system for conveyance of discharges from footing/foundation drains is prohibited.

Sec. 82-275. *Prohibition of Illicit Connections.*

- (a) The construction, use, maintenance or continued existence of illicit connections to the storm sewer system is prohibited.
- (b) This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.
- (c) A person is considered to be in violation of this ordinance if the person connects a line conveying sewage to the separate storm sewer system, or allows such a connection to continue.

Sec. 82-276. *Suspension of discharges to municipal separate storm sewer system.*

- (a) *Suspension due to illicit discharges in emergency situations.* The city may, without prior notice, suspend municipal separate storm sewer system discharge access to a person when such suspension is necessary to stop an actual or threatened discharge which presents or may present imminent and substantial danger to the environment, or to the health or welfare of persons, or to the municipal separate storm sewer system or waters of the United States. If the violator fails to comply with a suspension order issued in an emergency, the city may take such steps as deemed necessary to prevent or minimize the damage to the municipal separate storm sewer system or waters of the United States, or to minimize danger to persons.
- (b) *Suspension due to detection of illicit discharge.* Any person discharging to the municipal separate storm sewer system in violation of this article may have their municipal separate storm sewer system access terminated if such termination would abate or reduce an illicit discharge. The city will notify a violator of the proposed termination of its access to the municipal separate storm sewer system. The violator may petition the Authority for reconsideration.
- (c) *Appeal.* Any person who is aggrieved by a decision of the Authority to suspend or terminate access to the municipal separate storm sewer system may appeal such decision to the Mason Building Code Board of Appeals pursuant to the rules and procedures established by the Board, provided that a written application for appeal is filed within 20 days of the decision or order of the Authority. A timely appeal to the Board of Appeals shall stay any order of suspension other than a suspension under subsection (a) of this section until a final decision of the Board.

- (d) A person who reinstates a municipal separate storm sewer system access to premises terminated pursuant to this Section without the prior approval of the city shall be guilty of a misdemeanor and punished as provided in Section 1-8(e) of this code.

Sec. 82-277. *Industrial or construction activity discharges.* Any person subject to an industrial or construction activity NPDES storm water discharge permit requirement shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the city prior to the allowing of the discharges to the municipal separate storm sewer system. This section applies to all facilities that have storm water discharges associated with industrial activity, including construction activity.

Sec. 82-278. *Access to facilities.* Any person who owns or has control of any premises which directly or indirectly discharges storm water to the municipal separate storm sewer system shall permit all duly authorized employees of the control authority bearing proper credentials and identifications to enter upon all such premises for the purpose inspection, observation, measurement, sampling, and testing to determine compliance with the provisions of this article and to comply with the following inspection and monitoring requirements as applicable:

- (a) The city shall be permitted to enter and inspect premises subject to regulation under this article as often as may be necessary to determine compliance with this article. If a discharger has security measures in force which require proper identification and clearance before entry into its premises, the discharger shall make the necessary arrangements to allow access to representatives of the city.
- (b) The owner or any person in control of any premises subject to regulation under this article shall allow the city ready access to all parts of the premises for the purposes of inspection, sampling, examination and copying of records that must be kept under the conditions of an NPDES permit to discharge storm water, and the performance of any additional duties as defined by state and federal law.
- (c) The city shall have the right to set up on any premises such devices as are necessary in the opinion of the city to conduct monitoring and/or sampling of the facility's storm water discharge.
- (d) The city has the right to require any discharger to install monitoring equipment as necessary. The facility's sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the discharger at its own expense. All devices used to measure storm water flow and quality shall be calibrated to ensure their accuracy.

- (e) Any temporary or permanent obstruction to safe and easy access to the premises to be inspected and/or sampled shall be promptly removed by the operator at the written or oral request of the city and shall not be replaced. The costs of clearing such access shall be borne by the owner.
- (f) Unreasonable delays in allowing the city access to a permitted facility is a violation of a storm water discharge permit and of this article. A person who is an operator of a facility with a NPDES permit to discharge storm water associated with industrial activity commits an offense if the person denies the city reasonable access to the permitted facility for the purpose of conducting any activity authorized or required by this article.
- (g) If the city has been refused access to any part of the premises from which storm water is discharged, and the city is able to demonstrate probable cause to believe that there may be a violation of this article, or that there is a need to inspect and/or sample as part of a routine inspection and sampling program designed to verify compliance with this article or any order issued hereunder, or to protect the overall public health, safety, and welfare of the community, then the city may seek issuance of a search warrant from any court of competent jurisdiction.

Sec. 82-279. Requirements to prevent, control, and reduce storm water pollutants by the use of Best management Practices.

- (a) The city will adopt requirements identifying Best Management Practices (BMPs) for any activity, operation, or facility which may cause or contribute to pollution or contamination of storm water, the separate storm sewer system, or waters of the United States.
- (b) The owner or operator of a commercial or industrial establishment shall provide, at their own expense, reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal separate storm sewer system or watercourses through the use of these structural and non-structural BMPs.
- (c) Any person responsible for a property or premise, which is, or may be, the source of an illicit discharge, may be required to implement, at said person's expense, additional structural and non-structural BMPs to prevent the further discharge of pollutants to the municipal separate storm sewer system.
- (d) Compliance with all terms and conditions of a valid NPDES permit authorizing the discharge of storm water associated with industrial activity, to the extent practicable, shall be deemed compliance with the provisions of this section.
- (e) These BMPs shall be part of a storm water pollution prevention plan (SWPPP) as necessary for compliance with the requirements of the NPDES permit.

Sec. 82-280. *Watercourse protection.* Every person owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property free of trash, debris, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structure will not become a hazard to the use, function, or physical integrity of the watercourse.

Sec. 82-281. *Notification of spills.* Any person who discharges or has information of any known or suspected release of materials which are resulting or may result in illicit discharges or pollutants discharging into storm water, the separate storm sewer system or water of the United States, shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of a release of hazardous materials said person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of non-hazardous materials, said person shall notify the city in person or by phone or facsimile no later than the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the city within three (3) business days of the phone notice. If the discharge or prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years.

Sec. 82-282. *Notice of Violation.* Whenever the City of Mason finds that a person has violated a prohibition or failed to meet a requirement of this chapter, the City of Mason may order compliance by written notice of violation to the responsible person. Such notice may require without limitation:

- (a) The performance of monitoring, analyses, and reporting;
- (b) The elimination of illicit connections or discharges;
- (c) That violating discharges, practices, or operations shall cease and desist;
- (d) The abatement of remediation of storm water pollution or contamination hazards and the restoration of any affected property; and
- (e) Payment of a fine to cover administrative and remediation costs; and
- (f) The implementation of source control or treatment BMPs.

If abatement of a violation and/or restoration of affected property is required, the notice shall set forth a deadline within which such remediation or restoration must be completed. Said notice shall further advise that, should the violator fail to remediate or restore within the established deadline, the work will be done by a designated governmental agency, or a contractor and the expense shall be charged to the violator.

Sec. 82-283. *Appeal of Notice of Violation.* Any person receiving a Notice of Violation may appeal the determination of the Authority. The notice of appeal must be received within 30 days from the date of the Notice of Violation. Hearing on the appeal before the Mason Building Code Board of Appeals shall take place within 30 days from the date of receipt of the notice of appeal. The decision of the Board shall be final.

Sec. 82-284. *Enforcement Measures After Appeal.* If the violation has not been corrected pursuant to the requirements set forth in the Notice of Violation, or, in the event of an appeal, within 30 days of the decision of the Mason Building Code Board of Appeals upholding the decision of the Authority, then representatives of the Authority shall enter upon the subject private property and are authorized to take any and all measures necessary to abate the violation and/or restore the property. It shall be unlawful for any person, owner, agent or person in possession of any premises to refuse to allow the Authority to enter upon the premises for the purposes set forth above.

Sec. 82-285. *Cost of Abatement of the Violation.* Within 30 days after abatement of the violation, the owner of the property will be notified of the cost of abatement, including administrative costs. The property owner may file a written protest with the City Council objecting to the amount of the assessment within 30 days. If the amount due is not paid within a timely manner as determined by the decision of the City Council or by the expiration of the time in which to file an appeal, the charges shall become a special assessment against the property and shall constitute a lien on the property for the amount of the assessment.

Sec. 82-286. *Compensatory Action.* In lieu of enforcement proceedings, penalties, and remedies authorized by the Ordinance, the authorized enforcement agency may impose upon a violator alternative compensatory actions, such as storm drain stenciling, attendance at compliance workshops, creek cleanup, etc.

Sec. 82-287. *Remedies Not Exclusive.* The remedies listed in this Ordinance are not exclusive of any other remedies available under any applicable federal, state or local law and it is within the discretion of the authorized enforcement agency to seek cumulative remedies.

The City of Mason further ordains that Article VI of Chapter 82 is hereby amended and renumbered to read as follows:

ARTICLE VI. ENFORCEMENT

Sec. 82-291. *Municipal Civil Infractions.* Any user who violates this chapter or any order, rule, regulation or permit issued under this chapter, which violation is not declared a misdemeanor, shall be responsible for a municipal civil infraction and shall be liable for a civil fine of not more than \$2,500.00 for each offense, plus the costs of the action as provided by MCL 600.8727. Each day on which a violation shall occur or continue shall be deemed a separate and distinct offense. In addition to the penalties provided in this section, the city may recover its actual costs, including inspection and testing fees,

incurred for any work caused by a violation and reasonable attorneys' fees, court costs, court reporters' fees and other expenses of litigation against the person found to have violated this article or the orders, rules, regulations and permits issued under this article.

Sec. 82-292. *Appearance tickets.* The Authority is authorized to issue and serve a municipal civil infraction violation notice or citation for any violation of this chapter which is a municipal civil infraction.

Sec. 82-293. *Misdemeanor citations.* The Authority is authorized to issue and serve appearance tickets with respect to violations of this chapter which are designated a misdemeanor pursuant to section 9c(2) of 1968 PA 147, MCL 764.9.

Sec. 82-294. *Violations deemed a public nuisance.* In addition to the enforcement processes and penalties provided in this chapter, any condition caused or permitted to exist in violation of any of the provisions of this article are a threat to the public health, safety and welfare and are declared and deemed to be a public nuisance and a nuisance per se, and may be abated or restored at the violator's expense, and a civil action to abate, adjoin or otherwise compel the cessation of such nuisance may be taken in any court of competent jurisdiction.

The City of Mason further ordains that Section 1-2 of Chapter 1 of the Code of the City of Mason is hereby amended by amending the definition of premises, which amended definition shall read as follows:

Premises means any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent public and private sidewalks and parking strips.

Effective Date. This Ordinance shall take effect 20 days after its passage, approval, and publication.

The foregoing Ordinance was moved for adoption by Council Member _____ and supported by Council Member _____, with a vote thereon being: YES () NO (), at a regular meeting of the City Council held pursuant to public notice in compliance with the Michigan Open Meetings Act, on the ____ day of _____, 2007.

Ordinance No. 158-2007 declared adopted this ____ day of _____, 2007.

Model Illicit Discharge and Connection Stormwater Ordinance

MODEL

ORDINANCE NO. _____

SECTION 1. PURPOSE/INTENT.

The purpose of this ordinance is to provide for the health, safety, and general welfare of the citizens of (_____) through the regulation of non-storm water discharges to the storm drainage system to the maximum extent practicable as required by federal and state law. This ordinance establishes methods for controlling the introduction of pollutants into the municipal separate storm sewer system (MS4) in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) permit process. The objectives of this ordinance are:

- (1) To regulate the contribution of pollutants to the municipal separate storm sewer system (MS4) by stormwater discharges by any user
- (2) To prohibit Illicit Connections and Discharges to the municipal separate storm sewer system
- (3) To establish legal authority to carry out all inspection, surveillance and monitoring procedures necessary to ensure compliance with this ordinance

SECTION 2. DEFINITIONS.

For the purposes of this ordinance, the following shall mean:

Authorized Enforcement Agency: employees or designees of the director of the municipal agency designated to enforce this ordinance.

Best Management Practices (BMPs): schedules of activities, prohibitions of practices, general good house keeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

Clean Water Act. The federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), and any subsequent amendments thereto.

Construction Activity. Activities subject to NPDES Construction Permits. Currently these include construction projects resulting in land disturbance of 5 acres or more. Beginning in March 2003, NPDES Storm Water Phase II permits will be required for construction projects resulting in land disturbance of 1 acre or more. Such activities include but are not limited to clearing and grubbing, grading, excavating, and demolition.

Hazardous Materials. Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Illegal Discharge. Any direct or indirect non-storm water discharge to the storm drain system, except as exempted in Section X of this ordinance.

Illicit Connections. An illicit connection is defined as either of the following:

Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system including but not limited to any conveyances which allow any non-storm water discharge including sewage, process wastewater, and wash water to enter the storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by an authorized enforcement agency or, Any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.

Industrial Activity. Activities subject to NPDES Industrial Permits as defined in 40 CFR, Section 122.26 (b)(14)

National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permit. means a permit issued by EPA (or by a State under authority delegated pursuant to 33 USC § 1342(b)) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

Non-Storm Water Discharge. Any discharge to the storm drain system that is not composed entirely of storm water.

Person. means any individual, association, organization, partnership, firm, corporation or other entity recognized by law and acting as either the owner or as the owner's agent.

Pollutant. Anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordinances, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

Premises. Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

Storm Drainage System. Publicly-owned facilities by which storm water is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.

Storm Water. Any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation.

Stormwater Pollution Prevention Plan. A document which describes the Best Management Practices and activities to be implemented by a person or business to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharges to Stormwater, Stormwater Conveyance Systems, and/or Receiving Waters to the Maximum Extent Practicable.

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

SECTION 3. APPLICABILITY.

This ordinance shall apply to all water entering the storm drain system generated on any developed and undeveloped lands unless explicitly exempted by an authorized enforcement agency.

SECTION 4. RESPONSIBILITY FOR ADMINISTRATION.

The _____ [authorized enforcement agency] shall administer, implement, and enforce the provisions of this ordinance. Any powers granted or duties imposed upon the authorized enforcement agency may be delegated in writing by the Director of the authorized enforcement agency to persons or entities acting in the beneficial interest of or in the employ of the agency.

SECTION 5. SEVERABILITY.

The provisions of this ordinance are hereby declared to be severable. If any provision, clause, sentence, or paragraph of this Ordinance or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this Ordinance.

SECTION 6. ULTIMATE RESPONSIBILITY.

The standards set forth herein and promulgated pursuant to this ordinance are minimum standards; therefore this ordinance does not intend nor imply that compliance by any person will ensure that there will be no contamination, pollution, nor unauthorized discharge of pollutants.

SECTION 7. DISCHARGE PROHIBITIONS.

Prohibition of Illegal Discharges.

No person shall discharge or cause to be discharged into the municipal storm drain system or watercourses any materials, including but not limited to pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than storm water.

The commencement, conduct or continuance of any illegal discharge to the storm drain system is prohibited except as described as follows:

- (a) The following discharges are exempt from discharge prohibitions established by this ordinance: water line flushing or other potable water sources, landscape irrigation or lawn watering, diverted stream flows, rising ground water, ground water infiltration to storm drains, uncontaminated pumped ground water, foundation or footing drains (not including active groundwater dewatering systems), crawl space pumps, air conditioning condensation, springs, non-commercial washing of vehicles, natural riparian habitat or wet-land flows, swimming pools (if dechlorinated - typically less than one PPM chlorine), fire fighting activities, and any other water source not containing Pollutants.
- (b) Discharges specified in writing by the authorized enforcement agency as being necessary to protect public health and safety.
- (c) Dye testing is an allowable discharge, but requires a verbal notification to the authorized enforcement agency prior to the time of the test.

- (d) The prohibition shall not apply to any non-storm water discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the Federal Environmental Protection Agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the storm drain system.

Prohibition of Illicit Connections.

- (a) The construction, use, maintenance or continued existence of illicit connections to the storm drain system is prohibited.
- (b) This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.
- (c) A person is considered to be in violation of this ordinance if the person connects a line conveying sewage to the MS4, or allows such a connection to continue.

SECTION 8. SUSPENSION OF MS4 ACCESS.

Suspension due to Illicit Discharges in Emergency Situations

The _____ [authorized enforcement agency] may, without prior notice, suspend MS4 discharge access to a person when such suspension is necessary to stop an actual or threatened discharge which presents or may present imminent and substantial danger to the environment, or to the health or welfare of persons, or to the MS4 or Waters of the United States. If the violator fails to comply with a suspension order issued in an emergency, the authorized enforcement agency may take such steps as deemed necessary to prevent or minimize damage to the MS4 or Waters of the United States, or to minimize danger to persons.

Suspension due to the Detection of Illicit Discharge

Any person discharging to the MS4 in violation of this ordinance may have their MS4 access terminated if such termination would abate or reduce an illicit discharge. The authorized enforcement agency will notify a violator of the proposed termination of its MS4 access. The violator may petition the authorized enforcement agency for a reconsideration and hearing.

A person commits an offense if the person reinstates MS4 access to premises terminated pursuant to this Section, without the prior approval of the authorized enforcement agency.

SECTION 9. INDUSTRIAL OR CONSTRUCTION ACTIVITY DISCHARGES.

Any person subject to an industrial or construction activity NPDES storm water discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the [authorized enforcement agency] prior to the allowing of discharges to the MS4.

SECTION 10. MONITORING OF DISCHARGES.

A. Applicability.

This section applies to all facilities that have storm water discharges associated with industrial activity, including construction activity.

B. Access to Facilities.

- (a) The _____ [authorized enforcement agency] shall be permitted to enter and inspect facilities subject to regulation under this ordinance as often as may be necessary to determine compliance with this ordinance. If a discharger has security measures in force which require proper identification and clearance before entry into its premises, the discharger shall make the necessary arrangements to allow access to representatives of the authorized enforcement agency.
- (b) Facility operators shall allow the [authorized enforcement agency] ready access to all parts of the premises for the purposes of inspection, sampling, examination and copying of records that must be kept under the conditions of an NPDES permit to discharge storm water, and the performance of any additional duties as defined by state and federal law.
- (c) The _____ [authorized enforcement agency] shall have the right to set up on any permitted facility such devices as are necessary in the opinion of the authorized enforcement agency to conduct monitoring and/or sampling of the facility's storm water discharge.
- (d) The _____ [authorized enforcement agency] has the right to require the discharger to install monitoring equipment as necessary. The facility's sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the discharger at its own expense. All devices used to measure stormwater flow and quality shall be calibrated to ensure their accuracy.
- (e) Any temporary or permanent obstruction to safe and easy access to the facility to be inspected and/or sampled shall be promptly removed by the operator at the written or oral request of the _____ [authorized enforcement agency] and shall not be replaced. The costs of clearing such access shall be borne by the operator.
- (f) Unreasonable delays in allowing the [authorized enforcement agency] access to a permitted facility is a violation of a storm water discharge permit and of this ordinance. A person who is the operator of a facility with a NPDES permit to discharge storm water associated with industrial activity commits an offense if the person denies the authorized enforcement agency

reasonable access to the permitted facility for the purpose of conducting any activity authorized or required by this ordinance.

- (g) If the _____ [authorized enforcement agency] has been refused access to any part of the premises from which stormwater is discharged, and he/she is able to demonstrate probable cause to believe that there may be a violation of this ordinance, or that there is a need to inspect and/or sample as part of a routine inspection and sampling program designed to verify compliance with this ordinance or any order issued hereunder, or to protect the overall public health, safety, and welfare of the community, then the authorized enforcement agency may seek issuance of a search warrant from any court of competent jurisdiction.

SECTION 11. REQUIREMENT TO PREVENT, CONTROL, AND REDUCE STORM WATER POLLUTANTS BY THE USE OF BEST MANAGEMENT PRACTICES.

_____ [Authorized enforcement agency] will adopt requirements identifying Best Management Practices for any activity, operation, or facility which may cause or contribute to pollution or contamination of storm water, the storm drain system, or waters of the U.S. The owner or operator of a commercial or industrial establishment shall provide, at their own expense, reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses through the use of these structural and non-structural BMPs. Further, any person responsible for a property or premise, which is, or may be, the source of an illicit discharge, may be required to implement, at said person's expense, additional structural and non-structural BMPs to prevent the further discharge of pollutants to the municipal separate storm sewer system. Compliance with all terms and conditions of a valid NPDES permit authorizing the discharge of storm water associated with industrial activity, to the extent practicable, shall be deemed compliance with the provisions of this section. These BMPs shall be part of a stormwater pollution prevention plan (SWPP) as necessary for compliance with requirements of the NPDES permit.

SECTION 12. WATERCOURSE PROTECTION.

Every person owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property free of trash, debris, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse.

SECTION 13. NOTIFICATION OF SPILLS.

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has

information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into storm water, the storm drain system, or water of the U.S. said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials said person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of non-hazardous materials, said person shall notify the authorized enforcement agency in person or by phone or facsimile no later than the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the [authorized enforcement agency] within three business days of the phone notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years.

SECTION 14. ENFORCEMENT.

I. Notice of Violation.

Whenever the _____ [authorized enforcement agency] finds that a person has violated a prohibition or failed to meet a requirement of this Ordinance, the authorized enforcement agency may order compliance by written notice of violation to the responsible person. Such notice may require without limitation:

- (a) The performance of monitoring, analyses, and reporting;
- (b) The elimination of illicit connections or discharges;
- (c) That violating discharges, practices, or operations shall cease and desist;
- (d) The abatement or remediation of storm water pollution or contamination hazards and the restoration of any affected property; and
- (e) Payment of a fine to cover administrative and remediation costs; and
- (f) The implementation of source control or treatment BMPs.

If abatement of a violation and/or restoration of affected property is required, the notice shall set forth a deadline within which such remediation or restoration must be completed. Said notice shall further advise that, should the violator fail to remediate or restore within the established deadline, the work will be done by a designated governmental agency or a contractor and the expense thereof shall be charged to the violator.

SECTION 15. APPEAL OF NOTICE OF VIOLATION.

Any person receiving a Notice of Violation may appeal the determination of the authorized enforcement agency. The notice of appeal must be received within __ days from the date of the Notice of Violation. Hearing on the appeal before the appropriate authority or his/her designee shall take place within 15 days from the date of receipt of

the notice of appeal. The decision of the municipal authority or their designee shall be final.

SECTION 16. ENFORCEMENT MEASURES AFTER APPEAL.

If the violation has not been corrected pursuant to the requirements set forth in the Notice of Violation, or , in the event of an appeal, within __ days of the decision of the municipal authority upholding the decision of the authorized enforcement agency, then representatives of the authorized enforcement agency shall enter upon the subject private property and are authorized to take any and all measures necessary to abate the violation and/or restore the property. It shall be unlawful for any person, owner, agent or person in possession of any premises to refuse to allow the government agency or designated contractor to enter upon the premises for the purposes set forth above.

SECTION 17. COST OF ABATEMENT OF THE VIOLATION.

Within __ days after abatement of the violation, the owner of the property will be notified of the cost of abatement, including administrative costs. The property owner may file a written protest objecting to the amount of the assessment within __ days. If the amount due is not paid within a timely manner as determined by the decision of the municipal authority or by the expiration of the time in which to file an appeal, the charges shall become a special assessment against the property and shall constitute a lien on the property for the amount of the assessment.

Any person violating any of the provisions of this article shall become liable to the city by reason of such violation. The liability shall be paid in not more than 12 equal payments. Interest at the rate of __ percent per annum shall be assessed on the balance beginning on the __st day following discovery of the violation.

SECTION 18. INJUNCTIVE RELIEF.

It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this Ordinance. If a person has violated or continues to violate the provisions of this ordinance, the authorized enforcement agency may petition for a preliminary or permanent injunction restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation.

SECTION 19. COMPENSATORY ACTION.

In lieu of enforcement proceedings, penalties, and remedies authorized by this Ordinance, the authorized enforcement agency may impose upon a violator alternative compensatory actions, such as storm drain stenciling, attendance at compliance workshops, creek cleanup, etc.

SECTION 20. VIOLATIONS DEEMED A PUBLIC NUISANCE.

In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this Ordinance is a threat to public health, safety, and welfare, and is declared and deemed a nuisance, and may be summarily abated or restored at the violator's expense, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken.

SECTION 21. CRIMINAL PROSECUTION.

Any person that has violated or continues to violate this ordinance shall be liable to criminal prosecution to the fullest extent of the law, and shall be subject to a criminal penalty of _____ dollars per violation per day and/or imprisonment for a period of time not to exceed ____ days.

The authorized enforcement agency may recover all attorney's fees court costs and other expenses associated with enforcement of this ordinance, including sampling and monitoring expenses.

SECTION 22. REMEDIES NOT EXCLUSIVE.

The remedies listed in this ordinance are not exclusive of any other remedies available under any applicable federal, state or local law and it is within the discretion of the authorized enforcement agency to seek cumulative remedies.

SECTION 23. ADOPTION OF ORDINANCE.

This ordinance shall be in full force and effect __ days after its final passage and adoption. All prior ordinances and parts of ordinances in conflict with this ordinance are hereby repealed.

PASSED AND ADOPTED this ____ day of _____, 19__, by the following vote:

Phosphorus Reduction Ordinance

Objective

The objective of the Phosphorus Reduction Ordinance is to reduce phosphorus pollutant loading into local rivers, streams, and lakes. This ordinance will provide municipalities the legal mechanism to reduce phosphorus fertilizer use.

Introduction

As part of the watershed management planning process, pollutant loading into local rivers, streams, and lakes were reviewed. As described in the Watershed Management

Plans (WMP) for the Looking Glass, Grand, and Red Cedar River watersheds, phosphorus loading should be reduced in to order to improve water quality throughout all three watersheds. The Phosphorus Reduction Ordinance targets homeowners who misapply and over apply phosphorus fertilizer to their lawns. It requires that the homeowner have their soil tested to see if their lawn needs phosphorus application in order to be a nutrient balanced lawn. Exemptions from the ordinance include: newly established lawn areas during their first growing season; lawns that have been soil tested to show the need for phosphorus application; agricultural uses, vegetable and flower gardens, trees and shrub application; lawn repair or re-seeding; and yard waste compost. The model/template Phosphorus Reduction Ordinance can help each municipality reduce the amount of phosphorus that contributes to poor water quality in the region.



Source: Stock.xchng

Background

Phosphorus is a nutrient that stimulates plant growth – that is why it is in most fertilizers. In lakes, rivers, and streams excess phosphorus encourages algae growth. Too much algae causes scum to form on the lake's surface and harms water quality. As algae dies and decays, it looks and smells bad. As it breaks down, it also uses up oxygen in the water that fish and other wildlife need.

The amount of phosphorus transported by surface runoff waters is influenced by many factors including: (1) the phosphorus status of the surface soil; as the soil becomes more saturated, the concentration of phosphorus in runoff water tends to increase; (2) soil erosion; phosphorus is also transported in soil particles carried by runoff; the greater the amount of erosion, the greater amount transported; (3) land cover; vegetation reduces soil erosion and generally improves infiltration of water into the soil; (4) slope; increasing slope generally increases runoff and erosion; thus, retention ditches and rain gardens retain water and allow more infiltration; (5) the amount of intensity of precipitation; more runoff and erosion occurs during hard rains because of less time for infiltration. All of these factors increase the amount of runoff entering rivers, streams, and lakes. By reducing phosphorus levels in the water runoff, pollutant loading to rivers, streams and lakes is reduced significantly.

Variables and Issues

The phosphorus ordinance may be adopted on a County-wide basis, or by individual communities including townships, cities, or villages. Variables to consider when first considering a Phosphorus Reduction Ordinance include, but are not limited to:

- County-wide or individual local government: The larger the geographical area that can be covered by the ordinance, the greater reduction in pollution.
- Enforcement: who will enforce the ordinance, is there staff available for this.
- Relationship with local Michigan State University Extension Office: they will handle soil testing regulations and should be a partner from the beginning process.
- Lawn care companies may be opposed.
- Property owners may be opposed.

Procedure for Adoption

Standard procedures for ordinance adoption by your municipality should be followed. Consult with your City or Township Attorney regarding specific language of the Ordinance. If many scientific questions arise, contact your local Michigan State University Extension Office for more information or assistance.

Stakeholders

Stakeholders that may be affected by a Phosphorus Reduction Ordinance include:

- Residents
- Lawn Care Companies, Lawn Services
- Local Garden Centers (Lowes, Home Depot, small business etc.)
- Golf Courses
- MSU Extension office
- Chamber of Commerce
- Michigan Department of Environmental Quality
- Large Businesses/Industry
- Local Units of Government
- Drain Commissioners Office
- Road Commission
- School Districts

Enforcement

The model/template ordinance on the following pages includes a penalty section that lists the fines an individual or company may receive if found out of compliance with ordinance. Enforcement of the ordinance may be handled by multiple departments of the municipality. If a County ordinance is adopted, the local Health Department will enforce the ordinance. If a local municipality adopts the ordinance any of the following departments could handle enforcement: community development and/or planning

services (planners, zoning administrator, housing inspectors, building inspectors, etc.); public services department (field operations unit, park rangers, conservation worker, education/outreach coordinator, etc.); wastewater treatment unit (systems planning, environmental coordinator, etc.).

By educating the public about the importance of reducing phosphorus loading in local waterbodies, they will be more inclined to comply with the ordinance, thus reducing the need for time consuming enforcement efforts. Provide fact sheets, or an informational brochure about why phosphorus reduction is important and alternatives to phosphorus fertilizers. Display an informational poster and educational materials in the appropriate municipal buildings to help outreach to the public. Provide a detailed explanation about the purpose of the Phosphorus Reduction Ordinance in the local community newsletter to help the public understand the importance of compliance with the ordinance.

References and Resources

Expert Input Regarding Dane County Phosphorus In Lawn fertilizer Ordinance:
Complete Responses to Questions.

http://www.danewaters.com/pdf/20031124_phosphorus_expert_responses.pdf#search=%22Summary%20of%20Phosphorus%20Ordinances%22

Muskegon County, Michigan: Phosphorus Reduction Ordinance.

<http://www.muskegonhealth.net/programs/environmental/phosphorus.htm>

Phosphorus Control in Dane County, Wisconsin

<http://www.danewaters.com/management/phosphorus.aspx>

Michigan State University Extension – document section. You can use this website to find many scientific materials regarding phosphorus use.

http://www.msue.msu.edu/portal/default.cfm?pageset_id=25744&page_id=25794&msue_portal_id=25643

Michigan State University Extension – office locations and staff contact by county.

http://www.msue.msu.edu/portal/default.cfm?pageset_id=25744&page_id=25770&msue_portal_id=25643

Stock.xchng photos <http://www.sxc.hu/index.phtml>

MUSKEGON COUNTY BOARD OF COMMISSIONERS

ORDINANCE NO. 2006-329

TITLE: ORDINANCE TO BAN FERTILIZER CONTAINING PHOSPHORUS IN MUSKEGON COUNTY

APPROVAL DATE: June 20, 2006

PUBLISH DATE: July 18, 2006

1. Authority

This ordinance is adopted under the authority of MCLA 46.10b.

2. Purpose and Intent

The Muskegon County Board of Commissioners finds that Muskegon County's lakes and streams are a natural asset, which enhance the environmental, recreational, cultural and economic resources of the area and contribute to the general health and welfare of the public. The Board further finds that regulating the amount of nutrients and contaminants, including phosphorus contained in fertilizer, entering the lakes will improve and maintain lake water quality.

3. Applicability

- (a) This ordinance applies in all areas of Muskegon County.
- (b) Cities and villages wholly or partially in Muskegon County may assume administration and regulation of lawn fertilizer application and sale if they have adopted ordinances that includes standards at least as restrictive as those described in Sections 5 through 9.

4. Definitions

- (a) "Agricultural uses" means beekeeping, dairying, egg production, floriculture, fish or fur farming; forest and game management; grazing; livestock raising; orchards; plant greenhouses and nurseries; poultry raising; raising of grain, grass, mint and seed crops; raising of fruits, nuts, berries, sod farming and vegetable raising.
- (b) Fertilizer has the meaning in MCLA 324.8501(k).
- (c) Lawn fertilizer means any fertilizer, whether distributed by property owner, renter or commercial entity, distributed for nonagricultural use, such as for lawns, golf courses, parks and cemeteries. Lawn fertilizer does not include fertilizer products intended primarily for garden or indoor use.

5. Regulation of the Use and Application of Lawn Fertilizer

- (a) Effective January 1, 2007, no person shall apply any lawn fertilizer within Muskegon County that is labeled as containing more than 0% phosphorus or other compound containing phosphorus, such as phosphate, except as provided in Section 6.
- (b) No lawn fertilizer shall be applied when the ground is frozen.
- (c) No person shall apply fertilizer to any impervious surface including parking lots, roadways, and sidewalks. If such application occurs, the fertilizer must be immediately contained and either legally applied to turf or placed in an appropriate container.

6. Exemptions

The prohibition against the use of fertilizer under section 5 shall not apply to:

- (a) Newly established turf or lawn areas during their first growing season.
- (b) Turf or lawn areas that soil tests, performed within the past three years by the Michigan State University Extension Service or other qualified or recognized authority in the area of soil analysis for analysis, confirm are below phosphorus levels established by the Michigan State University Extension Service. The lawn fertilizer application shall not contain an amount of phosphorus exceeding the amount and rate of application recommended in the soil test evaluation.
- (c) Agricultural uses, vegetable and flower gardens, or application to trees or shrubs.
- (d) Yard waste compost, bio-solids or other similar materials that are primarily organic in nature and are applied to improve the physical condition of the soil.

7. Sale of Fertilizer Containing Phosphorus

- (a) Effective January 1, 2007, no person shall sell or offer for sale any lawn fertilizer within Muskegon County that is labeled as containing more than 0% phosphorus, such as phosphate, except such fertilizer may be sold for use as provided in Section 6.
- (b) Effective January 1, 2007, no person shall display lawn fertilizer containing phosphorus. Signs may be posted advising customers that lawn fertilizer containing phosphorus is available upon request for uses permitted by Section 6.
- (c) Effective August 1, 2006, a sign containing the regulations set forth in this ordinance and the effects of phosphorus on Muskegon County's waters must be prominently displayed where lawn fertilizers are sold.

8. Enforcement

Violations of this ordinance will be enforced by the Muskegon County Health Department.

9. Penalty

Any person who violates Section 5 in the application of fertilizer at his or her residence shall be subject to a forfeiture of twenty-five (\$25.00) Dollars per violation. Any commercial fertilizer applicator, residential or commercial developer, industrial or commercial owner, or other person who violates Section 5, and any person violates Section 7 shall be subject to a forfeiture of \$50.00 for the first (1st) violation within a twelve (12) month period, \$150.00 for the second violation within a twelve (12) month period, and \$300.00 for the third and each subsequent violation within a twelve (12) month period.

10. Severability Clause

If any section, provision or portion of this ordinance is ruled invalid by a court, the remainder of the ordinance shall not for that reason be rendered ineffective or invalid.

Motion by Robert Scolnik, second by Marvin Engle, carried, to adopt the foregoing resolution at a regular meeting of the Muskegon County Board of Commissioners held June 20, 2006 at 3:30 PM.

I, Karen Buie, Clerk of Muskegon County, State of Michigan, do hereby certify that the above is a true and correct copy of an ordinance adopted by the Muskegon County Board of Commissioners at the June 20, 2006 regular meeting, in testimony whereof, I have hereunto set my hand and affixed the seal of my office, this 11 day of July 2006.

ORDINANCE NO.

TITLE: ORDINANCE TO BAN FERTILIZER CONTAINING PHOSPHORUS IN <MUNICIPALITY>

APPROVAL DATE:

PUBLISH DATE:

1. Authority

This ordinance is adopted under the authority of MCLA 46.10b.

2. Purpose and Intent

The <MUNICIPALITY> finds that <MUNICIPALITY>'s lakes and streams are a natural asset, which enhance the environmental, recreational, cultural and economic resources of the area and contribute to the general health and welfare of the public. The Board further finds that regulating the amount of nutrients and contaminants, including phosphorus contained in fertilizer, entering the lakes will improve and maintain lake water quality.

3. Applicability

- (a) This ordinance applies in all areas of <MUNICIPALITY>.
- (b) Cities and villages wholly or partially in <MUNICIPALITY> may assume administration and regulation of lawn fertilizer application and sale if they have adopted ordinances that includes standards at least as restrictive as those described in Sections 5 through 9.

4. Definitions

- (a) "Agricultural uses" means beekeeping, dairying, egg production, floriculture, fish or fur farming; forest and game management; grazing; livestock raising; orchards; plant greenhouses and nurseries; poultry raising; raising of grain, grass, mint and seed crops; raising of fruits, nuts, berries, sod farming and vegetable raising.
- (b) Fertilizer has the meaning in MCLA 324.8501(k).
- (c) Lawn fertilizer means any fertilizer, whether distributed by property owner, renter or commercial entity, distributed for nonagricultural use, such as for lawns, golf courses, parks and cemeteries. Lawn fertilizer does not include fertilizer products intended primarily for garden or indoor use.

5. Regulation of the Use and Application of Lawn Fertilizer

- (a) Effective January 1, 2007, no person shall apply any lawn fertilizer within <MUNICIPALITY> that is labeled as containing more than 0%

phosphorus or other compound containing phosphorus, such as phosphate, except as provided in Section 6.

(b) No lawn fertilizer shall be applied when the ground is frozen.

(c) No person shall apply fertilizer to any impervious surface including parking lots, roadways, and sidewalks. If such application occurs, the fertilizer must be immediately contained and either legally applied to turf or placed in an appropriate container.

6. Exemptions

The prohibition against the use of fertilizer under section 5 shall not apply to:

(a) Newly established turf or lawn areas during their first growing season.

(b) Turf or lawn areas that soil tests, performed within the past three years by the Michigan State University Extension Service or other qualified or recognized authority in the area of soil analysis for analysis, confirm are below phosphorus levels established by the Michigan State University Extension Service. The lawn fertilizer application shall not contain an amount of phosphorus exceeding the amount and rate of application recommended in the soil test evaluation.

(c) Agricultural uses, vegetable and flower gardens, or application to trees or shrubs.

(d) Yard waste compost, bio-solids or other similar materials that are primarily organic in nature and are applied to improve the physical condition of the soil.

7. Sale of Fertilizer Containing Phosphorus

(a) Effective <DATE>, no person shall sell or offer for sale any lawn fertilizer within <MUNICIPALITY> that is labeled as containing more than 0% phosphorus, such as phosphate, except such fertilizer may be sold for use as provided in Section 6.

(b) Effective <DATE>, no person shall display lawn fertilizer containing phosphorus. Signs may be posted advising customers that lawn fertilizer containing phosphorus is available upon request for uses permitted by Section 6.

(c) Effective <DATE>, a sign containing the regulations set forth in this ordinance and the effects of phosphorus on <MUNICIPALITY>'s waters must be prominently displayed where lawn fertilizers are sold.

8. Enforcement

Violations of this ordinance will be enforced by the <COUNTY> Health Department.

9. Penalty

Any person who violates Section 5 in the application of fertilizer at his or her residence shall be subject to a forfeiture of twenty-five (\$25.00) Dollars per violation. Any commercial fertilizer applicator, residential or commercial developer, industrial or commercial owner, or other person who violates Section 5, and any person violates Section 7 shall be subject to a forfeiture of \$50.00 for the first (1st) violation within a twelve (12) month period, \$150.00 for the second violation within a twelve (12) month period, and \$300.00 for the third and each subsequent violation within a twelve (12) month period.

10. Severability Clause

If any section, provision or portion of this ordinance is ruled invalid by a court, the remainder of the ordinance shall not for that reason be rendered ineffective or invalid.

Motion by <PERSON>, second by <PERSON>, carried, to adopt the foregoing resolution at a regular meeting of the <MUNICIPALITY> held <DATE> at <TIME>.

I, <PERSON>, <TITLE>of <MUNICIPALITY>, State of Michigan, do hereby certify that the above is a true and correct copy of an ordinance adopted by the <MUNICIPALITY> at the <DATE> regular meeting, in testimony whereof, I have hereunto set my hand and affixed the seal of my office, this ___ day of _____.

Signature

Wetlands Ordinance

Objective

Adoption of a Wetlands Management Ordinance enables the local unit of government to manage wetlands smaller than 5 acres. Wetlands larger than 5 acres or those that are contiguous to other water bodies are regulated by the state and federal government. The importance of wetlands to water quality and the protection of our lakes and rivers cannot be overstated. Wetlands large and small play a critical role in:



Source: Stock.xchng

- Flood and stormwater storage;
- Reducing the velocity of stormwater, which protects shorelines and stream banks from erosive forces of waves and high water flows, and allows sediments to settle out of the water before entering lakes and streams;
- Protecting water quality by removing and breaking down sediments, nutrients, and toxins;
- Providing floral diversity and wildlife habitat protection;
- Creating fishery habitat, and habitat for reptiles and amphibians; and,
- Providing aesthetics and recreational opportunities.

An essential component of preserving wetlands and watercourses is controlling the type of activities that are permitted within them. Therefore, the ordinance requires a wetlands use permit be obtained before any activities can take place within the wetland that may have a negative impact on the wetland's natural function.

Introduction

Adopting a wetlands management ordinance permits a community to manage wetlands under 5 acres but at least 2 acres in size. This ordinance can also protect wetlands smaller than 2 acres, but this process requires that much more stringent standards be met. These are set forth by the Michigan Department of Environmental Quality (MDEQ), but essentially require that it be shown on a case by case basis that the protection of these smaller wetlands is essential to the preservation of the natural resources of a community.

The wetland management and permitting process must follow strict guidelines established by the MDEQ. It is paid for by user fees and most communities hire a professional wetlands official for assistance. It is basically a four step process consisting of first creating an official wetlands inventory map, verifying the existence of a wetland, delineating each wetland in question and the permit application and approval.

- Develop a Wetlands Map using existing official sources. This is maintained, displayed and amended thru the wetlands management process.
- Once this wetlands map is complete, any property planned for development that is shown to contain a wetland must first have the existence of the wetland verified. This Verification process is conducted to determine if indeed a wetland is present on the specific parcel in question. If there is no wetland present, the map is amended to reflect this and the wetlands permitting process no longer applies.
- If a wetland is determined to be present, it must then be delineated to determine its boundaries and extent. This delineation then triggers an amendment to the map.
- Once the wetland is verified and delineated, an applicant must receive an approved wetlands Permit in order to proceed with any development.

This wetlands permit prohibits any activities that would negatively impact the wetland. Exceptions include fishing or hunting; recreation and farming types of activities. There are also various exceptions for existing legacy uses, utilities, roads, and specific existing drains. The wetlands permitting process is set forth by the MDEQ, using their form, and is concurrent with all other development permits such as site plans, platting, special land uses, etc. The wetlands permit must be approved before any development can occur.

Background

At the local level you receive the right to manage wetlands and other natural resources through Michigan's Natural Resources Environmental Protection Act (NREPA), Part 303, PA 451 of 1994. This legislation establishes minimum wetland protection controls for regulated wetlands and gives local government's explicit authority to regulate wetlands smaller than 5 acres in size so long as it is done according to statute and in coordination with the MDEQ.

Although there is still some debate as to the definition of a wetland, the Michigan Legislature requires that communities adopt the statutory definition which describes wetlands as "...land characterized by the presence of water at a frequency and duration sufficient to support, and that under normal circumstances does support, wetland vegetation or aquatic life, and is commonly referred to as a bog, swamp, or marsh . . ." (MCL 13A.30301). The actual verification and delineation of a wetland is based upon three landscape characteristics: soils, vegetation and hydrology. Criteria for making regulatory determinations have been adopted by the federal government and these methods serve as the basis for those used and accepted in Michigan.

Variables and Issues

The main variable is to what degree the local community wishes to regulate wetlands. Normally, they choose to regulate those from 2 to 5 acres. They can also regulate those

less than 2 acres according to the more restrictive review criteria. In at least one instance, they have also chosen to co-regulate wetlands greater than 5 acres in a parallel but separate permitting process with the MDEQ.

The other variable is how to structure your staff and pay for the enforcement of this ordinance. However, most communities have chosen to hire a wetlands professional to conduct verifications and delineations. This person and other administrative costs associated with enforcement are normally recovered thru an application and permit fee structure.

To date, local wetlands management ordinances have withstood legal challenge particularly with regard to Takings Claims. However, it is imperative that this ordinance be structured according to statute and be thoroughly reviewed by your township attorney.

Procedure for Adoption

The community must have a natural resource protection goal within its Master Plan (Comprehensive Development Plan) that provides for the regulation of wetlands. This document is the underlying basis for any and all zoning statutes and must be in place.

The community's wetlands management ordinance and permit process must follow statute and mirror that of the MDEQ. The community must complete a wetlands inventory map and provide this inventory for public review and comment. This may be done using the National Wetlands Inventory (MI) maps, or other similar existing data sources such as the MDEQ digital MIRS system or hydric soils maps produced by the National Resources Conservation Service.

The identification and delineation of wetlands must be according to established MDEQ rules and procedures and must be conducted by a wetlands professional. The review criteria to determine if a wetland smaller than 2 acres is essential is set forth by statute. The local ordinance must also mirror MDEQ with regard to statutory time limits, the permit form itself, and must exempt from permitting requirements all activities exempted at the state level. Some of these relate to recreational uses and utilities, but most revolve around farming, mining, and harvesting forest products or drainage.

State law requires that local authorities use the same decision making body to act on wetlands permits that will make decisions related to site plans, plats, wetland determinations and related matters. The exceptions are preliminary reviews and the appeals process. Standard procedures for ordinance adoption by your municipality should be followed. Consult with your City or Township Attorney regarding specific language of the Ordinance. Lastly, the appeals process must follow state law.

Stakeholders

The major stakeholders include:

- MDEQ and Michigan Department of Transportation
- local Drain Commissioner
- county Road commission

- local planning and zoning staff
- commission and attorney
- whomever you choose to be your wetlands professional
- landowners
- developers
- residents

Enforcement

There are numerous activities within managed wetlands that are prohibited without first obtaining a wetland use permit. They are detailed in the attached ordinances and at the MDEQ website noted below.

MDEQ regulates all wetlands that are contiguous to any body of water regardless of its size. Non-contiguous wetlands of 5 acres or more are also regulated. Lastly, the MDEQ has the authority to regulate any wetland, regardless of size, if they make affirmative finding that its protection is "...essential to the preservation of the natural resources of the state from pollution, impairment or destruction . . .". However, this final authority has never been invoked by the MDEQ.

Local communities choosing to regulate wetlands normally regulate those from 2 acres to 5 acres in size and smaller wetlands if it meets one of a very specific set of criteria set forth in Section 30309. The permit review criteria for wetlands of 2 to 5 acres for issuing a wetlands use permit are set forth by statute and are included in the attached ordinances and at the MDEQ website.

References and Resources

Filling the Gaps: Environmental Protection Options for Local Governments, K. Ardizzone and M. Wyckoff, MDEQ, 2003.

Guidelines for Wetland Identification and Evaluation: Needs and Opportunities for Local Protection, Research Report, Michigan Agricultural Experiment Station, Michigan State University, 2000, Research Report 572.

Living with Michigan's Wetlands: A Landowners Guide, W. Cwikiel, Tip of the Mitt Watershed Council, 1998.

MDEQ Permit Coordination Unit (517) 373-1323

MDEQ (517) 241-8169 or (800) 662-9278

Meridian Township Department of Community Planning and Development (517) 349-1200 ext. 393 www.michigan.gov/deq (click on Water, the Wetlands Protection)

Macomb County Ordinances

http://www.macombcountymi.gov/planning/Model_Envir_Ordinances.htm

U.S. Environmental Protection Agency, Office of Wetlands, Oceans, and Watersheds.
<http://www.epa.gov/owow/wetlands> .

Michigan Department of Environmental Quality. Wetlands protection information can be found at http://www.michigan.gov/deq/0,1607,7-135-3313_3687---,00.html.

Dean, Lillian F. *Protecting Wetlands at the Local Level: Options for Southeast Michigan Communities*. Rouge River Watershed Council. June, 1991.

Tip of the Mitt Watershed Council. *Living With Michigan's Wetlands: A Landowner's Guide*. 1996

Tip of the Mitt Watershed Council. *Preserving Michigan's Wetlands: Options for Local Governments*. 1997.

Stock.xchng photos <http://www.sxc.hu/index.phtml>

CHAPTER 22 ENVIRONMENT – Meridian Township ARTICLE IV. WETLAND PROTECTION*

***State law references:** Wetland protection, MCL 324.30301 et seq.; local wetland protection ordinances, MCL 324.30307(4), 324.30308.

DIVISION 1. GENERALLY

Sec. 22-116. Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Aquatic life means vertebrates or invertebrates that are dependent on wetlands for some vital portion of their life cycle, including any of the following: breeding, spawning, nesting, rearing of young, feeding, and resting or protection.

Contiguous means any of the following:

- (1) A permanent surface water connection or other direct contact with an inland lake, pond, river or stream.
- (2) A seasonal or intermittent direct surface water connection to an inland lake, pond, river or stream.
- (3) A wetland which is partially or entirely located within 500 feet of the ordinary high water mark of an inland lake, pond, river or stream, unless it is demonstrated by the property owner by clear and convincing evidence that there is no relation whatever between the wetland and the inland lake, pond, river or stream taking into the purposes of this article, as set forth in section 22-118.
- (4) Two or more areas of wetland separated only by barriers, such as dikes, roads, berms or other similar features, but only with any of the wetland areas contiguous under the criteria described in subsection (1), (2) or (3) of this definition.

Deposit means to fill, place or dump.

Director of community planning and development means the director of community planning and development for the township or his designee.

Environmental commission means the body created pursuant to chapter 2, article VI, division 3, and designated by the township board to advise the township on wetland issues.

Fill material means soil, rocks, sand, or waste of any kind, or any other material which displaces soil or water, or reduces water retention potential.

Inland lake, stream, river or pond means any of the following:

- (1) A river or stream that has definite banks, a bed, and visible evidence of a continued flow or continued occurrence of water.
- (2) A natural or permanent artificial inland lake or impoundment that has definite banks, a bed, a visible evidence of a continued occurrence of water, and a surface area of water that is more than five acres, not including lakes constructed by excavating or diking dry land and maintained for the sole purpose of cooling or storing water and not including lagoons for treating polluted water.
- (3) A natural or permanent artificial pond that has permanent open water with a surface area that is more than one acre but less than five acres, not including ponds constructed

by excavating or diking dry land and maintained for the sole purpose of cooling or storing water and not including lagoons used for treating polluted water.

Interested person means either:

- (1) A resident of the township who will suffer an identifiable injury, loss, or potential loss as a result of a wetland use permit decision; or
- (2) An owner of property within 500 feet of the wetland that is the subject of a wetland use permit decision.

Lot means a designated parcel, tract, building site or other interest in land established by a plat, subdivision, conveyance, condominium master deed, or as otherwise permitted by law, to be used, developed or built upon as a unit.

Minor drainage includes ditching and tiling for the removal of excess soil moisture incidental to the planting, cultivating, protecting, or harvesting of crops or improving the productivity of land in established use for agriculture, horticulture, silviculture, or lumbering.

Mitigation of wetlands means:

- (1) Methods for eliminating or reducing potential impact to regulated wetlands; or
- (2) Creation of new wetlands of the same or similar function to offset unavoidable loss of existing wetlands to meet the township goal of no net loss of wetlands.

Person means an individual, sole proprietorship, partnership, corporation, association, municipality, the state, an instrumentality or agency of this state, the federal government, or an instrumentality or agency of the federal government or other legal entity.

Protected wetlands means any of the following:

- (1) Wetlands, regardless of size, which are contiguous to any inland lake stream, river, or pond, whether partially or entirely within the project site.
- (2) Wetlands, regardless of size, which are partially or entirely within 500 feet of the ordinary high water mark of any inland lake, stream, river or pond, unless it is determined by the state department of environmental quality that there is no surface or ground water connection between the wetland and the water body.
- (3) Wetlands which are larger than two acres, whether partially or entirely contained within a lot, and which are not contiguous to any inland lake stream river or pond.
- (4) Wetlands, regardless of size, which are not contiguous to any inland lake stream river or pond, if the state department of environmental quality determines the protection of the wetland is essential to the preservation of the natural resources of the state from pollution, impairment or destruction.
- (5) Wetlands, equal to or greater than one-quarter acre and equal to or less than two acres in size, which are not contiguous to any inland lake stream, river or pond and are determined to be essential to the preservation of the natural resources of the township as provided in section 22-156.

Remove means to dig, dredge, suck, pump, bulldoze, drag line, or blast.

Restoration means to return from a disturbed or totally altered condition to a previously existing natural or altered condition by some action of man.

Structure means any assembly of materials above or below the surface of the land or water, including, but not limited to, buildings, bulkheads, piers, docks, landings, dams, waterway obstructions, paving and roadways, poles, towers, cables, pipelines, drainage tiles, and other underground installations.

Township board means the legislative body of the Charter Township of Meridian,

Ingham County, Michigan.

Township wetland consultant means a person professionally knowledgeable in wetland delineation and resource value assessment, wetland protection, wetland restoration and wetland mitigation, appointed pursuant to section 3.4 of the township personnel policy to carry out certain duties hereunder. Any firm or individual appointed on a contract basis shall be selected competitively under the township purchasing policy.

Township wetland inventory map means the Meridian Township Wetland Inventory Map created to comply with Section 30308 (1), of the Natural Resources and Environmental Protection Act (MCL 324.30308). The township wetland inventory map is based on the National Wetland Map of the U.S. Fish and Wildlife Service, the Michigan Resource Information System Mapping (MIRIS) of the state department of natural resources, the soils maps of the soil conservation service, aerial photography and on-site inspections.

Wetland means land characterized by the presence of water at a frequency and duration sufficient to support, and that under normal circumstances does support, wetland vegetation or aquatic life and commonly referred to as a bog, swamp, or marsh.

Wetland vegetation means plants that exhibit adaptations to allow germination and growth with at least their root systems in the water or saturated soils under normal conditions.

(Code 1974, § 105-3; Ord. No. 2002-02, § 1(105-3), 3-19-2002; Ord. No. 2003-11, § 1, 7-6-2003)

Cross references: Definitions generally, § 1-2.

Sec. 22-117. Findings.

(a) The township board finds that wetlands are indispensable and fragile natural resources that provide many public benefits, including maintenance of water quality through nutrient cycling and sediment trapping as well as flood and storm water runoff control through temporary water storage, slow release, and groundwater recharge. In addition, wetlands provide open space; passive outdoor recreation opportunities; fish and wildlife habitat for many forms of wildlife, including migratory waterfowl, and rare, threatened or endangered wildlife and plant species; and pollution treatment by serving as biological and chemical oxidation basins.

(b) Preservation of the remaining township wetlands in a natural condition shall be and is necessary to maintain hydrological, economic, recreational, and aesthetic natural resource values for existing and future residents of the township, and, therefore, the township board declares a policy of no net loss of wetlands. Furthermore, the township board declares a long term goal of net gain of wetlands to be accomplished through review of degraded or destroyed wetlands in the township and, through cooperative work with landowners, using incentives and voluntary agreements to restore wetlands.

(c) Pursuant to article 4, section 52 of the Constitution of the State of Michigan, the conservation and development of natural resources of the state is a matter of paramount public concern in the interest of the health, safety, and general welfare of the people. Therefore, with authority from section 30307(4) of the Natural Resources and Environmental Protection Act (MCL 324.30307 et seq.), the township board finds that this article is essential to the long term health, safety, economic, and general welfare of the people of the township and to the furtherance of the policies set forth in part 17 of the

Natural Resources and Environmental Protection Act (MCL 324.101 et seq.).
(Code 1974, § 105-1; Ord. No. 2002-02, § 1(105-1), 3-19-2002)

Sec. 22-118. Purpose.

The purposes of this article are to provide for:

- (1) The protection, preservation, replacement, proper maintenance, restoration, and use in accordance with the character, adaptability, and stability of the township's wetlands in order to prevent their pollution or contamination; minimize their disturbance and disturbance to the natural habitat therein; and prevent damage from erosion, siltation, and flooding.
 - (2) The encouragement of proper and reasonable economic use of wetlands, the discouragement and limitation of improper use, the reduction of financial burdens improper uses impose on the community, the maintenance of harmonious and compatible land use balance within the township, and the prevention of nuisance conditions that arise with the indiscriminate development of wetlands.
 - (3) The coordination with, and support for, the enforcement of applicable federal, state, and county statutes, ordinances, and regulations, including but not limited to:
 - a. Part 303, Wetland Protection of the Natural Resources and Environmental Protection Act (MCL 324.30301 et seq.), enforced by the state department of environmental quality; and
 - b. Part 91 of the Natural Resources and Environmental Protection Act (MCL 324.9101 et seq.), enforced by the county drain commissioner.
 - (4) Compliance with part 17 of the Natural Resources and Environmental Protection Act (MCL 324.1701 et seq.), which imposes a duty on government agencies and private individuals and organizations to prevent or minimize the pollution, impairment or destruction of the natural resources that is likely to be caused by their activities.
 - (5) The establishment of standards and procedures for the review and regulation of the use of wetlands.
 - (6) The issuance of wetland use permits for approved activities.
 - (7) A procedure for appealing decisions.
 - (8) The establishment of enforcement procedures and penalties for the violation of this article.
 - (9) Assurance that the right to reasonable use of private property is maintained.
- (Code 1974, § 105-2; Ord. No. 2002-07, § 1(105-2), 3-19-2002)

Sec. 22-119. Penalties and enforcement.

- (a) In the event of a violation of this article, the township may commence a civil action for appropriate relief, including injunctive relief. An action under this article may be brought in the circuit court for the county. The court has jurisdiction to restrain the violation and to require compliance with this article. In addition to any other relief granted under this article, the court may impose a civil fine of not more than \$10,000.00 per day of violation. A person who violates an order of the court is subject to a civil fine not to exceed \$10,000.00 for each day of violation.
- (b) A person who violates this article is guilty of a misdemeanor, punishable by a fine of not more than \$2,500.00.

(c) A person who willfully or recklessly violates a condition or limitation in a permit issued by the township under this article, or a corporate officer who has knowledge of or is responsible for a violation, is guilty of a misdemeanor, punishable by a fine of not less than \$2,500.00 nor more than \$25,000.00 per day of violation, or by imprisonment for not more than 1 year, or both. A person who violates this article a second or subsequent time is guilty of a felony, punishable by a fine of not more than \$50,000.00 for each day of violation, or by imprisonment for not more than two years, or both.

(d) In addition to the penalties provided under subsections (a), (b), and (c) of this section, the court may order a person who violates this article to restore as nearly as possible the wetland that was affected by the violation to its original condition immediately before the violation. The restoration may include the removal of fill material deposited in the wetland or the replacement of soil, sand, or minerals.

(e) Whenever any work is performed contrary to the provision of this article or of a condition set forth in a wetland use permit, the township manager or his agent shall order the work to cease by notice in writing served on any persons engaged in the doing or causing such work to be performed, and any such persons shall, upon receipt of the order, forthwith stop such work until authorized by the township manager or his agent to proceed. In addition, if a person acts in violation of this article the township may refuse a certificate of occupancy or other construction permits related to the project whenever there is failure to comply with the provisions of this article.

(f) The director of community planning and development or his agent, officer or employee shall have authority under this article to enter upon privately owned land for the purpose of performing the township's duties under this ordinance and may take or cause to be made such examinations, surveys or samplings as are deemed necessary.

(g) Law enforcement officials or other officials having the police power shall have authority to assist the department of community planning and development in the enforcement of this article.

(h) In the event of a violation of this article, the township board shall have the power to order wetland restoration for the damaged or destroyed wetland area by the owner of the property affected or the person or agent responsible for the violation. If the owner or person responsible does not complete the restoration measures within the ordered period of time, the township board may order the affected wetland restored to its prior condition and/or create or restore other wetlands for the purpose of offsetting losses sustained as a result of this violation. The owner or other person responsible for the original violation shall be responsible to the township for the full cost of all such remedial activity.

(Code 1974, § 105-19; Ord. No. 2002-07, § 1(105-19), 8-20-2002)

Sec. 22-120. Existing nonconforming lots, uses and structures.

Building sites or lots, uses and structures lawfully existing on September 2, 1991, shall be subject to the requirements of this article, except as follows:

(1) Any activity, structure, or use lawfully existing prior to September 2, 1991, but not in conformity with the provisions of this article, may be continued, maintained and operated. No nonconforming activity, structure or use shall be enlarged or increased or extended to occupy a greater area of land than was occupied at the effective date of the ordinance from which this article is derived without first obtaining a wetland use permit.

(2) Any structure lawfully existing prior to September 2, 1991, if destroyed by any means to an extent of more than 50 percent of its replacement costs, exclusive of the foundation, may be reconstructed only in conformity with the provisions of this article.

The estimated cost of reconstruction shall be determined by the township chief building inspector. Persons aggrieved by the determination of estimated replacement cost by the chief building inspector may appeal such determination to the zoning board of appeals. (Code 1974, § 105-9; Ord. No. 2002-07, § 1(105-9), 8-20-2002)

Sec. 22-121. Township wetland inventory map.

The township wetland inventory map is a guide to the location of wetlands in the township. The map shall be used in the administration of this article and chapter 86, article V.

(1) The township wetland inventory map, together with all explanatory matter thereon and attached thereto, as may be amended through the wetland verification and delineation process, is hereby adopted by reference and declared to be part of this article. The township wetland inventory map shall be on file in the department of community planning and development.

(2) The township wetland inventory map shall serve as a general guide for the location of protected wetlands.

(3) The township wetland inventory map does not create any legally enforceable presumptions regarding whether property that is or is not included on the inventory map is or is not in fact a wetland.

(4) Map amendment process:

a. Any change to the township wetland inventory map, approved by the director of community planning and development through verification or delineation, shall be added to the township wetland inventory map on an annual basis.

b. The township shall ensure that each recorded owner of property on the property tax roll shall be notified of any amendment to the township wetland inventory map on an annual basis. The notice shall include the following information:

1. The maps have been amended.
2. The location to review the maps shall be indicated.
3. The owner's property may be designated as a wetland on the inventory map.
4. The township has an ordinance regulating wetlands.
5. The inventory map does not necessarily include all of the wetlands within the township that may be subject to this article.

(Code 1974, § 105-5, Ord. No. 2002-07, § 1(105-5), 8-20-2002)

Sec. 22-122. Wetland verification and delineation.

The township wetland inventory map shall be validated through the wetland verification process and the wetland delineation process. The wetland verification process, as set forth in subsection (1) of this section, shall be used to verify wetlands on properties where wetland is shown on the wetland inventory map. The wetland delineation process, as set forth in subsection (2) of this section, shall be used to establish the actual boundaries of wetlands in the township. The identification of the precise boundaries of wetlands on a project site shall be the responsibility of the applicant.

(1) *Wetland verification process.*

- a. The township or property owners of wetlands may initiate a verification of the areas shown on the township wetland inventory map as wetland. The verification shall be limited to a finding of wetland or no wetland by the township wetland consultant. The finding may be based on information and data deemed relevant by the township, which may include aerial photography, topographical maps, and field inspection.
- b. If there is a finding of no wetland on the property, then no further action by the applicant is required and the finding shall be incorporated into the wetland inventory map during the map amendment process.
- c. If there is a finding of wetland, then the establishment of the precise boundary through a wetland delineation shall be required to amend the township wetland inventory map or process a wetland use permit application.
- d. The applicant shall pay fees for the wetland verification process as established by resolution of the township board. The fee shall be refunded if there is a finding of no wetland.

(2) *Wetland delineation process.* Prior to the issuance of any permit or land development approval for a property which is shown to include a wetland on the township wetland inventory map, the applicant may be required to provide a wetland delineation to the township. The director of community planning and development shall decide whether a delineation is required, based on the proximity and relationship of the project to the wetland.

a. To establish actual wetland boundaries on a property, an applicant shall provide a survey or dimensional site plan, drawn at an appropriate scale, showing property lines, buildings and any points of reference along with the determined wetland boundaries, according to one of the following:

1. Wetland delineation by the state department of environmental quality.
2. Wetland delineation by the applicant's wetland consultant subject to review and approval by the township wetland consultant.

b. Where a wetland delineation is required by this article, the township wetland consultant shall establish wetland boundaries following receipt of the required information in subsection (2)a of this section and after conducting a field investigation.

c. The applicant shall pay fees for the wetland delineation process as established by resolution of the township board.

(Code 1974, § 105-6; Ord. No. 2002-07, § 1(105-6), 8-20-2002)

Sec. 22-123. Duties of the environmental commission.

The environmental commission created pursuant to chapter 2, article VI, division 3, shall perform the following duties with regard to this article.

(1) Advise the township board, planning commission, and director of community planning and development, as necessary, on wetland use permits, appeals of wetland use permits, and mitigation plans.

(2) Serve in an advisory role in setting policy guidelines on wetland issues in the township.

(3) Identify conflicts and propose solutions to resolve conflicts regarding wetland protection by present township ordinances, township operating procedures, and township activities.

(4) Identify and propose solutions to problems associated with wetland management.

- (5) Provide recommendations to the director of community planning and development on map administration.
 - (6) Coordinate with the state department of environmental quality on current issues affecting wetland protection.
 - (7) Recommend a program to protect and acquire important wetlands through tax incentives, donation, development rights, easements, land exchange, purchase, and other means. Assist landowners who are interested in the voluntary protection of wetlands through any of these methods.
 - (8) Promote wetland education at all levels. Develop education programs for the public and for township schools. The program should promote the values of wetlands and awareness of the hazards and threats to wetlands. The program should be particularly targeted to landowners with wetlands and emphasize how best to protect wetland values on their property.
 - (9) Coordinate a voluntary wetland stewardship program. Develop an adopt-a-wetland program for interested citizens to participate more directly in preservation of specific wetlands.
 - (10) Review degraded or destroyed wetlands in the township for possible rehabilitation or restoration.
- (Code 1974, § 105-16; Ord. No. 2002-07, § 1(105-16), 8-20-2002)

Secs. 22-124--22-150. Reserved.
DIVISION 2. PERMIT*

***State law references:** Wetland permits, MCL 324.30306 et seq.

Sec. 22-151. Activities requiring a wetland use permit.

It shall be unlawful for any person to conduct any activity, listed below, within a protected wetland without first obtaining a wetland use permit in accordance with the requirements of this division. Activities governed by this section include, but are not limited to, the following:

- (1) Depositing, permitting the placement of fill material or maintaining fill material in a protected wetland.
 - (2) Grading in a protected wetland.
 - (3) Dredging, removing, or permitting the removal of soil or minerals from a protected wetland.
 - (4) Draining, or causing to be drained, any water into or from a protected wetland.
 - (5) Constructing, operating, or maintaining any use or development in a protected wetland.
 - (6) Diverting, obstructing or impeding the flow of water into a protected wetland.
- (Code 1974, § 105-8; Ord. No. 2002-07, § 1(105-7), 8-20-2002)

Sec. 22-152. Activities not requiring a permit.

The following uses shall be allowed in a wetland without a permit subject to other laws of this state and the owner's regulation:

- (1) Fishing, trapping or hunting.

- (2) Swimming or boating.
- (3) Hiking.
- (4) Grazing of animals.
- (5) Farming, horticulture, silviculture, lumbering, and ranching activities, including plowing, irrigation, irrigation ditching, seeding, cultivating, minor drainage, harvesting for the production of food, fiber, and forest products, or upland soil and water conservation practices. A wetland altered under this article shall not be used for a purpose other than a purpose described in this subsection without a permit from the township.
- (6) Maintenance or operation of serviceable structures in existence on October 1, 1980, or constructed pursuant to part 303, of the Natural Resources and Environmental Protection Act (MCL 324.30301 et seq.).
- (7) Construction or maintenance of farm or stock ponds.
- (8) Maintenance, operation, or improvement which includes straightening, widening or deepening of the following which is necessary for the production or harvesting of agricultural products:
 - a. An existing private agricultural drain.
 - b. That portion of a drain legally established pursuant to the Drain Code of 1956 (MCL 282.1 et seq.) which has been constructed or improved for drainage purposes.
 - c. A drain constructed pursuant to other provisions of part 303 of the Natural Resources and Wetland Protection Act (MCL 324.30301 et seq.)
- (9) Construction or maintenance of farm roads, forest roads, or temporary roads for moving mining or forestry equipment, if the roads are constructed and maintained in a manner to ensure that adverse effect on the wetland will be otherwise minimized.
- (10) Drainage necessary for the production and harvesting of agricultural products if the wetland is owned by a person who is engaged in commercial farming and the land is to be used for the production and harvesting of agricultural products. Except as otherwise provided in part 303 of the Natural Resources and Environmental Protection Act (MCL 324.30301 et seq.), a wetland improved under this subsection after October 1, 1980, shall not be used for non-farming purposes without a permit from the state department of environmental quality. This subsection shall not apply to a wetland which is contiguous to a lake or stream, or to a tributary of a lake or stream, or to a wetland which the state department of environmental quality has determined by clear and convincing evidence to be a wetland which is necessary to be preserved for the public interest, in which case a permit shall be required.
- (11) Maintenance or improvement of public streets, highways or roads, within the right-of-way and in such a manner as to ensure that any adverse effect on the wetland will be otherwise minimized. Maintenance or improvement does not include adding extra lanes; increasing the right-of-way; or deviating from the existing location of the street, highway, or road.
- (12) Maintenance, repair, or operation of gas or oil pipelines and construction of gas or oil pipelines having a diameter of six inches or less, if the pipelines are constructed, maintained, or repaired in a manner to ensure that any adverse effect on the wetland will be otherwise minimized.
- (13) Maintenance, repair, or operation of electric transmission and distribution power lines and construction of distribution power lines, if the distribution power lines are

constructed, maintained, or repaired in a manner to ensure that any adverse effect on the wetland will be otherwise minimized.

(14) Operation or maintenance, including reconstruction of recently damaged parts, of serviceable dikes and levees in existence on October 1, 1980, or constructed pursuant to part 303 of the Natural Resources and Environmental Protection Act (MCL 324.30301 et seq.).

(15) Construction of iron and copper mining tailings basins and water storage areas.
(Code 1974, § 105-7; Ord. No. 2002-07, § 1(105-8), 8-20-2002)

Sec. 22-153. Relationship to state and federal permits.

Whenever persons requesting a wetland use permit are also subject to state and/or federal permit requirements, the following shall apply:

(1) The township shall have jurisdiction for the regulation of wetlands under this article concurrent with the jurisdiction of the state department of environmental quality.

(2) Approvals under this division shall not relieve a person of the need to obtain a permit from the state department of environmental quality and/or the U.S. Army Corps of Engineers, if required.

(3) Issuance of a permit by the state department of environmental quality and/or the U.S. Army Corps of Engineers shall not relieve a person of the need to obtain approval under this division, if applicable.

(Ord. No. 2002-07, § 1(105-4), 8-20-2002)

Sec. 22-154. Application requirements for wetland use permits.

Application for approval, appeal, and issuance of wetland use permits shall be concurrent with the application for approval, appeal, and issuance of other necessary township approvals. The applicant for a wetland use permit shall submit the following to the director of community planning and development.

(1) An application completed in full, on a form supplied by the state department of environmental quality and made available by the township with such other information as required by the director of community planning and development.

(2) A wetland delineation prepared by the applicant's wetland consultant, including, but not necessarily limited to, the following information:

- a. Dominant vegetation in the tree, sapling, shrub, and herb layers;
- b. Presence or lack of accepted wetland hydrology indicators;
- c. Analysis of soil including a description of the soil profile to at least 20 inches; and
- d. Comparison to county soil survey and maps of the wetland mapped.

Mapped data shall be represented in a manner that allows comparison to the township wetland inventory map.

(3) Soil drainage and stormwater management plans.

(4) A mitigation plan, which complies with all federal, state and local laws, if the proposed activity will result in the loss of wetland resources.

(5) The applicant may elect to have the application processed under one of the following procedures:

- a. The wetland application shall be reviewed immediately, either prior to or concurrent with the review of the proposed land use review, with the understanding that the land use review may not be completed at the time a decision is rendered on the wetland

application. Election of this alternative may require a reopening of the wetland application if the land use approval is inconsistent with the wetland approval.

b. The wetland application shall be reviewed and acted upon concurrent with the review of the land use proposal submitted by the applicant and the 90-day review period limitation specified in section 22-155 is thereby extended accordingly.
(Code 1974, § 105-10; Ord. No. 2002-07, § 1(105-10), 8-20-2002)

Sec. 22-155. Method of review of wetland use permit application.

(a) The director of community planning and development shall ensure that all required information including a wetland delineation and payment of a fee has been submitted. If an application is not complete, the applicant may be granted additional time to complete the application, provided that the applicant agrees that the additional time shall not be charged against the township's 90-day time limit for making a decision. The receipt of the application shall constitute permission from the owner to conduct an on-site investigation.

(b) Upon receipt of an application, the director of community planning and development shall:

- (1) Transmit one copy of the application to the state department of environmental quality.
- (2) Cause to be published a notice of the application and the date and time for submission of written public comments in a newspaper of general circulation in the township.
- (3) Post the subject property with a sign that shall be no less than ten square feet in size.
- (4) Transmit one copy of the application and supporting materials to the township wetland consultant to confirm the boundaries of the wetland and to review the proposal in light of the purpose and review standards of section 22-157 of this article and other applicable sections of this article.

(c) The township wetland consultant shall prepare and transmit a report and recommendation to the director of community planning and development documenting the review required by subsection (b)(4) of this section.

(d) The following process shall apply to wetland use permit decisions by the director of community planning and development:

(1) For wetland use permit applications submitted in conjunction with activities that do not require approval by the planning commission and/or township board, the director of community planning and development shall approve, approve with conditions or deny the application within 90 days after receipt of an application.

(2) The director of community planning and development shall transmit application materials and the report and recommendation prepared by the township wetland consultant to the environmental commission. The environmental commission may review the materials and transmit comments for consideration to the director of community planning and development.

(3) Persons wishing to comment on the application must submit their comments in writing to the director of community planning and development prior to the date and time set in the notice. Persons wishing to receive notice of the director of community planning and development's decision must submit a written request to the director of community planning and development.

(4) The director of community planning and development's decision shall be made only after reviewing the report and recommendation from the township wetland consultant,

written public comments, and any comments submitted by the planning commission or environmental commission.

(5) When a wetland use permit is approved, approved with conditions, or denied by the director of community planning and development, written notice shall be sent to the applicant and to all persons who have requested notice of the director of community planning and development's decision. The denial of a permit shall be accompanied by a written reason of denial.

(6) A permit approved by the director of community planning and development shall not be issued or effective until ten calendar days following the date of the approval and compliance with section 22-159(c).

(e) The following process shall apply to appeals of decisions made by the director of community planning and development or planning commission:

(1) Any interested person may appeal a decision by the director of community planning and development or planning commission, as applicable, to approve, approve with conditions, or deny a wetland use permit to the township board by filing a written statement containing the specific reasons for the appeal and setting forth the facts establishing his or her status as an interested person. This written statement must be filed with the township clerk within ten calendar days following the date of decision. The timely filing of a statement satisfying the requirements of this provision shall have the effect of staying the permit pending the township board's decision on appeal.

(2) The township board shall determine whether an individual pursuing an appeal is an interested person as defined by this article before addressing the merits of that appeal.

(3) The township board shall hold a hearing on the appeal, which shall be open to public comment, and shall include opportunity for the appealing party to present their appeal.

(4) Notice of the time and place for consideration of an appeal shall be placed in a newspaper of general circulation in the township not less than five days prior to the date of the hearing. A notice shall also be sent by mail or personal delivery to the owners of the property considered in the appeal and to all owners listed on the most recent tax roll of real property within 500 feet of the boundary of the property in question. Such notice shall be sent not less than five days prior to the hearing.

(5) The township board shall affirm, affirm with conditions, or reverse the decision of the planning commission or director of community planning and development. The board's decision shall be based on written findings.

(f) The following process shall apply to wetland use permit decisions by the township board and planning commission:

(1) Wetland use permit applications submitted in conjunction with a related land development activity shall be decided by the same entity that decides the related land development activity consistent with part 303 of the Natural Resources and Environmental Protection Act (MCL 324.30301 et seq.). The director of community planning and development shall transmit application materials and the report and recommendation prepared by the township wetland consultant to the township board, planning commission, and the environmental commission. The environmental commission may review the materials and provide comments for consideration by the township board or planning commission, as applicable.

(2) After review and study of the application materials, the township wetland consultant's report and recommendation, and comments from the environmental commission, the

township board or planning commission, as applicable, may hold one public hearing after publication in a newspaper of general circulation in the township not less than five days nor more than 15 days prior to the date of the hearing. Such notice shall indicate the place, time and subject of the hearing and the place and time the proposed wetland use permit may be examined. The wetland use permit hearing may be held in conjunction with a review of the related land use request.

(3) In the event of a public hearing, notice shall be sent by mail or personal delivery to the owners of property for which approval is being considered and to all owners of property, as listed on the most recent tax roll, within 500 feet of the boundary of the property in question. Notification need not be given to more than one occupant of a structure, except that if a structure contains more than one dwelling unit or spatial area owned or leased by different persons, one occupant of each unit shall receive notice. In the case of a single structure containing more than four dwelling units, notice may be given to the manager or owner of the structure, who shall be requested to post the notice at the primary entrance to the structure. A notice containing the time, date, place and purpose of the hearing shall be posted on the subject property at least eight days prior to the hearing. The posting sign shall be no less than ten square feet in size.

(4) After completing the review and holding one public hearing, if so required, the township board or planning commission shall approve, approve with conditions or deny the application within 90 days after receipt of an application, in accordance with this division.

(5) Written notice shall be sent to the applicant upon approval, approval with conditions or denial of a wetland use permit by the township board. The denial of a permit shall be accompanied by a written reason for denial.

(6) A permit approved by the township board or planning commission shall not be issued or effective until ten calendar days following the date of the approval and compliance with section 22-159(c).

(Code 1974, § 105-11; Ord. No. 2002-07, § 1(105-11), 8-20-2002; Ord. No. 2003-11, § 2, 7-6-2003)

Sec. 22-156. Criteria for wetlands under two acres in size.

(a) Where an applicant proposes to perform a regulated activity in a protected wetland less than two acres in size, the director of community planning and development shall be so advised in writing. The director of community planning and development shall forward the location and other information concerning the wetland to the township wetland consultant, who shall issue a preliminary finding as to whether one or more of the following criteria are likely to apply to the wetland:

(1) The wetland supports state or federal endangered or threatened plants, fish, or wildlife appearing on a list specified in part 365 of the Natural Resources and Environmental Protection Act (MCL 324.36501 et seq.).

(2) The wetland represents what is identified as a locally rare or unique ecosystem.

(3) The wetland supports plants or animals of an identified local importance.

(4) The wetland provides groundwater recharge documented by a public agency.

(5) The wetland provides flood and storm control by the hydrologic absorption and storage capacity of the wetland.

- (6) The wetland provides wildlife habitat by providing breeding, nesting, or feeding grounds or cover for forms of wildlife or waterfowl, including migratory waterfowl and rare, threatened, or endangered wildlife species.
 - (7) The wetland provides protection of subsurface water resources and provision of valuable watersheds and recharging groundwater supplies.
 - (8) The wetland provides pollution treatment by serving as a biological and chemical oxidation basin.
 - (9) The wetland provides erosion control by serving as a sedimentation area and filtering basin, absorbing silt and organic matter.
 - (10) The wetland provides sources of nutrients in water food cycles and nursery grounds and sanctuaries for fish.
 - (b) The township wetland consultant's report shall be forwarded to the township board, which shall determine whether a wetland use permit application meeting the requirements of section 22-154 shall be required, based on a finding that the wetland is essential to the preservation of the natural resources of the township. Such determination shall be based on a finding that one or more of the criteria set forth in subsection (a) of this section are met.
 - (c) If the township board determines that the wetland is not essential to the preservation of the natural resources of the township, the township board's decision shall be so noted on the township wetland inventory map at the time it is amended. The requested activity shall be approved subject to all other applicable laws and regulations.
 - (d) When a wetland under two acres in size has been determined to be essential to the natural resources of the township and the township has found that one or more of the criteria set forth in subsection (a) of this section exist at the site, the township shall notify the applicant in writing, stating the reasons for determining the wetland to be essential to the preservation of the natural resources.
 - (e) After determining that a wetland less than two acres in size is essential to the preservation of the natural resources of the township, the wetland use permit application shall be reviewed according to the standards in section 22-157.
- (Code 1974, § 105-12; Ord. No. 2002-07, § 1(105-12), 8-20-2002)

Sec. 22-157. Review standards for wetland use permits.

The criteria to evaluate wetland use permits under this division and to determine whether a permit is granted are as follows:

- (1) A permit for any activity listed in section 22-151 shall not be approved unless the proposed activity is in the public interest, the permit is necessary to realize the benefits derived from the activity, and the proposed activity is otherwise lawful in all respects. Public input shall be evaluated in approving, approving with conditions, or denying the application. The reasonable use of the property involved in accordance with applicable local ordinances and state law shall also be considered.
- (2) In determining whether the proposed activity is in the public interest, the benefit which reasonably may be expected to accrue from the proposed activity shall be balanced against the reasonably foreseeable detriments of the activity. The decision shall reflect the national, state, and local concern for the protection of natural resources from pollution, impairment, and destruction. The following general criteria shall be considered:

- a. The relative extent of the public and private need for the proposed activity.
- b. The availability of feasible and prudent alternative locations and methods to accomplish the expected benefits from the activity.
- c. The extent and permanence of the beneficial or detrimental effects which the proposed activity may have on the public and private uses to which the area is suited, including the benefits the wetlands provide.
- d. The probable impact of each proposal in relation to the cumulative effect created by other existing and anticipated activities in the watershed.
- e. The probable impact on recognized historic, cultural, scenic, ecological, or recreational values and on the public health or safety, or fish or wildlife.
- f. Economic value, both public and private, of the proposed land change to the general township area.
- g. The size and quality of the wetland being considered.
- h. The findings of necessity for the proposed activity which have been made by other agencies.
- i. Amount of wetland remaining in the general area and proximity to a waterway.
- j. Proximity to any waterbody.

k. Extent to which upland soil erosion adjacent to the protected wetland is controlled.

(3) A wetland use permit shall not be issued unless it is shown that an unacceptable disruption will not result to the aquatic resources. In determining whether a disruption to the aquatic resources is unacceptable, the benefits outlined in section 22-117 and the criteria set forth in subsection (2) of this section shall be considered. A permit shall not be issued unless the applicant also shows either of the following:

- a. The proposed activity is primarily dependent upon being located in the wetland; or
- b. A feasible and prudent alternative does not exist.

(4) Failure to submit a complete application may be reason for denial of a wetland use permit.

(5) Following approval of the application, a wetland use permit shall be issued upon determination that all other requirements of ordinance and law have been met, including site plan, plat or land use approval, as applicable, and including issuance of a permit by the state department of environmental quality if required under MCL 324.30301 et seq. In cases where a state department of environmental quality permit allows activities not permitted by the wetland use permit approval granted under this section, the restrictions of the approval granted under this section shall govern.

(Code 1974, § 105-13; Ord. No. 2002-07, § 1 (105-13), 8-20-2002)

Sec. 22-158. Consideration of wetland mitigation proposals.

To ensure no net loss of wetlands in the township, mitigation shall be required in instances where there are losses of wetland resources. The township wetland consultant shall review an applicant's mitigation plan and transmit a recommendation to the director of community planning and development. The director of community planning and development, planning commission, township board or environmental commission, as applicable, shall review the applicant's mitigation plan and consider the township wetland consultant's recommendation as part of the wetland use permit review process. A mitigation plan, if required, shall be approved as part of the wetland use permit decision.

Mitigation shall not be considered a substitute for making all prudent attempts to avoid wetland impacts.

(1) Prior to considering a proposal for wetland mitigation, it must be shown that it is practical to replace the wetland resource values which will be unavoidably impacted, including flood prevention, wildlife habitat, groundwater resource protection and recharge, pollution treatment, erosion control, nutrient sources, aesthetics, recreation, open space and any other values identified.

(2) If determined by the township wetland consultant that the requirements of subsection (1) Of this section are met, the following criteria shall be considered when reviewing an applicant's mitigation proposal:

a. Mitigation shall be provided on-site where practical and beneficial to the wetland resources. If on-site mitigation is not practical and beneficial, then mitigation in the immediate vicinity, within the same watershed, of the permitted activity may be considered. Only if all of these options are impractical shall mitigation be considered elsewhere.

b. Any proposal shall ensure that there will be no net loss to the wetland resource values.

c. The mitigation plan must comply will all applicable federal, state, and local laws.

d. A plan to monitor preserved and replacement wetlands over a minimum of five years has been specified.

(3) Wetland mitigation and monitoring plans shall become conditions to the wetland use permit and shall be the responsibility of the applicant.

(4) Financial assurances that mitigation is accomplished as specified by the permit condition may be required by the director of community planning and development, planning commission, or township board, as applicable.

(5) Any mitigation activity shall be completed before initiation of other permitted activities, unless a phased concurrent schedule can be agreed upon between the director of community planning and development, planning commission, or township board, as applicable, and the applicant.

(6) Wetland mitigation plans that create less than two acre wetlands shall meet one of the conditions listed in subsection 22-156(a).

(Code 1974, § 105-14; Ord. No. 2002-07, § 1(105-14), 8-20-2002)

Sec. 22-159. Wetland use permit conditions of issuance.

(a) The director of community planning and development, planning commission, or township board, as applicable, shall attach any reasonable conditions considered necessary to ensure that the intent of this article will be fulfilled, to minimize or mitigate damage or impairment to, encroachment in, or interference with natural resources and processes within the protected wetland, or to otherwise improve or maintain the water quality.

(b) The director of community planning and development, planning commission, or township board shall fix a reasonable time for the undertaking and completion of all activities and structures, as applicable.

(c) Following the approval of the wetland use permit application, a permit shall be issued upon determination that all other requirements of the ordinance and law have been met, including site plan, plat or land use approvals, as applicable, and including issuance of required permits by the county or the state department of environmental quality under

part 303 of the Natural Resources and Environmental Protection Act (MCL 324.30301 et seq.).

(d) The director of community planning and development, planning commission, or township board, as applicable, upon issuance of a wetland use permit, may require the applicant to file with the township treasurer cash, certified check, or an irrevocable bank letter of credit in an amount the director of community planning and development, planning commission or township board, as applicable, determines is necessary to ensure compliance with the wetland use permit approval conditions and this article.

(e) At no time shall the director of community planning and development, planning commission, or township board, as applicable, issue a wetland use permit that allows a more extensive alteration of the wetland than permitted by state or federal law.

(f) Wetland use permits for seasonal operations need not be renewed annually unless otherwise stated in the permit.

(g) Any change that increases the size or scope of the operation and that affects the criteria considered in approving the permit, as determined by the director of community planning and development, planning commission, or township board, as applicable, shall require the filing of a new wetland use permit application.

(h) Any temporary, seasonal, or permanent operation that is discontinued for two years or two seasons shall be presumed to have been abandoned and the wetland use permit automatically voided.

(i) Any permit granted under this division may be revoked or suspended by the township board, after notice and an opportunity for a hearing, for any of the following causes:

(1) A violation of a condition of the permit.

(2) Misrepresentation or failure to fully disclose relevant facts in the application.

(3) A change in a condition that requires a temporary or permanent change in the activity.

(j) An applicant who has received a wetland use permit under this division shall comply with the following in connection with any construction or other activity on the property for which the wetland use permit has been issued:

(1) Maintain soil erosion control structures and measures, including, but not limited to, silt fences, straw bale berms, and sediment traps. The permittee shall provide for periodic inspections throughout the duration of the project.

(2) Maintain clear delineation of the protected wetlands, so marked by the township wetland consultant during the on-site inspection, so that such locations are visible to all construction workers.

(3) Post on the site, prior to commencement of work on the site and continuing throughout the duration of the project, a copy of the approved wetland use permit containing the conditions of issuance, in a conspicuous manner such that the wording of such permit is available for public inspection.

(4) Provide to the township written notice of commencement prior to work beginning on the site.

(k) The wetland use permit shall remain effective for a time period coincidental with any other land use permit reviewed and approved concurrent with the wetland use permit. If applied for prior to the expiration date and concurrent with the expiring land use permit, the applicant may be granted an extension that corresponds to additional time granted for the underlying land use permit. Extensions shall be approved by the same

person or body that made the original decision. The maximum number of extensions shall coincide with the maximum number allowed for the underlying land use permit.

(l) Where there is no other activity or permit involved, the wetland use permit shall remain effective for one year. A maximum of a one-year extension may be approved.

(Code 1974, § 105-15; Ord. No. 2002-07, § 1(105-15), 8-20-2002)

Sec. 22-160. Request for revaluation of affected property.

The owner of any property for which a wetland use permit was applied for under this division and was denied, upon appeal, by the township board may request a revaluation of the affected property by the township board of review for assessment purposes to determine its fair market value under the use restriction. A landowner who is aggrieved by a determination, action, or inaction under this article may protest and appeal that determination, action or inaction pursuant to the General Property Tax Act (MCL 211.1 et seq.).

(Code 1974, § 105-17; Ord. No. 2002-07, § 1(105-17), 8-20-2002)

Sec. 22-161. Fees.

Applications for wetland use permits, wetland verifications and delineations under this article shall be accompanied by an application fee in an amount specified by resolution of the township board.

(Code 1974, § 105-18; Ord. No. 2002-07, § 1(105-18), 8-20-2002) Secs. 22-162--22-170. Reserved.

WETLAND AND WATERCOURSE PROTECTION AND RESTORATION

(COMMUNITY NAME), MICHIGAN

Ordinance No. _____

An Ordinance for the control and preservation of wetlands and watercourses within (Community Name) and to protect the wetlands of the (Community Name) from sedimentation, destruction, and misuse; to prescribe the powers, duties and functions of the (Community Name) enforcing agency; to provide for the promulgation of rules; to establish permits and a fee schedule; to establish design standards, specifications, and bond requirements; to provide for variance and exceptions; to provide for inspections and enforcement; to provide for violations, remedies and penalties thereof; and to provide for severability and effective date of the Ordinance.

(COMMUNITY NAME) HEREBY ORDAINS:

SECTION I. GENERAL

Section 1.1 - Findings

The (Community Name) Board/Council of (Community Name) finds that wetlands and watercourses of the (River Name(s)) watershed(s) and its tributaries are indispensable and fragile resources that provide many public benefits including maintenance of surface and groundwater quality through nutrient cycling and sediment trapping as well as flood and storm water runoff control through temporary water storage, slow release, and groundwater recharge. In addition, wetlands provide open space; passive outdoor recreation opportunities, fish and wildlife habitat for many forms of wildlife including migratory waterfowl; and rare, threatened or endangered wildlife and plant species; and pollution treatment by serving as biological and chemical oxidation basins.

Preservation of the remaining (Community Name) wetlands in a natural condition shall be and is necessary to maintain hydrological, economic, recreational, and aesthetic natural resource values for existing and future residents of (Community Name), and therefore the (Community Name) Board/Council declares a policy of no net loss of wetlands. Furthermore, the (Community Name) Board/Council declares a long term goal of net gain of wetlands to be accomplished through review of degraded or destroyed wetlands in the (Community Name), and through cooperative work with landowners, using incentives and voluntary agreements to restore wetlands.

SIDEBAR TEXT

- Goals should validate wetland regulations as a way to carry out mandated state statutes, such as controlling water pollution or reducing flooding.
- Tie wetland protection to protecting citizen's health, safety, and welfare

- Strengthen goals by using information specific to wetlands in the community, such as threatened or endangered plants or wildlife.

To achieve these goals, and with authority from Section 30307(4) of the *Natural Resources and Environmental Protection Act* (Act 451 Of 1994 [previously Section 8 (4) of the *Goemaere- Anderson Wetland Protection Act*, Act 203, Public Acts of 1979, as amended]), the (Community Name) Board/Council finds that it is desirable to regulate wetlands in (Community Name). Pursuant to Article 4, Section 52 of the Constitution of the State of Michigan, the conservation and development of natural resources of the state is a matter of paramount public concern in the interest of the health, safety, and general welfare of the people. The (Community Name) Board/Council therefore finds that this Ordinance is essential to the long term health, safety, and general welfare of the people of the (Community Name), and to the furtherance of the policies set forth in Section 1701 *et. seq.* of the *Natural Resources and Environmental Protection Act* (Act 451 Of 1994 [previously the *Michigan Environmental Protection Act*, Act 127, Public Acts of 1970] hereinafter the *Michigan Environmental Protection Act*) and Section 30301 *et seq.* of the *Natural Resources and Environmental Protection Act* (Act 451 of 1994 [previously the *Goemaere-Anderson Wetland Protection Act* , Act 203, Public Acts of 1979, as amended] hereinafter the *Wetland Protection Act*).

Section 1.2 - Purposes

The purposes of this Ordinance are to provide for:

- A. The protection, preservation, replacement, proper maintenance, restoration, and use in accordance with the character, adaptability, and stability of the (Community Name)'s wetlands, in order to prevent their pollution or contamination; minimize their disturbance and disturbance to the natural habitat therein; and prevent damage from erosion, siltation, and flooding.
- B. The coordination of and support for the enforcement of applicable federal, state, and county statutes, ordinances and regulations including, but not limited to, the:
 - 1. ***Wetland Protection Act***, enforced by the Michigan Department of Environmental Quality which is hereinafter referred to as the MDEQ;
 - 2. ***Inland Lakes and Streams Act***, Section 30101 *et seq.* of the ***Natural Resources and Environmental Protection Act*** (Act 451 of 1994 [previously Act 346, Public Acts of 1972, as amended]) enforced by the MDEQ;

3. ***Soil Erosion and Sedimentation Control Act***, Section 9101 *et seq.* of the ***Natural Resources and Environmental Protection Act*** (Act 451 of 1994 [previously Act 347, Public Acts of 1972, as amended]), enforced by the County of Macomb Public Works Office;
 4. ***Floodplain Regulatory Authority***, incorporated into the ***Natural Resources and Environmental Protection Act*** (Act 451 of 1994 [previously Act 245, Public Acts of 1929, as amended]), enforced by the MDEQ.
- C. Compliance with the ***Michigan Environmental Protection Act*** which imposes a duty on government agencies and private individuals and organizations to prevent or minimize degradation of the environment which is likely to be caused by their activities.
 - D. The establishment of standards and procedures for the review and regulation of the use of wetlands and watercourses.
 - E. The establishment of penalties for violation of this Ordinance.
 - F. A procedure for appealing decisions.
 - G. The establishment of enforcement procedures and penalties for the violation of this Ordinance.
 - H. Assurance that the right to reasonable use of private property is maintained.

Section 1.3 - Construction and Application

The following rules of construction apply in the interpretation and application of this Ordinance:

- A. In the case of a difference of meaning or implication between the text of this Ordinance and any caption or illustration, the text shall control.
- B. Particulars provided by way of illustration or enumeration shall not control general language.

Section 1.4 - Applicability to Private and Public Agency Activities and Operations

The provisions of this Ordinance, including wetland use permit requirements and criteria for wetland use permit approval, shall apply to activities and operations proposed by

federal, state, local and other public agencies as well as private organizations and individuals.

SECTION 2 - DEFINITIONS

SIDEBAR TEXT

- Michigan's wetland protection laws require that local governments define wetlands in the same way as they are defined under state statute. Note the definition of "Protected Wetlands," and how different types of wetlands are protected by different jurisdictions.

Section 2.1 - Definition of Terms

Terms not specifically defined shall have the meaning customarily assigned to them.

CONTIGUOUS means any of the following:

- A. A permanent surface water connection or any other direct physical contact with an inland lake or pond, a river or stream.
- B. A seasonal or intermittent direct surface water connection to an inland lake or pond, a river or stream.
- C. Partially or entirely located within five hundred (500) feet of the ordinary high water mark of an inland lake or pond or a river or stream, unless it is determined by the (Community Name) or the MDEQ in accordance with Rule 281.924 of the *Wetland Administrative Rules*, adopted in connection with the Wetland Protection Act, that there is no surface or groundwater connection to these waters.
- D. Two (2) or more areas of wetland shall be considered contiguous where separated only by barriers, such as dikes, roads, berms, or other similar features, but with any of the wetland areas contiguous under the criteria described in Subsections (1), (2), or (3) of this definition.

DEPOSIT means to fill, place or dump.

LOT means a designated parcel, tract, building site or other interest in land established by plat, subdivision, conveyance, condominium master deed, or as otherwise permitted by law, to be used, developed or built upon as a unit.

MATERIAL means soil, sand, gravel, clay, peat moss and other organic material.

MITIGATION means: (1) methods for eliminating or reducing potential impact to regulated wetlands; or (2) creation of new wetlands to offset unavoidable loss of existing wetlands.

PERSON means an individual, sole proprietorship, partnership, corporation, association, municipality, this state, any instrumentality or agency of this state, the federal government, or any instrumentality or agency of the federal government, or other legal entity.

PROTECTED WETLANDS means any of the following:

- A.** All wetlands subject to regulation by the MDEQ including:
 - 1.** Wetlands, regardless of size, which are contiguous to any lake, stream, river, or pond whether partially or entirely contained within the project site.
 - 2.** Wetlands, regardless of size, which are partially or entirely within five hundred (500) feet of the ordinary high water mark of any lake, stream, river or pond unless it is determined by the MDEQ that there is no surface water or groundwater connection between the wetland and the water body.
 - 3.** Wetlands which are larger than five (5) acres, whether partially or entirely contained within the project site, and which are not contiguous to any lake, stream, river, or pond.
 - 4.** Wetlands, regardless of size, which are not contiguous to any lake, stream, river, or pond, if the MDEQ determines the protection of the wetland is essential to the preservation of the natural resources of the state from pollution, impairment or destruction.
- B.** All wetlands subject to regulation by the (Community Name) including:
 - 1.** Wetlands two (2) to five (5) acres in size, whether partially or entirely contained within the project site, which are not contiguous to any lake stream, river or pond.
 - 2.** Wetlands smaller than two (2) acres in size which are not contiguous to any lake, stream, river or pond and are determined to be essential to the preservation of the natural resources of the (Community Name) as provided for in Section 7.6 of this Ordinance.

RUNOFF means the surface discharge of precipitation to a watercourse, drainage way, swale, or depression.

REMOVE means to dig, dredge, suck, pump, bulldoze, drag line, or blast.

RESTORATION means to return from a disturbed or totally altered condition to a previously- existing natural or unaltered condition by some action of man.

SEASONAL means any intermittent or temporary activity which occurs annually and is subject to interruption from changes in weather, water level, or time of year, and may involve annual removal and replacement of any operation, obstruction, or structure.

STRUCTURE means any assembly of materials above or below the surface of the land or water, including but not limited to, buildings, bulkheads, boardwalks, piers, docks, landings, dams, waterway obstructions, paving, gravel, and roadways, poles, towers, cables, pipelines, drainage tiles, and other underground installations.

(Community Name Board or Council) means the legislative body of (Community Name), Macomb County, Michigan.

(Community Name) WETLAND MAP means the (Community Name) Wetland Map, based on the Macomb County Wetland Indicator map (which is based on the National Wetland Inventory Map of the U.S. Fish and Wildlife Service); the Michigan Resource Information System Mapping (MIRIS) of the Michigan Department of Environmental Quality; the soils maps of the Soil Conservation Service; SEMCOG information, aerial photography; and on-site inspections.

SIDEBAR TEXT

- Macomb County has developed a wetlands map called the “Wetland Indicator Map” that is more accurate than the maps generated by the Federal government. Rather than developing an individual map, the wetlands ordinance could simply refer to the Macomb County Planning and Economic Development wetlands map. Note that this map is accessible through the County’s website at <http://macombcountymi.gov/gis/maps.htm>

WATERCOURSE means any waterway including a river, stream, lake, pond or any body of surface water having definite banks, a bed and visible evidence of a continued flow or continued occurrence of water.

WETLAND means land characterized by the presence of water at a frequency and duration sufficient to support and that under normal circumstances does support wetland vegetation or aquatic life and is commonly referred to as a bog, swamp or marsh.

WETLAND ADMINISTRATOR means a person(s) knowledgeable in wetland protection, appointed to administer this Ordinance and to carry out certain duties hereunder. Any firm or individual appointed on a contract basis.

WETLAND USE PERMIT means the (Community Name) approval required for activities in wetlands and watercourses described in Section 7 of this Ordinance.

WETLAND VEGETATION means plants, including but not limited to, trees, shrubs, and herbaceous plants, that exhibit adaptations to allow, under normal conditions, germination or propagation and to allow growth with at least their root systems in water or saturated soil.

SECTION 3 - RELATIONSHIP TO STATE AND FEDERAL PERMIT REQUIREMENTS

The following shall apply if an applicant requesting a wetland use permit is also subject to state and/or federal permit requirements:

- A.** The (Community Name) shall have jurisdiction for the regulation of wetlands under this Ordinance concurrent with the jurisdiction of the Michigan Department of Environmental Quality.
- B.** Approvals under this Ordinance shall not relieve a person of the need to obtain a permit from the MDEQ and/or the U.S. Army Corps of Engineers, if required.
- C.** Issuance of a permit by the MDEQ and/or the U.S. Army Corps of Engineers shall not relieve a person of the need to obtain approval under this Ordinance, if applicable.

SECTION 4. ADMINISTRATION

Section 4.1 -(Community Name) Wetland Map

SIDEBAR TEXT

- A wetlands map is a requirement of a local wetlands ordinance. This map, in conjunction with aerial photographs and field inventories done on a case-by-case basis, are used to administer the wetland ordinance.
- The wetland map does not need to be absolutely precise. However, a disclaimer regarding its accuracy should be included on the map. As discussed above, Macomb County has a wetlands map that could be used instead of a community creating its own. The County's map also has appropriate disclaimers.
- See the sidebar regarding wetland maps in the "Definitions" section above.

The (Community Name) Wetland Map is a guide to the location of wetlands in (Community Name). The Map shall be used in the administration of this Ordinance.

The (Community Name) Wetland Map, together with all explanatory matter thereon and attached thereto, as may be amended through the Wetland Verification and Delineation process, is hereby adopted by reference and declared to be a part of this Ordinance. The (Community Name) Wetland Map shall be on file in the office of the (Community Name) Clerk.

The (Community Name) Wetland Map shall serve as a general guide for the location of protected wetlands. The (Community Name) Wetland Map does not create any legally enforceable presumptions regarding whether property that is or is not included on the inventory map is or is not in fact a wetland.

The Wetland Verification Process, as set forth herein, shall be used to verify wetland on properties where wetland is shown on the Wetland Map or on properties where wetland exist as defined in Section 2.1 herein. The Wetland Delineation Process, as set forth herein, shall be used to establish the actual boundaries of wetlands in the (Community Name). The identification of the precise boundaries of wetlands on a project site shall be the responsibility of the applicant and verified by the Wetland Administrator.

A. Wetland Verification Process

1. The (Community Name) or property owners of wetland may initiate a verification of the areas shown on the (Community Name) Wetland Map as wetland or on properties where wetland exists as defined in Section 2.1 herein. The verification shall be limited to a finding of wetland or no wetland by the Wetland Administrator. The finding shall be based on, but not limited to, aerial photography, topographical maps, site plans, and field verification or Rapid Assessment techniques.
2. In the event that there is a finding of no wetland on the property, then no further determination would be required and the finding shall be included in the Map Amendment Process (found later in this Section).
3. In the event that there is a finding of wetland, then the establishment of the exact boundary through a wetland delineation shall be required to alter the (Community Name) Wetland Map through the Map Amendment Process.
4. The applicant shall pay fees for the Wetland Verification Process as established in Section 9.1.

B. Wetland Delineation Process

Prior to the issuance of any permit or land development approval for a lot which is shown to include a wetland on the (Community Name) Wetland Map, the applicant may be required to provide a wetland delineation to the (Community Name). The Wetland Administrator shall determine whether a delineation is required, based on the proximity and relationship of the project to the wetland.

1. To establish actual wetland boundaries on a property, the applicant shall provide a survey or dimensional site plan, drawn at an appropriate scale, showing property lines, buildings and any points of reference along with the wetland boundaries, according to one of the following:
 - (a) Wetland delineation by the Michigan Department of Environmental Quality (MDEQ).
 - (b) Wetland delineation by the applicant's wetland consultant subject to review and approval by the (Community Name)'s Wetland Consultant.
2. Where a wetland delineation is required by this Section, the (Community Name) Wetland Consultant shall establish wetland boundaries following receipt of the above required information and after conducting a field investigation.
3. The applicant shall pay fees for the Wetland Delineation Process as established in Section 9.1.

C. Map Amendment

1. The (Community Name) Wetland Map shall be updated when new data is available or when corrections are needed in order to maintain the integrity of the map.
2. The (Community Name) shall ensure that each record owner of property on the property tax roll shall be notified of any amendment to the (Community Name) Wetland Inventory Map on an annual basis. The notice shall include the following information:
 - (a) the (Community Name) wetland map has been amended;
 - (b) the location to review the map;
 - (c) the owner's property may or may not be designated as a wetland on the map;

- (d) the (Community Name) has an ordinance regulating wetlands;
- (e) the map does not necessarily include all of the wetlands within the (Community Name) that may be subject to the wetland ordinance.

SIDEBAR TEXT

- Frequently, the information shown in the wetland map can be verified in an aerial photo. Contact Macomb County Department of Planning & Economic Development at (586) 469-5285 to inquire.
- As a confirmation of the wetlands shown on the community maps, an administrative procedure should be set up so that a wetland field survey is conducted by a wetland scientist each time a site plan that includes wetlands comes up for review. As the actual boundaries of the wetland are identified through this process, this information could be used to update the community's wetland map.

SECTION 5 - ACTIVITIES IN A PROTECTED WETLAND OR WATERCOURSE

Section 5.1 - Activities Prohibited Without First Obtaining A Wetland Use Permit

Except for those activities expressly permitted by Section 5.2, it shall be unlawful for any person to do any of the following in a protected wetland or watercourse unless and until a wetland use permit is obtained from the (Community Name) pursuant to this Ordinance.

- A.** Deposit or permit to be deposited any material or structures into any watercourse or within or upon any protected wetlands.
- B.** Remove or permit to be removed any material from any watercourse or from any protected wetland.
- C.** Dredge, fill or land balance watercourses or protected wetlands.
- D.** Create, enlarge, diminish or alter a lake, pond, creek, stream, river, drain or protected wetland.
- E.** Construct, operate or maintain any development in or upon protected wetlands or watercourses.

- F.** Erect or build any structure, including but not limited to, buildings, roadways, bridges, tennis courts, paving, utilities, or private poles or towers in or upon protected wetlands or watercourses.
- G.** Construct, extend or enlarge any pipe, culvert, or open or closed drainage facility which discharges silt, sediment, organic or inorganic materials, chemicals, fertilizers, flammable liquids or any other pollutants to any lake, stream, pond, creek, river, protected wetland, or watercourse, except through a retention area, settling basin, or treatment facility designed to control and eliminate the pollutant. This Subsection shall apply to all land uses except single family uses.
- H.** Construct, enlarge, extend or connect any private or public sewage or waste treatment plant discharge to any lake, stream, river, pond, watercourse, or protected wetland except in accordance with the requirements of Macomb County, State of Michigan and/or the United States, to the extent that such entities have jurisdiction.
- I.** Drain, or cause to be drained, any water from a protected wetland or watercourse.
- J.** Fill or enclose any ditch which would result in a significant reduction of storm water absorption and filtration into the ground or would otherwise have an adverse impact on receiving watercourses or wetlands.

Section 5.2 - Permitted Activities

SIDEBAR TEXT

- The local ordinance may not require a permit for uses that are otherwise authorized under Act 451.
- Amendments to Act 451 were added in 2003 to address low lake levels in the Great Lakes and Lake St. Clair. Property owners along Lake St. Clair may conduct limited “beach maintenance” activities between the ordinary high water mark and the current water’s edge (that is, on exposed bottomlands which are public trust lands belonging to the State of Michigan) without obtaining a permit. However, a permit may be required from the Army Corps of Engineers. Communities with Lake St. Clair shoreline may want to consider adding language to address this new topic.

- 1)** Notwithstanding the prohibitions of Section 5.1, the following activities are permitted within watercourses or protected wetlands without a wetland use permit, unless otherwise prohibited by statute, ordinance or regulation:
 - A.** Fishing, trapping, or hunting.

- B.** Swimming or boating.
- C.** Hiking.
- D.** Grazing of animals.
- E.** Farming, horticulture, silviculture, lumbering, and ranching activities, including plowing, irrigation, irrigation ditching, seeding, cultivating, minor drainage, harvesting for the production of food, fiber, and forest products, or upland soil and water conservation practices. Wetland altered under this subdivision shall not be used for a purpose other than a purpose described in this subsection without a permit from the department.

SIDEBAR TEXT

- Note that if a wetland is disturbed by a permitted agricultural use, this disturbance may not later be the basis for developing the property for another use that is prohibited without a permit.

- F.** Maintenance or operation of serviceable structures in existence by October 1, 1980 or constructed pursuant to this part of former Act No. 203 of the Public Act of 1979.
- G.** Construction or maintenance of farm or stock ponds.
- H.** Maintenance, operation, or improvement which includes straightening, widening, or deepening of the following which is necessary for the production or harvesting of agricultural products:
 - 1.** An existing private agricultural drain.
 - 2.** That portion of a drain legally established pursuant to the drain code of 1956, Act No. 203 of the Public Acts of 1956, being sections 280.1 to 280.630 of the Michigan Compiled Laws, which has been constructed or improved for drainage purposes.
 - 3.** A drain constructed pursuant to other provisions of this part or former Act No. 203 of the Public Acts of 1979.
- I.** Construction or maintenance of farm roads, forest roads, or temporary roads for moving mining or forestry equipment, if the roads are constructed and maintained in a manner to assure that any adverse effect on the wetland will be otherwise minimized.

- J.** Drainage necessary for the production and harvesting of agricultural products if the wetland is owned by a person who is engaged in commercial farming and the land is to be used for the production and harvesting of agricultural products. Except as otherwise provided in this part, wetland improved under this subdivision after October 1, 1980 shall not be used for non-farming purposes without a permit from the department. This subdivision shall not apply to a wetland which is contiguous to a lake or stream, or to a tributary of a lake or stream, or to a wetland that the department has determined by clear and convincing evidence to be a wetland that is necessary to be preserved for the public interest, in which case a permit is required.
 - K.** Maintenance or improvement of public streets, highways, or roads, within the right-of-way and in which in such a manner as to assure that any adverse effect on the wetland will be otherwise minimized. Maintenance or improvement does not include adding extra lanes, increasing the right-of-way, or deviating from the existing location of the street, highway, or road.
 - L.** Maintenance, repair, or operation of gas or oil pipelines and construction of gas or oil pipelines having a diameter of 6 inches or less, if the pipelines are constructed, maintained, or repaired in a manner to assure that any adverse effect on the wetland will be otherwise minimized.
 - M.** Maintenance, repair, or operation of electric transmission and distribution power lines and construction of distribution power lines, if the distribution power lines are constructed, maintained, or repaired in a manner to assure that any adverse effect on the wetland will be otherwise minimized.
 - N.** Operation or maintenance, including reconstruction of recently damaged parts, of serviceable dikes and levees in existence on October 1, 1980 or construction pursuant to this part or former Act No. 203 of the Public Acts of 1979.
 - O.** Construction of iron and copper mining tailings basins and water storage areas.
- 2)** An activity in a wetland that was effectively drained for farming before October 1, 1980 and that on and after October 1, 1980 has been continued to be effectively drained as part of an ongoing farming operation is not subject to regulation under his part.
 - 3)** A wetland that is incidentally created as a result of 1 or more of the following activities is not subject to regulation under his part:

- A. Excavation for material or sand mining, if the area was not a wetland before excavation. This exemption does not include a wetland on a lot adjacent to a water body of 1 acre or more in size.
- B. Construction and operation of a water treatment pond or lagoon in compliance with the requirements of state or federal water pollution control regulations.
- C. A dike area associated with a landfill if the landfill complies with the terms of the landfill construction permit and if the dike area was not a wetland before diking.

Section 5.3 - Existing Non-conforming Lots, Uses and Structures

Lots, uses and structures lawfully existing at the effective date of this Ordinance shall be subject to the requirements of this Ordinance, except as follows:

- A. Plats that have received tentative preliminary or later approval and site plans and condominium plans approved prior to the effective date of this Ordinance shall be entitled by right to all uses authorized by those approvals according to the zoning district in which the property is located, and provided that said lots have buildable sites outside of the wetland. Lots which do not have a buildable site outside of the wetland shall require a wetland use permit prior to any construction on said lot.
- B. Any activity, structure, or use lawfully existing prior to the effective date of this Ordinance, but not in conformity with the provisions of this Ordinance, may be continued, maintained and operated.
- C. Any structure lawfully existing prior to the effective date of this Ordinance damaged by fire, explosion, act of God, or other causes beyond the control of the owner, may be restored, rebuilt, or repaired without obtaining a wetland use permit.

SECTION 6 - APPLICATION

Application for approval, appeal, and issuance of wetland use permits shall be concurrent with the application for approval, appeal, and issuance of other necessary (Community Name) approvals. This is the procedure except that:

- 1) In the case of any such application for another approval which is pending on the effective date of this Ordinance; and
- 2) Which has not been approved, and
- 3) Which, by the terms of this Ordinance, would require a wetland use permit application,

- 4) The applicant shall be notified by the Wetland Administrator that an application for a wetland use permit is required, and processing of the other application shall not proceed until the wetland use permit application has been filed.

The applicant for a wetland use permit shall submit four copies of the following to the (Community Name):

- A.** An application completed in full, on a form supplied by the Michigan Department of Environmental Quality.
- B.** A wetland delineation including, but not limited to the following information: dominant tree, sapling, shrub and herb vegetation; presence or lack of accepted wetland hydrology indicators; analysis of soil including a description of the soil profile to at least 20 inches and comparison to Macomb County Soil Survey and maps of the wetland(s) mapped. Mapped data shall be represented in a manner that allows comparison to the (Community Name) Wetland Map.
- C.** Soil drainage and storm water management plans.
- D.** A mitigation plan, if the proposed activity will result in the loss of wetland resources.
- E.** A cover letter signed by the applicant including the following information:
 - 1.** Name of project and brief description.
 - 2.** Date upon which the activity is proposed to commence.
 - 3.** Explanation of why the project meets the wetland use permit standards and criteria contained in this Ordinance.
 - 4.** List of all federal, state, county or other local government permits or approvals required for the proposed project including permit approvals or denials already received. In the event of denials, the reasons for denials shall be given. Attach copies of all permits which have been issued.
 - 5.** Identification of any present litigation involving the property.
- F.** The wetland use permit application shall be reviewed, either prior to or concurrent with the review of the site plan, plat or other proposed land use submitted by the applicant, with the understanding that the land use review may not be completed at the time the decision is rendered on the wetland use permit application. Election of this alternative may require a reopening

of the wetland use permit application if the land use approval is inconsistent with the wetland use permit approval; or,

- G.** Copies of wetland permit applications filed with the MDEQ and forwarded to the (Community Name) in accordance with Section 30307(6) of Wetland Protection Act shall become part of the application for a (Community Name) wetland use permit.

SECTION 7 - REVIEW

Section 7.1 - Method of Review of Wetland Permit Application

SIDEBAR TEXT

- Communities with wetland ordinances become responsible for reviewing and issuing permits for wetlands covered by the ordinance.
- The local unit of government must keep MDEQ informed of wetland permit applications and the results of these applications.
- A wetland application must be made on a form provided by MDEQ.

- A.** Before a wetland use permit application is submitted, the necessity of the wetland use permit shall be determined by the Wetland Administrator or designee by reference to the "(Community Name) Wetland Map".
- B.** Whenever a wetland use permit is required, the applicant may request an administrative meeting with the Wetland Administrator to review the proposed activity in light of the purposes of this Ordinance.
- C.** Upon receipt of an application, the (Community Name) shall ensure that all required information including a wetland determination has been submitted. The receipt of the application shall constitute permission from the owner to complete an on-site investigation. Applicant will pay fees as established in Section 9.1.
- D.** The (Community Name) Clerk shall transmit one copy of the application and supporting materials to the (Community Name) Wetland Consultant to confirm the boundaries of the wetland and to review the proposal in light of the purpose and review standards of Section 7 and other applicable sections of this Ordinance. If an application is not complete, the applicant may be granted additional time to complete the application provided that the applicant agrees that the additional time shall not be charged against the (Community Name)'s 90-day time limit for making a decision. The receipt of the application shall constitute permission from the owner to conduct an on-site investigation of wetlands.

SIDEBAR TEXT

- It is important that a qualified professional, such as a wetland scientist or consultant, complete a wetland delineation on the wetland in question.
- A community can make this step the applicant's responsibility, or they can hire a wetland consultant to provide a professional review for each site plan. If the community hires its own consultant, the associated fees can be part of the wetland permit fee schedule and charged to the applicant.
- The review process the wetland consultant uses should be spelled out in the ordinance.

- E.** The (Community Name) Wetland Consultant shall prepare and transmit a report and recommendation to the Wetland Administrator documenting the review required by Section 7.1 D.
- F.** Upon receipt of an application, the (Community Name) Clerk shall:
- 1.** Transmit one copy of the application to the Michigan Department of Environmental Quality.
 - 2.** Advise the applicant of his/her obligation to post the subject property with a sign that shall be no less than two (2) square feet in size. The sign shall be clearly visible from the abutting street(s) and shall state that an application has been filed for a wetland use permit on the property.

Section 7.2 - Wetland Use Permit Decisions by the Wetland Administrator

The following process shall apply to wetland use permit decisions by the Wetland Administrator:

- A.** For wetland use permit applications submitted in conjunction with activities that do not require approval by the Planning Commission and/or (Community Name) Board/Council, the Wetland Administrator shall approve, approve with conditions or deny the application within 90 days after receipt of an application.
- B.** Persons wishing to comment on the application must submit their comments in writing to the Wetland Administrator prior to the date and time set in the notice. Persons wishing to receive notice of the Wetland Administrator's decision must submit a written request to the Wetland Administrator.
- C.** After completing the review and reviewing the written comments, the Wetland Administrator shall approve, approve with modifications or

conditions, or deny the wetland use permit application in accordance with the standards of this Ordinance.

- D.** When a wetland use permit is approved, approved with modifications or conditions, or denied, written notice shall be sent to the applicant and to all persons who have requested notice of the Wetland Administrator's decision. A permit approved by the Wetland Administrator shall not be issued or effective until ten (10) calendar days following the date of approval.

Section 7.3 - Wetland Use Permit Decisions by Planning Commission or the Governing Body

The following process shall apply to wetland use permit decisions by the (Community Name) Planning Commission or governing body:

- A.** Wetland use permit applications submitted in conjunction with a related land development activity shall be decided by the same entity that decides the related land development activity consistent with the Wetland Protection Act. The Planning Commission or governing body shall decide any wetland use permits in conjunction with special use permit applications or site plan applications and shall require that the delineation and wetland use permit application requests be submitted prior to the special use permit hearing. The Wetland Administrator shall transmit application materials and the report and recommendation prepared by the (Community Name) Wetland Consultant to the Planning Commission or governing body as applicable.

SIDEBAR TEXT

- The same entity (such as the Planning Commission) that makes decisions on site plans, plats and related matters must also make decisions on wetland applications. The applicant cannot be required to submit to a hearing on the application by more than one decision-making body. However, the local government may have a preliminary review completed by a planning department, planning consultant or Planning Commission before submittal to the decision-making body. Also, an appeals process may be developed for appeal to the body designated to hear appeals.

- B.** After review and study of the application materials and the (Community Name) Wetland Consultant's report and recommendation, the (Community Name) Planning Commission or governing body, as applicable, may hold one public hearing after publication in a newspaper of general circulation in the (Community Name) not less than five (5) days nor more than fifteen (15) days prior to the date of the hearing. Such notice shall indicate the

place, time and subject of the hearing and the place and time the proposed wetland use permit may be examined. The wetland use permit hearing may be held in conjunction with a review of the related land use request(s).

- C.** In the event of a public hearing, notice shall be sent by mail or personal delivery to the owners of property for which approval is being considered, and to all owners of property, as listed on the most recent tax roll, within three hundred (300) feet of the boundary of the property in question. Notification need not be given to more than one (1) occupant of a structure, except that if a structure contains more than one (1) dwelling unit or spatial area owned or leased by different persons, one (1) occupant of each unit shall receive notice. In the case of a single structure containing more than four (4) dwelling units, notice may be given to the manager or owner of the structure who shall be requested to post the notice at the primary entrance to the structure. A notice containing the time, date, place and purpose of the hearing shall be posted on the subject property by the applicant at least eight (8) days prior to the hearing. The posting sign shall be no less than two (2) square feet in size, shall be clearly visible from the abutting street(s), and shall state that an application has been filed for a wetland use permit.
- D.** After completing the review and holding one public hearing, if so required, the Planning Commission or governing body as applicable shall approve, approve with conditions or deny the application within ninety (90) days after receipt of an application, in accordance with this Ordinance.

SIDEBAR TEXT

- In conjunction with site plan review, the community must review the application within a 90-day time frame. However, the land use review may not be complete at the same time. This may require the re-opening of the wetland application if the land use review results in a conflicting decision.

- E.** Written notice shall be sent to the applicant upon approval, approval with conditions or denial of a wetland use permit by the (Community Name). The denial of a permit shall be accompanied by a written reason for denial.

SIDEBAR TEXT

- If the applicant does not submit all the information required by the permit application, this is a valid reason for either delay or denial of the permit.

- A landowner has a right to seek a revaluation of the affected property for assessment purposes to determine its fair market value if a permit has been denied for a proposed wetland use.

- F.** A permit approval by the Planning Commission or governing body, as applicable, shall not be issued or effective until ten (10) calendar days following the date of the approval and compliance with Section 7.5 of this Ordinance.

Section 7.4 - Appeals Of Decisions Of The Wetland Administrator, Planning Commission or Governing Body

The following process shall apply to appeals of decisions made by the Wetland Administrator, the Planning Commission, or governing body, as applicable:

- A.** A person who is aggrieved by the determination of the body who reviewed the wetland permit application may request an appeal of their decision to the (governing body or appellate body).

SIDEBAR TEXT

- If the governing body, such as the City/Village Council or Township Board, makes decisions on wetland permits, then the appellate body should be the community's board of appeals.

- B.** A request for appeal must be filed within ten (10) days following the Wetland Administrator's or governing body's decision. If an appeal is requested during such ten-day period, the effectiveness of the permit shall be suspended pending the outcome of the appeal.
- C.** The (governing body or appellate body) shall determine whether to consider the appeal based upon the minutes of the governing body's meeting(s), or based upon an entirely new hearing.
- D.** If the (governing body or appellate body) determines to consider the appeal based upon the minutes of the governing body's meeting(s), the applicant, and other interested parties shall be entitled to be heard prior to the (governing body or appellate body)'s determination.
- E.** If a new hearing shall be conducted, notice shall be sent by mail or personal delivery to the owners of property for which appeal is being considered, and to all owners of property, as listed on the most recent tax roll, within three hundred (300) feet of the boundary of the property in question. Notification need not be given to more than one (1) occupant of a structure, except that if a structure contains more than one (1) dwelling

unit or spatial area owned or leased by different persons, one (1) occupant of each unit shall receive notice. In the case of a single structure containing more than four (4) dwelling units, notice may be given to the manager or owner of the structure who shall be requested to post the notice at the primary entrance to the structure. A notice containing the time, date, place and purpose of the hearing shall be posted on the subject property by the applicant at least eight (8) days prior to the hearing. The procedure for the hearing shall be the same as set forth in Section 7.1 above, governing the procedure before the (governing body or appellate body).

- F.** The (governing body or appellate body), based upon its appellate review, may reverse, affirm or modify the determination and/or permit issued by the governing body.

Section 7.5 - Wetland Use Permit Conditions

- A.** The Wetland Administrator, the Planning Commission or the (Community Name) Board/Council, as applicable, shall attach any reasonable conditions considered necessary to ensure that the intent of this Section will be fulfilled, to minimize or mitigate damage or impairment to, encroachment in or interference with natural resources and processes within the protected wetlands or watercourses, or to otherwise improve or maintain the water quality. Any conditions related to wetland mitigation shall follow the provisions of Section 8 of this Ordinance.
- B.** The Wetland Administrator, the Planning Commission or the (Community Name) Board/Council, as applicable, shall fix a reasonable time to complete the proposed activities.
- C.** The Wetland Administrator, the Planning Commission or the (Community Name) Board/Council, as applicable, may require the applicant to file with the (Community Name) a cash or corporate surety bond or irrevocable bank letter of credit in an amount, if any, determined necessary to ensure compliance with the wetland use permit approval conditions and this Section.
- D.** The Wetland Administrator, the Planning Commission or the (Community Name) Board/Council, as applicable, shall require that final approval of a wetland use permit application shall be contingent upon receipt of evidence by the (Community Name) that required state and federal permits, if any, have been obtained by the applicant.
- E.** At no time shall the Wetland Administrator, the Planning Commission or the (Community Name) Board/Council, as applicable, issue a wetland use permit that allows a more extensive alteration of the wetland than

permitted by state or federal law. In cases where a state permit allows activities not permitted by the wetland approval granted under this article, the restrictions of the approval granted under this article shall govern.

- F.** Wetland use permits for seasonal operations need not be renewed annually unless otherwise stated in the permit.
- G.** Any change that increases the size or scope of the operation and that affects the criteria considered in approving the permit as determined by the Wetland Administrator, the Planning Commission or the (Community Name) Board/Council, as applicable, may require the filing of a new wetland use permit application.
- H.** Any temporary, seasonal, or permanent operation that is discontinued for two (2) years or two (2) seasons shall be presumed to have been abandoned and the wetland use permit automatically voided.
- I.** Any permit granted under this Ordinance may be revoked or suspended by the Wetland Administrator, Planning Commission or (Community Name) Board/Council, as applicable, after notice and an opportunity for a hearing, for any of the following causes:

 - 1.** A violation of a condition of the permit.
 - 2.** Misrepresentation or failure to fully disclose relevant facts in the application.
 - 3.** A change in a condition that requires a temporary or permanent change in the activity.
- J.** An applicant who has received a wetland use permit under this Ordinance shall comply with the following in connection with any construction or other activity on the property for which the wetland use permit has been issued:

 - 1.** Maintain soil erosion control structures and measures, including but not limited to, silt fences, straw bale berms, and sediment traps. The permittee shall permit periodic inspections throughout the duration of the project by the (Community Name) or its representatives.
 - 2.** Maintain clear delineation of the protected wetlands and wetland setbacks (so marked by the Wetland Administrator or (Community Name) Wetland Consultant during the on-site inspection) so that such locations are visible to all construction workers.

3. Post on the site, prior to commencement of work on the site and continuing throughout the duration of the project, a copy of the approved wetland use permit containing the conditions of issuance, in a conspicuous manner such that the wording of said permit is available for public inspection.
- K. The wetland use permit shall remain effective for a time period coincidental with any other land use permit reviewed and approved concurrent with the wetland use permit. If applied for prior to the expiration date and concurrent with the expiring land use permit, the applicant may be granted an extension that corresponds to additional time granted for the underlying land use permit. Extensions shall be approved by the same person or body that made the original decision. The maximum number of extensions shall coincide with the maximum number allowed for the underlying land use permit.
- L. When there is no other activity or permit involved, the wetland use permit shall remain effective for one (1) year. A maximum of a one (1) year extension may be approved by the granting authority upon request of the applicant.

Section 7.6 - Review Standards And Criteria For Non-Contiguous Wetlands Less Than Two (2) Acres In Area.

SIDEBAR TEXT

- Standards for wetlands less than two acres in size are provided by state statute. The purpose of these standards is to determine if the wetland is essential to the preservation of the natural resources of the community.
- If the wetland is found to be essential, then the permit request is evaluated using the standards in Section 7.7.

- A. A wetland use permit shall be approved with respect to a non-contiguous wetland less than two (2) acres in area unless the Planning Commission or (Community Name) Board/Council determines that the wetland is essential to the preservation of the natural resources of the (Community Name). It shall not be the burden of the property owner to prove that the wetland is not essential to the preservation of the natural resources of the (Community Name).
- B. All non-contiguous wetland areas of less than two (2) acres which appear on the wetlands map, or which are otherwise identified during a field inspection by the (Community Name), shall be analyzed for the purpose of determining whether such areas are essential to the preservation of the natural resources of the (Community Name). If there is to be a denial of a

wetland use permit in a non-contiguous wetland area of less than two (2) acres, then, on the basis of data gathered by or on behalf of the (Community Name), findings shall be made in writing and given to the applicant stating the basis for the determination that such wetland is essential to preservation of the natural resources of the (Community Name). In order to make such a determination, there shall be a finding that one (1) or more of the following exists within such wetland:

1. The site supports state or federal endangered or threatened plants, fish, or wildlife appearing on a list specified in Section 36505 of the Natural Resources and Environmental Protection Act (Act 451 of 1994 [previously Section 6 of the Endangered Species Act of 1974, Act No. 203 of the Public Acts of 1974, being Section 299.226 of the Michigan Compiled Laws]).
2. The site represents what is identified as a locally rare or unique ecosystem.
3. The site supports plants or animals of an identified local importance.
4. The site provides groundwater recharge documented by a public agency.
5. The site provides flood and storm control by the hydrologic absorption and storage capacity of the wetland.
6. The site provides wildlife habitat by providing breeding, nesting, feeding grounds or cover for forms of wildlife, waterfowl, including migratory waterfowl, and rare, threatened, or endangered wildlife species.
7. The site provides protection of subsurface water resources and provision of valuable watersheds and recharging groundwater supplies.
8. The site provides pollution treatment by serving as a biological and chemical oxidation basin.
9. The site provides erosion control by serving as a sedimentation area and filtering basin, absorbing silt and organic matter.
10. The site provides sources of nutrients in water food cycles and nursery grounds and sanctuaries for fish.

- C.** In connection with the determination whether the wetland is essential to the preservation of the natural resources of the (Community Name), the property owner shall make an election and response under Subsection 1 or 2 below, relative to each non- contiguous wetland area less than two (2) acres.
- 1.** In lieu of having the (Community Name) or its consultant proceed with the analysis and determination, the property owner may acknowledge that one (1) or more of the criteria in Subsections B- 1) through (B- 10) above, exist on the wetland in question, including a specification of the one or more criteria which do exist; or
 - 2.** An election to have the (Community Name) or its consultant proceed with the analysis of whether each of the criteria in Subsections (B-1) through (B-10) exist or do not exist in the wetland in question, including specific reasons for the conclusion in respect to each criteria.
- D.** If the (Community Name) determines that the wetland is not essential to the preservation of the natural resources of the (Community Name), the (Community Name)’s decision shall be so noted on the (Community Name) Wetland Map, at the time it is amended. The requested activity shall be approved subject to all other applicable laws and regulations.

When a wetland under two (2) acres in size has been determined to be essential to the natural resources of the (Community Name) and the (Community Name) has found that one or more of the criteria set forth exist at the site, the (Community Name) shall notify the applicant in writing stating the reasons for determining the wetland to be essential to the preservation of the natural resources.

After determining that a wetland less than two (2) acres in size is essential to the preservation of the natural resources of the (Community Name), the wetland use permit application shall be reviewed according to the standards in Section 7.7.

Section 7.7 - Review Standards for Wetland Use Permits

SIDEBAR TEXT

- Standards used to determine whether a use requiring a permit is approved or not are provided by state statute.

The criteria to evaluate wetland use permits under this Ordinance and to determine whether a permit is granted are as follows:

- A. A permit for any activity listed in Section 5.1 shall not be approved unless the proposed activity is in the public interest and is otherwise lawful in all respects. Public input shall be evaluated in approving, approving with conditions, or denying the application. The reasonable use of the property involved in accordance with applicable local ordinances and state law shall also be considered.

In determining whether the activity is in the public interest, the benefit which reasonably may be expected to accrue from the proposal shall be balanced against the reasonably foreseeable detriments of the activity. The decision shall reflect the national, state, and local concern for the protection of natural resources from pollution, impairment, and destruction. The following general criteria shall be considered:

1. The relative extent of the public and private need for the proposed activity.
2. The availability of feasible and prudent alternative locations and methods to accomplish the expected benefits from the activity.
3. The extent and permanence of the beneficial or detrimental effects which the proposed activity may have on the public and private uses to which the area is suited, including the benefits the wetlands provide.
4. The probable impact of each proposal in relation to the cumulative effect created by other existing and anticipated activities in the watershed.
5. The probable impact on recognized historic, cultural, scenic, ecological, or recreational values and on the public health or fish or wildlife.
6. The size and quality of the protected wetland being considered.
7. The amount and quality of remaining wetland in the area.
8. Proximity to any waterway.
9. Extent to which upland soil erosion adjacent to protected wetlands or drainage ways is controlled.

10. Economic value, both public and private, of the proposed land change to the general area.
 11. Findings of necessity for the proposed project which have been made by federal, state or local agencies.
- B.** A wetland use permit shall not be granted unless it is shown that:
1. An unreasonable disruption of aquatic resources will be avoided; and
 2. The proposed activity is primarily dependent upon being located in the protected wetland; and
 3. A feasible and prudent alternative does not exist; and
 4. The manner in which the activity is proposed to be undertaken will result in the minimum negative impact upon protected wetlands, watercourses, and attendant natural resources under all of the circumstances.
- C.** Following approval of the application, a wetland use permit shall be issued upon determination that all other requirements of ordinance and law have been met, including site plan, plat or land use approval as applicable, and including issuance of a permit by the MDEQ, if required under the Wetland Protection Act. In cases where a MDEQ permit allows activities not permitted by the wetland use permit approval granted under this Section, the restrictions of the approval granted under this Section shall govern.

SECTION 8 - WETLAND MITIGATION AND RESTORATION

Section 8.1 - Findings That Wetland And Watercourse Loss Is Unavoidable

Mitigation shall not be considered a substitute for making all prudent attempts to avoid wetland impacts.

SIDEBAR TEXT

- One way communities can be assured that a mitigated wetland is constructed per plan is to require a bond before the mitigation project begins. Then if the work isn't completed satisfactorily, then the bond can be used to complete the work.

- A. Prior to considering a proposal for wetland mitigation, the Wetland Administrator, the Planning Commission or the (Community Name) Board/Council, as applicable, shall make all of the following findings:
1. That all feasible and prudent efforts have been made to avoid the loss of protected wetland.
 2. That all practical means have been considered to minimize protected wetland impacts.
 3. That it is practical to replace the protected wetland which will be unavoidably eliminated.
 4. That all alternatives for preserving protected wetlands and water courses have been evaluated and found to be impractical, inappropriate, or ineffective.
- B. To ensure no net loss of wetlands in the (Community Name), mitigation shall be required in instances where there are losses of wetland resources and where the Wetland Administrator, the Planning Commission or the (Community Name) Board/Council, as applicable have made the findings required in Section 8.1.A.

Section 8.2 - Criteria For Approving Proposals For Wetland Mitigation

If the Wetland Administrator, Planning Commission or the (Community Name) Board/Council, as applicable determines that it is practical to replace the protected wetlands which will be impacted, mitigation plans shall be approved only if all of the following criteria are met:

SIDEBAR TEXT

Additional guidelines for wetland mitigation include:

- The location of the mitigated wetland should be constructed nearby within the immediate area, and provide the same benefits as the lost wetland in the immediate area.
- A new wetland should be the same size or larger than the existing wetland.
- The new wetland should be constructed to have specific soil, elevation and hydrologic characteristics that will allow it, over time, to replicate the natural wetland.
- The plant mix in the new wetland should be of the same or better quality, and in the same proportions and density as the existing wetland.
- Replacement standards should include “success” standards that the newly constructed wetland must meet by a certain time. Maintenance of the new

wetland, such as removing undesirable exotic invasive plants, should also be included.

- A. That the mitigation plan provides for the substantial replacement of the predominant functional values of the protected wetland to be lost.
- B. That the mitigation plan provides for no net loss of protected wetland resources and watercourses unless the Wetland Administrator, the Planning Commission or the (Community Name) Board/Council, as applicable determines that the net loss will result in a minimum negative impact upon protected wetlands, watercourses, and attendant natural resources under all of the circumstances.
- C. Mitigation shall be provided on-site where practical and beneficial to the wetland resources. If mitigation on-site is not practical and beneficial, then mitigation in the immediate vicinity, within the same watershed, of the permitted activity may be considered. Only if all of these options are impractical shall mitigation be considered elsewhere.
- D. The mitigation plan will comply with all applicable federal, state, and local laws.
- E. A plan to monitor preserved and replacement wetlands over a minimum of five years has been specified.

Section 8.3 - Other Mitigation Requirements

- A. Wetland mitigation and monitoring plans shall become conditions to the wetland use permit and shall be the responsibility of the applicant.
- B. Financial assurances that mitigation is accomplished as specified by the permit condition may be required by the Wetland Administrator, Planning Commission or (Community Name) Board/Council, as applicable.
- C. Any mitigation activity shall be completed before initiation of other permitted activities, unless a phased concurrent schedule can be agreed upon between the Wetland Administrator, Planning Commission or (Community Name) Board/Council, as applicable, and the applicant.
- D. Wetland mitigation plans that create less than two (2) acre wetlands shall meet one of the conditions listed in Section 7.6 B. 1-10.

SECTION 9 - FEES, PENALTIES AND ENFORCEMENT

Section 9.1 - Fees

Applications for a wetland use permit under this Section shall be accompanied by a non-refundable administrative application fee in an amount specified from time to time by resolution of the (Community Name) Board/Council. In addition an applicant shall pay an additional escrow fee in an amount determined by resolution of the (Community Name) Board/Council for the estimated cost of outside consultant(s) who may be retained by the (Community Name) in connection with the review of the application. In the event the cost of the services of the consultant(s) is less than the escrow fee, the applicant shall be refunded the balance. In the event the cost of the services of the consultant(s) exceeds the amount of the escrow fee, the applicant shall pay the deficiency to the (Community Name) prior to the issuance of a wetland use permit. A denial of an application for a wetland use permit shall not affect the applicant's obligation to pay the escrow fee provided for in this Section.

Section 9.2 - Penalties And Enforcement

SIDEBAR TEXT

- Penalties can include fines and/or a requirement that the affected wetland area be restored or mitigated in some way. A mitigation penalty becomes a much bigger consideration for a contractor.
- A significant minimum fine will help deter contractors from damaging a protected wetland.
- Money collected from fines can be used to restore the impacted area to its previous condition if the contractor is not required to do so.

- A.** Restoration Requirements for Illegal Wetland Alteration. In the event of a violation involving illegal alteration of a watercourse or protected wetland under this Section, the (Community Name) shall have the power to order complete restoration of the watercourse or protected wetland area by the person or agent responsible for the violation. If such responsible person or agent does not complete such restoration within a reasonable time following the order, the (Community Name) shall have the authority to restore the affected watercourse or protected wetland to their prior condition wherever possible, and the person or agent responsible for the original violation shall be held liable to the (Community Name) for the cost of restoration. Requirements and watercourse or protected wetland restorations order by the (Community Name) shall be coordinated with state and/or federal agency requirements and specifications for watercourse or wetland restoration.
- B.** Penalties. In addition to the rights and remedies herein provided to the (Community Name) any person violating any of the provisions of this Ordinance shall be deemed guilty of a misdemeanor and upon conviction

thereof shall be fined in an amount not exceeding Five Hundred Dollars (\$500.00), or be imprisoned in the county jail for a period not exceeding ninety (90) days, or be both so fined and imprisoned. Each day such violation is continued or permitted to continue shall constitute a separate offense and shall be punishable as such hereunder.

- C.** Injunction. Any activity conducted in violation of this Section is declared to be a nuisance per se, and the (Community Name) may commence a civil suit in any court of competent jurisdiction for an order abating or enjoining the violation, and/or requiring restoration of the protected wetland or watercourse as nearly as possible to its condition before the violation.
- D.** Stop-Work Order. The (Community Name) may also issue a stop-work order or withhold issuance of a Certificate of Occupancy, permits or inspection until the provisions of this Ordinance, including any conditions attached to a wetland use permit, have been fully met. Failure to obey a stop-work order shall constitute a violation of this Ordinance.
- E.** Appearance Tickets. In all arrests and prosecutions for violation of this Ordinance, appearance tickets and the appropriate procedures set forth in Act 147, Michigan Public Acts of 1968, as amended, may be used.

SIDEBAR TEXT

- Enforcement is the key to wetland protection. Periodic field inspections need to be made during construction activities to ensure that wetlands are properly protected, or if a mitigation project, that the new wetland is functioning properly.
- Field visits to confirm that required actions have been taken will also provide the community with an updated evaluation of the condition of its wetlands.

- F.** Enforcement. The Wetlands Administrator or his/her agent, officer or employee shall have authority under this Ordinance to enter upon privately-owned land for the purpose of performing the (Community Name)'s duties under this ordinance and may take or cause to be made such examinations, surveys or samplings as are deemed necessary.

SECTION 10 - STATE NOTIFICATION

Section 10.1 - Notice to the Michigan Department of Environmental Quality

The (Community Name) shall notify the MDEQ of the adoption of this Ordinance. The (Community Name) shall cooperate with the MDEQ in the enforcement of the Wetland

Protection Act as to wetlands under the MDEQ's jurisdiction as defined under this Ordinance.

SECTION 11 - ORDINANCE CONFLICT

Section 11.1 - Abrogation and Conflict of Authority

Nothing in this Ordinance shall be interpreted to conflict with present or future state statutes in the same subject matter; conflicting provisions of this Ordinance shall be abrogated to, but only to, the extent of the conflict. Moreover, the provisions of this Ordinance shall be construed, if possible, to be consistent with relevant state regulations and statutes. If any part of this Ordinance is found to be invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct and independent provision. Such holding shall not affect the validity of the remaining portions thereof, and the remainder of the Ordinance shall remain in force. Rights and duties which have matured, penalties which have been incurred, proceedings which have begun (except as set forth in Section 5.3 and Section 6 herein) and prosecutions for violations of law occurring before the effective date of this Ordinance are not affected or abated by this Ordinance.

SECTION 12 - PROPERTY TAX ASSESSMENT

If a wetland use permit is denied by the (Community Name), a landowner may appear at the annual (appellate body) for the purpose of seeking a reevaluation of the affected property for assessment purposes to determine its fair market value under the use restriction.

SECTION 13 - EFFECTIVE DATE

This Ordinance shall take full force and effect upon _____, 20__, following final publication of said ordinance.

SECTION 14- CERTIFICATION

I, (Clerk's Name), Clerk of (Community Name), do hereby certify that the foregoing is a true and correct copy of an ordinance adopted by the (Community Name) Board/Council at a regular meeting on _____, 20__.

Published _____, 20__

Woodlands and Tree Ordinance

Objective

The objective of the Woodlands and Tree Ordinance is to prevent the unnecessary removal of trees and other forms of vegetation during development and growth of the community. The ordinance also protects and preserves woodlands and trees for historical, conservation, aesthetics and property value.



Source: Stock.xchng

Introduction

As part of the watershed management planning process, it was determined that applying land conservation techniques including trees and woodlands are important for protecting water quality, critical habitat areas, buffer and aquatic corridors, and historical areas. An ordinance can be used to promote creative design and construction techniques that maximize preservation of this valuable natural resource. Exemptions from the ordinance include: nurseries, tree farms, and orchards. To strengthen the ordinance's effectiveness, it should be supported by the goals and objectives of a community's Master Plan. Inventories, maps, aerial photography can be used to identify tree and woodland areas to be protected and impacts over time.

Scientific Background

Tree and woodland areas provide many benefits to a community. They produce oxygen, provide wildlife habitat, moderate temperature, reduce air pollution, reduce noise pollution, improve water quality, enhance aesthetics and property value, and produce a sense of character for the community image. Tree and woodland growth contributes to many aspects of watershed management including flood control, stream bank stabilization, and reduction of flow which prevents erosion, siltation and overflow. Tree and woodland growth also helps protect public health through the absorption of air contamination and pollutants.

Variables/Issues

A Woodlands and Tree Ordinance may be used to regulate specific trees or wooded areas in urbanized settings, or tree-rows and woodlands in a more rural community. Communities should consider not only the adoption of a Woodlands and Tree Ordinance, but protection efforts could be reinforced and enhanced by integrating woodland and tree standards into landscaping and/or site plan reviews. Since State and Federal laws protecting tree resources are limited, local planning and action are necessary to protect this natural resource.

Procedure for Adoption

Standard procedures for ordinance adoption by your municipality should be followed. Consult with your City or Township Attorney regarding specific language of the Ordinance. This ordinance may be established based on the public concern for tree resources in the interest of the health, safety, and general welfare of the residents within a

particular community in keeping with Article IV, Section 52 of the Michigan Constitution of 1963. The intent of the Michigan Natural Resources and Environmental Protection Act, PA 451 of 1994 can also be cited as a purpose for establishing a tree protection ordinance. If many scientific questions arise, contact the Michigan Department of Natural Resources – Forestry Division, or your local Conservation District.

Stakeholders

Stakeholders that may be affected by a Woodlands and Tree Ordinance include:

- Residents
- Golf Courses
- MSU Extension office
- Developers
- Chamber of Commerce
- Michigan Department of Environmental Quality
- Michigan Department of Natural Resources
- Michigan Department of Agriculture
- Conservation District
- Large Businesses/Industry
- Local Units of Government
- Drain Commissioners Office
- Road Commission
- School Districts
- Home Builders Association
- Landscape architects
- Tree and landscape services
- Nurseries
- Orchards
- Tree farms

Enforcement

The model/template ordinance on the following pages includes language regarding the permitting process for tree or woodlands removal. It includes many aspects of tree and woodlands management by addressing clear cutting, removal for development, replanting of trees, etc.

References and Resources

Michigan Department of Natural Resources – Forestry Division

<http://www.michigan.gov/dnr/0,1607,7-153-30301---,00.html>

Macomb County Ordinances

http://www.macombcountymi.gov/planning/Model_Envir_Ordinances.htm

Michigan Association of Conservation Districts

<http://www.macd.org/macdcds.html>

A Guide to Developing a Tree Preservation Ordinance – Minnesota Shade Tree Advisory Committee <http://www.mnstac.org/RFC/preservationordguide.htm>

Michigan State University Extension – office locations and staff contact by county.
http://www.msue.msu.edu/portal/default.cfm?pageset_id=25744&page_id=25770&msue_portal_id=25643

Stock.xchng photos <http://www.sxc.hu/index.phtml>

TREES AND WOODLANDS PROTECTION

(COMMUNITY NAME), MICHIGAN

Ordinance No. _____

SECTION 1 - GENERAL

Section 1.1 – Intent

Development of the (Community Name) could result in an unregulated and, in many cases, unnecessary removal of trees and related resources, and other forms of vegetation and natural resources and processes. Regulation of the removal of tree resources will achieve a preservation of important physical, aesthetic, recreational and economic assets for both present and future generations. Specifically, it is found that:

- A. Woodlands provide for public safety through the prevention of erosion, siltation, and flooding;
- B. Woodland growth protects public health through the absorption of air pollutants and contamination, including the reduction of excessive noise and mental and physical damage related to noise pollution;
- C. Trees, vegetation, and associated natural resources provide a material aspect of the character of the (Community Name); and
- D. Trees and woodland growth serve as an essential component of the general welfare by maintaining natural beauty, recreation, and irreplaceable natural heritage.
- E. Trees and woodlands increase the economic value of land for most uses.

SIDEBAR TEXT

- *A municipality should establish short and long-term goals that address preservation of the physical, aesthetic, recreational, and economic benefits that trees/woodlands provide.*

Section 1.2 - Purposes

The purposes of this Section are as follows, to be applied throughout the (Community Name):

- A. To prohibit the unnecessary removal of trees on undeveloped land.
- B. To discourage the unnecessary removal of trees and woodland resources in connection with the development of land.
- C. To provide for the protection, preservation, proper maintenance, and use of trees and woodlands in order to minimize disturbance to them and to prevent damage from erosion and siltation, a loss of wildlife and vegetation, and/or from the destruction of the natural habitat;
- D. To protect the woodlands (including woodland resources) for their economic support of local property values when allowed to remain uncleared and/or unharvested in whole or in significant part, and for their natural beauty, character, and geological, ecological, or historical significance;
- E. To provide for the paramount public concern for these natural resources in the interest of the health, safety and general welfare of the residents of this (Community Name), in keeping with Article IV, Section 52 of the Michigan

Constitution of 1963, and the intent of the **Michigan Natural Resources and Environmental Protection Act**, PA 451 of 1994.

SECTION 2 – DEFINITIONS

Section 2.1 – Definitions

The following definitions shall apply in the interpretation of this Section.

BUILDING ENVELOPE means the area enclosed or to be enclosed by the exterior walls of the proposed structure on the property, plus an area beyond such walls of fifteen (15) feet so long as the building or structure is not in any required setback. With the objective of preserving trees, and also allowing reasonable development, the fifteen (15) feet beyond each wall may be reallocated so that the total distance on both sides of the exterior walls is thirty (30) feet (e.g., ten (10) feet on one side and twenty (20) feet on the other). The same treatment shall be authorized for areas beyond the front and back walls.

CLEAR-CUTTING means the removal within any five (5) year period of more than twenty percent (20%) of the total number of protected trees located on a parcel of land without a tree removal permit.

COMMERCIAL NURSERY means a licensed plant or tree nursery in relation to those trees planted and growing on the premises of the licensee, which are planted and grown for sale to the general public in the ordinary course of the licensee's business.

DIAMETER BREAST HEIGHT (d.b.h.) means a tree's diameter in inches measured by diameter tape at four and one-half (4 1/2) feet above the ground. On multi-stem trees, the largest diameter stem shall be measured.

DRIP LINE means an imaginary vertical line extending downward from the outermost tips of the tree branch to the ground.

FARM means the land, plants, animals, buildings, structures, including ponds used for agricultural or aqua-cultural activities, machinery, equipment, and other appurtenances used in the commercial production of farm products.

FARM OPERATION means the operation and management of a farm or a condition or activity that occurs at any time as necessary on a farm in connection with the commercial production, harvesting, and storage of farm products, and includes, but is not limited to:

- A. Marketing produce at roadside stands or farm markets;
- B. The generation of noise, odors, dust, fumes, and other associated conditions;
- C. The operation of machinery and equipment necessary for a farm including, but not limited to, irrigation and drainage systems and pumps and on-farm grain dryers, and the movement of vehicles, machinery, equipment, and farm products and associated inputs necessary for farm operations on the roadway as authorized by the Michigan vehicle code, Act No. 300 of the Public Acts of 1949, being sections 257.1 to 257.923 of the Michigan Compiled Laws;

- D. Field preparation and ground and aerial seeding and spraying;
- E. The application of chemical fertilizers or organic materials, conditioners, liming materials, or pesticides;
- F. Use of alternative pest management techniques;
- G. The fencing, feeding, watering, sheltering, transportation, treatment, use, handling and care of farm animals;
- H. The management, storage, transport, utilization, and application of farm by-products, including manure or agricultural wastes;
- I. The conversion from a farm operation activity to other farm operation activities; and
- J. The employment and use of labor.

The management and harvesting of a woodlot is not an accepted farm operation under this Ordinance.

LANDMARK TREE means any tree which stands apart from neighboring trees due to the size, form, species or historic significance. Criteria pertaining to the size of landmark trees is listed in section L of these regulations.

PARCEL means all contiguous land situated in a lot or plot of land owned by a person.

PERSON means an individual, partnership, corporation, association, or other legal entity. For the purposes of this definition, an individual or entity shall mean and include all individuals in an immediate family, and all entities in which an individual has more than a ten percent (10%) interest.

PROTECTED TREE means any tree having a diameter breast height (d.b.h.) of four (4) inches or greater and subject to the regulations of this ordinance.

REMOVE OR REMOVAL means the act of removing or terminating the life of a tree by digging up or cutting down, or the effective removal through damage that would reasonably be expected to ultimately terminate the life of a tree.

TRANSPLANT means the relocation of a tree from one place to another on the same property.

TREE means any self-supporting, woody plant of a species which normally grows to an overall height of fifteen (15) feet or more.

TREE SURVEY means a scaled drawing (one (1) inch shall not exceed one hundred (100) feet) which provides the following information: location of all protected trees (i.e., trees having four (4) inches or greater d.b.h.) plotted by accurate techniques, and the common or botanical name of those trees and their d.b.h.

UNDEVELOPED means a parcel of land that has not been improved. With respect to land which, is partially improved by virtue of a building(s) or other improvement(s)

located on a portion of the land, the portion of the land which does not contain the building(s) or other improvements(s) shall be considered undeveloped.

WOODLAND means a stand of trees identified on the (Community Name) Woodland Area Map.

SECTION 3 – TREE REMOVAL PERMIT

Section 3.1 – Permit Requirements

A person shall not remove, transplant, or destroy, or cause to be removed, transplanted, or destroyed, on any undeveloped land in the (Community Name), any protected tree (i.e., a tree having a d.b.h. of four (4) inches or greater) without first obtaining a Tree Removal Permit subject to the exceptions enumerated in Section 4, "Exceptions." A tree removal permit shall be required for any of the following activities:

A. Within a woodland area.

1. The removal, transplanting or destruction of any tree within a woodland area; or
2. Land clearing or grubbing within a woodland area.

B. Outside a woodland area. The removal, transplanting or destruction of any tree with a d.b.h. of four (4) inches or greater outside of a woodland area.

SIDEBAR TEXT

- *Most uses would be permitted in a wooded area provided the development proposal meets all the requirements set forth in the woodland ordinance and other applicable ordinances, unless granted a variance.*
- *A community may want to place restrictions on certain types of land uses depending on the environmental sensitivity of a woodland.*
- *For example, more intensive land uses such as manufacturing have greater impact on the land and should be restricted in sensitive woodland areas.*
- *Less intensive uses such as residential (clustered), parkland, or greenways are more appropriate for environmentally sensitive woodlands.*
- *Data and map(s) of a community's woodland/tree resources are particularly helpful when establishing permitted and prohibited uses.*

Section 3.2 - Plat or Site Plan Approval

A final preliminary subdivision plat, and/ or a site condominium or site plan shall not be approved by the (Community Name) until it has been reviewed and approved based upon the requirements for a Tree Removal Permit

Section 3.3 - Site Development Standards

In addition to other requirements of this Section, compliance with the following standards is required in all developments:

- A. Structures. The applicant shall designate the location of all proposed structures or building sites and the area around them to be disturbed. Such designation shall be made with the objective of preserving protected trees, and the Planning Commission or Building Official, as the case may be, shall have

discretion to require reasonable adjustments in this regard during the approval process.

- B. Activities Within Building Envelope. A Tree Removal Permit shall not be required for construction of structures or improvements or other activities within a building envelope and for each building site in a development, the applicant shall designate the "building envelope."
- C. Activities Outside Building Envelope. Subject to the exceptions enumerated in this provision, and in Section 4 below, a tree removal permit shall be required to remove or cut a protected tree outside of the area designated for structures and building envelopes. The Planning Commission or Building Official, as the case may be, may issue an advanced written waiver of the requirement for a tree removal permit or mitigation when it is shown that tree removal is necessary and there is no reasonable alternative in connection with building location road access, driveways, utilities, septic fields or other disturbances customarily required for the particular development. The Planning Commission or Building Official may confer with other (Community Name) personnel and/or consultants in making decisions under this section.
- D. Minimum Preservation Requirement. For parcels five (5) acres or greater, the applicant shall preserve and leave standing and undamaged a minimum of eighty (80) percent of the total number of protected trees on the lot having a d.b.h. of 4" inches or greater. However, trees contained within the designated building envelope, streets, drives and parking areas, or within required drainage, or utility improvement areas, and/or driveway and sidewalk areas, as determined by the Building Official or designee, shall not be included in the calculation for determining the required minimum preservation percentage. If the minimum preservation requirement cannot be satisfied, the applicant shall be required to replace and/or relocate trees according to the requirements set forth in Section 8 (Tree Relocation or Replacement).

SECTION 4 – EXCEPTIONS

Notwithstanding the requirements of Section 3.3 above, the following activities shall be permitted without a Tree Removal Permit unless otherwise prohibited by statute or other ordinance provision.

Section 4.1 - Parcels Less Than Five Acres

No tree removal permit shall be required on a parcel containing five (5) acres or less. For the purpose of calculating the size of a parcel, all contiguous land owned in common by one owner, shall be included in determining total acreage. The term "one owner" in this provision shall include all persons in an immediate family, and all entities in which an individual has more than a ten percent (10%) interest. This provision shall not exempt residential parcels from regulations under the terms of this ordinance at the time of application for approval of plats, site plans, condominiums or other land divisions.

SIDEBAR TEXT

- *The point at which a property is exempt from a tree removal permit may depend on a community's character.*

- *For example, a rural community, which typically consists of primarily large parcels, may consider establishing a parcel size that is higher relative to a more urban community.*
- *This would provide greater flexibility for property owners/developers and also help maintain the rural character by protecting woodland/tree resources.*
- *The opposite is true for more urban communities. An urban community would establish a lower minimum parcel size to ensure that most development proposals are subject to the community's tree/woodland protection ordinance.*

Section 4.2 - Activities within Building Envelope or Building Site

No tree removal permit shall be required for construction of structures or other activities within a building envelope or building site. This shall include roads, road rights of way, driveways, essential utilities, retention / detention ponds or septic fields.

Section 4.3 - Bona Fide Farm Operation

Tree removal or transplanting occurring during use of land for bona fide farm operations as defined by the Michigan Right to Farm Act (Public Act 93, 1981); provided, however, that the farm use (as defined in this Section) has previously been in operation for a continuous period of five (5) years.

Section 4.4 - Commercial Nursery

Tree removal or transplanting occurring during use of land for the operation of a commercial nursery that is licensed with the State of Michigan and has previously been in operation on the property for three years or more, or the property owner records an affidavit that the commercial nursery shall continue in active operation for a period of no less than five (5) years.

Section 4.5 – Emergencies

Actions made necessary by an emergency, such as tornado, windstorm, flood, freeze, dangerous and infectious insect infestation or disease, or other disaster, in order to prevent injury or damage to persons or property or restore order, and where it would be contrary to the interest of the public, or to the health or safety of one or more persons, to defer cutting pending submission and processing of a permit application. Unless life and property would be threatened, this exception shall not apply unless and until the (Community Name) official, or designee, has approved the removal.

Section 4.6 - Governmental Agencies

Tree trimming, removal, or transplanting performed by, or on behalf of, governmental entities, Road Commission or agencies to the limited extent necessary to achieve authorized objectives of the entities or agencies.

Section 4.7 - Public Utilities

Repair or maintenance work performed by public utilities necessitating the trimming or cutting of trees to the limited extent necessary to achieve authorized objectives of the utility.

Section 4.8 - Dead or Damaged Trees

Removal or trimming of dead or damaged trees provided the (Community Name) has first confirmed in writing the dead or damaged condition upon request of the property owner.

Section 4.9 - Nominal Activity

Where the activity involves the removal or transplanting of three (3) or fewer trees having six (6) inches or greater d.b.h. within a one year period, and is not related to the development of a parcel or construction of a building or structure.

Section 4.10 - Tree Management

Where a tree management plan prepared by a State of Michigan registered forester or other natural resource professional who is qualified to prepare such a plan is submitted to and approved by the Building Official or designee who may confer with the (Community Name) expert at his or her discretion, tree cutting may occur in accordance with the plan without a permit. To qualify under this exception, tree management activity shall be for the purpose of reducing the density of trees so as to promote and maintain the health and viability of the remaining trees and/or for forest or woodland improvements generally; for promotion of wildlife habitat; for facilitation of appropriate forest-related or woodland related recreational activities, including but not limited to hunting; and for other similarly acceptable silvicultural practices. The management plan shall include the means by which cut trees shall be removed from the property with the least possible damage to remaining trees. The person seeking approval and exemption under this provision may be required to establish an escrow with the Building Official for the purpose of covering the costs of the (Community Name) expert.

SIDEBAR TEXT

- *To provide greater flexibility, a community may consider providing an exemption for the following:*
 - *An existing residential site development proposal that are under two (2) acres upon which there is an occupied residential structure.*
 - *An existing residential site over two (2) acres where specific improvements are proposed upon which there is an occupied residential structure. Examples of improvements may include a fence, deck, pool, or accessory building.*

SECTION 5 - APPLICATION FOR TREE REMOVAL PERMIT

Section 5.1 - Application and Fee

A person seeking a Tree Removal Permit must submit a written application to the (Community Name) Clerk and pay the application permit fee as established by resolution of the (Community Name) Board.

SIDEBAR TEXT

- *A community could use the following fee schedule for tree removal permits.*

<i>Trees Removed</i>	<i>Fee</i>
<i>1-3</i>	<i>\$75.00</i>
<i>4-6</i>	<i>\$125.00</i>
<i>7-25</i>	<i>\$250.00</i>
<i>25 or more</i>	<i>\$250.00 plus \$5.00 per tree in excess of 25</i>

- *However, the community should allow modification of these standard fees on a project by project basis where unique circumstances justify a change.*

- *Reasons to modify the fees could include but are not limited to, the number of trees to be removed or destroyed, unavailability of area to replace trees on the project site, lack of benefit to the community, exceptional or undue hardship on applicant, or public purpose of the project.*

Section 5.2 - Time of Application

Application for a Tree Removal Permit shall be made before removing, cutting, or transplanting trees. Where the site is proposed for development necessitating site plan, site condominium or plat review, application for a Tree Removal Permit shall be made prior to or concurrent with site plan or final preliminary plat submittal. Where development of one single-family home is proposed on a parcel of five (5) acres or more, application for tree removal permit shall be made prior to or concurrent with the building permit application.

SIDEBAR TEXT

- *Some communities do not regulate the development of one (1) single-family home, regardless of the lot size. Usually only developments that require a site plan are subject to these regulations.*
- *The decision to regulate these developments may depend on community character and how the community would like to develop.*

Section 5.3 - One (1) Single-Family Building Site

For one single-family building site on parcels of five (5) acres or more, the permit application shall include copies of a plan drawn to scale containing the following information:

- A. Property Dimensions. The boundaries and dimensions of the property, and the location of any existing and proposed structure or improvement, and a statement identifying the type of structure or improvement.
- B. Inventory of Trees. Location of all existing protected trees identified by common or botanical name. Trees proposed to remain, to be transplanted, or to be removed shall be so designated. The Building Official or designee may waive detailed tree inventory requirements for those areas of the site where proposed development will not impact regulated trees.
- C. Tree Protection. A statement describing how trees intended to remain will be protected during development.
- D. Easements and Setbacks. Location and dimension of existing and proposed easements, as well as all setbacks required by the Zoning Ordinance.
- E. Grade Changes. Designation and description of grade changes proposed for the property.
- F. Intended Tree Replacement. A cost estimate for any proposed tree replacement program with a detailed explanation including the number, size, and species.
- G. Tree Identification. A statement that all trees being retained will be identified by some method such as painting, flagging, etc., and, where protective barriers are necessary, that they will be erected before work starts.

- H. Structures, Building Envelope, Utilities, and Driveway. The plan shall show the structures, building envelope, utilities, and driveway as existing and/or proposed on the property.

Section 5.4 - Developments Other than Single-Family Home Sites

For other developments, including site plans, site condominiums or subdivisions, the permit applicant shall provide copies of a plan containing the same information required for one (1) single-family building site, and the following additional information:

- A. Plan. A topographical survey sealed by a registered engineer or registered surveyor shall be shown on the plat.
- B. Tree Survey. A tree survey prepared by a State of Michigan registered forester, arborist, or landscape architect for all areas for which a Tree Removal Permit is required.
- C. For larger sites over ten acres (10) in size containing more than one hundred (100) regulated trees, the Planning Commission may waive the detailed tree inventory requirements where it can be demonstrated that the proposed development will not impact woodland areas.

Section 5.5 - For All Developments

For all developments, any proposed tree relocation or replacement, consistent with Section 8, below shall be specified in the application, including a drawing and detailed explanation of the proposal.

SECTION 6 - APPLICATION REVIEW PROCEDURE

Section 6.1 - Staff Review

The Building Official or designee shall review the submitted Tree Removal Permit application to verify the applicant has provided all required information. Completed applications shall be referred to the appropriate consultants. Upon request of either the applicant or the (Community Name), the (Community Name) may conduct a field inspection or review meeting. The (Community Name) personnel involved in the review shall submit their report and recommendations to the Building Official, who shall forward them to the Planning Commission or (Community Name) Board, as appropriate, for further review.

Section 6.2 - Reviewing Authority

Where the site is proposed for development necessitating site plan review site condominium, or plat approval by the (Community Name) Planning Commission, the Planning Commission shall be responsible for granting or denying the application for a Tree Removal Permit (subject to affirmation, reversal, or modification by the (Community Name) Board with respect to plat approvals). Where site plan review or plat approval by the Planning Commission is not required by ordinance, the grant or denial of the Tree Removal Permit application shall be the responsibility of the Building Official or designee, following the right and opportunity of the Building Official or designee to confer with consultants. Where the use of a consultant is reasonably required, the property owner shall establish an escrow in an amount determined by (Community Name) Board resolution establishing fees, out of which the consultants' fee shall be paid. The decision to grant or deny a permit shall be governed by the review standards enumerated in Section 7, below.

Section 6.3 - Denial of Tree Removal Permit

Whenever an application for a Tree Removal Permit is denied, the permit applicant shall be notified, in writing, of the reasons for denial. If such decision is made by the Planning Commission or (Community Name) Board, it shall be a part of the minutes of the meeting at which action on a site plan, site condominium or plat review. Denial of a tree removal permit may be appealed to the Zoning Board of Appeals in accordance with the provisions of this Ordinance.

Section 6.4 - Tree Removal Permit

Whenever an application for a Tree Removal Permit is granted, the reviewing authority shall:

- A. Conditions. Attach to the granting of the permit any reasonable conditions considered necessary by the reviewing authority to ensure the intent of this Ordinance will be fulfilled and to minimize damage to, encroachment in, or interference with natural resources and processes within wooded areas, including, without any limitation, the trees to be preserved.
- B. Completion of Operations. Fix a reasonable time, up to a maximum of eighteen months, to complete tree removal, transplanting, and replacement operations, ensuring that plantings occur at correct times of the year. Such time may be extended, upon written request submitted 30 days before expiration of the original permit, by the body or entity that approved the original permit
- C. Security. Require the permit grantee to file with the (Community Name) a cash or corporate surety bond or irrevocable bank letter of credit in an amount reasonably determined necessary by the (Community Name) to ensure compliance with the Tree Removal Permit conditions and this Ordinance in regard to transplanting and replacement of trees; provided, however, that security shall only be required if the developer is to perform the transplanting and/or replacement after six (6) months following grant of a permit, or to perform the transplanting and/or replacement after issuance of a Certificate of Occupancy. The security requirement may also be waived at the direction of the Planning Commission or Building Official.
- D. Term of Permit. A tree removal permit issued under this paragraph shall be null and void if commencement of work permitted under the permit has not been commenced within a reasonable time, not to exceed twelve (12) months. In addition, a permit shall be void after the expiration of eighteen (18) months from the date of issuance. A six (6) month extension may be granted upon written request to the body or entity that approved the original permit. The request must be received 45 days before expiration of the original permit.

Section 6.5 - Time for Decision

Where a single one-family home on a parcel of five (5) acres or more is proposed, or where a site plan, site condominium or plat review is required, the (Community Name) decision on the application shall be issued within 60 days of the date of the (Community Name) receipt of a complete application for a Tree Removal Permit or from the time that the application is considered administratively complete, or if the application under Section is being considered in conjunction with a companion application for development approval involving the same property, the (Community Name) decision on the application under this Section shall be made concurrent with the decision on the other development proposal.

SECTION 7 - APPLICATION REVIEW STANDARDS

The following standards shall govern the granting or denial of an application for Tree Removal Permit:

Section 7.1 - Limitation

Removal or transplanting of protected trees shall be subject to the Minimum Preservation Requirement set forth in Section 3.3(E) above for site development, and removal or transplanting of protected trees shall otherwise be limited to instances where:

- A. Necessary for Construction. Removal or transplanting is necessary for the construction of a building, structure, or other site improvement, and the permit applicant has shown there is no feasible and prudent location alternative on site for improvement; or
- B. Disease, Damage, Etc. The tree(s) is demonstrated to the (Community Name) Building Official to: be diseased, damaged, or in danger of falling; be located too close to existing or proposed buildings or structures; interfere with existing utility service or drainage; create unsafe vision clearance; or be in violation of other ordinances or regulations.

Section 7.2 - Minimum Preservation Requirements

Unless otherwise exempt from the regulations of this ordinance, all sites shall maintain a minimum preservation as required in Section 3.3(E) above.

Section 7.3 - Preservation and Conservation

Tree preservation and conservation shall be of paramount concern and importance; provided, however, that an application shall not be denied solely because of the presence of trees on the site.

Section 7.4 - Developmental Alternatives

Preservation and conservation of wooded areas, trees, woody vegetation, wildlife, and related natural resources and processes shall have priority over development when there are feasible and prudent location alternatives on site for proposed buildings, structures, or other site improvements.

SIDEBAR TEXT

A community may require the applicant to submit with the permit application, alternative developments that were considered in optimizing the development for tree/woodland preservation.

Section 7.5 - Diversity of Species

A diversity of tree species shall be maintained where feasible.

Section 7.6 - Clear Cutting

Where the proposed activity consists of land clearing, or clear cutting, it shall be limited to areas to be improved for roadways, sidewalks, drainage, and utilities and areas necessary for the construction of buildings, structures, or other site improvements as shown on an approved site plan, site condominium or subdivision plat. Clear cutting of more than twenty percent of a site (excluding areas essential for development such as roads, drainage utilities, buildings etc.) shall be prohibited.

Section 7.7 - Relocation or Replacement

The proposed activity shall include necessary provisions for tree relocation or replacement, in accordance with Section 8, and tree protection, in accordance with Section 9.

SECTION 8 – TREE RELOCATION OR REPLACEMENT

Section 8.1 - Requirement Established

For each protected tree required to be preserved under the terms and standards set forth above, and which is permitted to be removed by permit granted under this section, the applicant shall replace or relocate trees according to the replacement tree requirements set forth below.

Section 8.2 - Replacement Tree Requirements

- A. Replacement trees shall have shade potential and/or other characteristics comparable to the removed trees, shall be State Department of Agriculture Nursery Grade No. 1 or better, and must be approved by the (Community Name) prior to planting. Replacement trees must be staked, fertilized, and mulched, and watered, and shall be guaranteed by the applicant for two (2) years. An agreement together with appropriate security (cash or letter of credit) in a form approved by the (Community Name) shall be provided in connection with such guaranty.
- B. Trees usable for replacement trees may be transplanted on site using appropriate and accepted procedures and precautions.
- C. For deciduous trees, replacement shall be on a one for one basis. For example, for each tree removed, a replacement tree shall be planted. All replacement trees shall have a d.b.h. of at least two (2) inches. All evergreen replacement trees shall be at least six (6) feet tall.
- D. One (1) landmark tree shall be replaced at a rate of one (1) inch of replacement tree for each d.b.h. inch of landmark tree removed.
- E. The Planning Commission shall be authorized to waive a portion or all of the tree replacement requirements when site factors, tree conditions or development requirements preclude reasonable actions to conform with this Section, and the applicant proposes a contribution to the Tree Fund, created in Section 13 below, in an amount reasonably related to the cost of the tree replacement being waived.

SIDEBAR TEXT

- *A list of tree species not allowed as replacement trees may be provided in this, or any other ordinance. Trees on this list are typically non-native species.*

Section 8.3 - Replacement Tree Location

- A. (Community Name) Approval Required. The (Community Name) shall approve tree relocation or replacement locations. To the extent feasible and desirable, trees shall be relocated or replaced on site and within the same general area as trees removed, provided that survival shall not be jeopardized by improvements or activities.
- B. Relocation or Replacement Off-site. Where it is not feasible and desirable to relocate or replace trees on site, as determined by the (Community Name)

decision-maker under this Section, relocation or replacement may be made at another location in the (Community Name) approved as part of the permit. This shall not preclude reasonable actions to conform with this Section or contributions to the Tree Fund, created in Section 13 below in an amount reasonably related to the cost of the tree replacement being waived.

SIDEBAR TEXT

- *Efforts to minimize the loss of trees must be explored because newly-planted tree(s) (replaced and/or relocated) does not have the same habitat value or ecological diversity found in a mature stand of trees.*
- *Replacement of trees should be promoted for long-term resource conservation.*
- *A community may consider targeting certain critical areas for acquisition as permanent forest/woodland reserves.*

SECTION 9 - TREE PROTECTION DURING CONSTRUCTION

Section 9.1 - Placing Materials Near Tree

No person may conduct any activity within the drip line of any protected tree designated to remain, including, but not limited to, placing solvents, building material, construction equipment, or soil deposits within the drip line.

SIDE BAR TEXT

- *Protection of the drip line is important because that is the area which contains the majority of a tree's root system.*
- *Damage to the root system, or compacting the soil above the roots, can lead to stunted tree growth or even loss of the tree.*
- *Ideally, there should be no disturbance within the drip line such as grading, digging, trenching, paving, or operation/parking heavy equipment and vehicles on the area.*

Section 9.2 - Attachments to Trees

During construction, no person shall attach any device to any remaining protected tree except for the protection of a tree in accordance with forestry procedures.

Section 9.3 - Protective Barrier

Before development, land clearing, filling, or any land alteration for which a Tree Removal Permit is required, the applicant shall erect and maintain suitable barriers to protect remaining trees. Protective barriers shall remain in place until the (Community Name) authorizes their removal or issues a final certificate of occupancy, whichever occurs first. Wood, metal or other substantial material shall be utilized in the construction of barriers. Barriers are required for all trees designated to remain, except in the following cases:

- A. Rights-of-Way and Easements. Street right-of-way and utility easements may be cordoned by placing stakes a minimum of fifty (50) feet apart and tying ribbon, plastic tape, rope, etc., from stake to stake along the outside perimeters of areas to be cleared.

- B. Large, Separate Areas. Large property areas separate from the construction or land clearing area, onto which no equipment will travel or be stored, may also be cordoned off as described in subparagraph (A) above.

SECTION 10 - DISPLAY OF PERMIT: STOP WORK. CERTIFICATE OF OCCUPANCY

Section 10.1 - Display of Permit

The tree removal permit grantee shall conspicuously display the permit on site. The permit grantee shall display the permit continuously while trees are being removed or replaced or while activities authorized under the permit are performed. The permit grantee shall allow (Community Name) representatives to enter and inspect the premises at any reasonable time, and failure to allow inspection shall constitute a violation of this Section.

Section 10.2 - Stop Work: Withholding Certificate of Occupancy

The Building Official may issue a stop work order if this Section is being violated, or if the Permittee is failing to conform with any conditions attached to a Tree Removal Permit. In addition, the Building Official may withhold issuance of a Certificate of Occupancy until a violation or conformance with a condition has been cured, provided however the Building Official may in his or her discretion issue a temporary certificate of occupancy conditioned upon the posting of reasonable security coupled with an agreement in a form approved by the (Community Name) guaranteeing the cure of a violation or condition.

Section 10.3 - Pursuit of Court Relief

In addition to all other remedies available, the (Community Name) may issue a citation or initiate Circuit Court litigation to achieve compliance with this Section.

SECTION 11 - HISTORIC OR LANDMARK TREES

A nomination for designation shall be brought up for consideration by the Planning Commission.

Section 11.1 Tree Nominations

Any (Community Name) property owner may nominate a tree within their own property boundaries for designation as a landmark tree or historic tree. If nominated, the Planning Commission shall review the nomination request and if determined to meet the criteria listed below, shall be placed on the (Community Name) Landmark Tree inventory.

Section 11.2 Tree Designations by Planning Commission

The Planning Commission may designate a tree, upon nomination, as a historic tree upon a finding that, one or more of the following unique characteristics exist:

- A. The tree is the predominant tree within a distinct scenic or aesthetically valued setting.
- B. The tree is of unusual age or size for that species in this climatic and geographic location. (Examples include trees listed on the Register of Big Trees or the Michigan Botanical Club as large trees.)
- C. The tree has gained prominence due to unusual form or botanical characteristics.
- D. The tree has some historical significance to the (Community Name).

Section 11.3 Inventory of Nominated/Designated Trees

The Building Department shall maintain an inventory of all nominated and designated Historic Landmark Trees.

Section 11.4 Historic Trees

A permit shall be required to remove any landmark or historic tree. Any historic tree shall be replaced on a 1 to 1 caliper inch basis. For example, a 48" landmark tree shall be replaced by 24 two inch trees. This replacement requirement may be waived if in the opinion of the Planning Commission, and after review by the (Community Name) consultant, the health/condition of the tree is such that it should not be counted.

SECTION 12 - LANDMARK TREES

Section 12.1 Landmark Trees

The following landmark trees with a specified D.B.H. or greater shall be protected under this Section.

Common name	Species	D.B.H. (inches)
American chestnut	<i>Castanea dentate</i>	8
American elm	<i>Ulmus americana</i>	18
Arborvitae	<i>Thuja occidentalis</i>	18
Ash	<i>Fraxinus</i> spp.	18
Birch	<i>Betula</i> spp.	18
Black alder	<i>Alnus glutinosa</i>	12
Black tupelo	<i>Nyssa sylvatica</i>	12
Black walnut	<i>Juglans nigra</i>	20
Buckeye (Horse chestnut)	<i>Aesculus</i> spp.	18
Cedar, red	<i>Juniperus</i> spp.	12
Crabapple (cultivar)	<i>Malus</i> spp.	12
Douglas fir	<i>Pseudotsuga menziesii</i>	18
Eastern hemlock	<i>Tsuga canadensis</i>	12
Flowering dogwood	<i>Cornus florida</i>	8
Ginkgo	<i>Ginkgo biloba</i>	18
Hickory	<i>Carya</i> spp.	18
Kentucky coffeetree	<i>Gymnocladus dioicus</i>	18
Larch/tamarack	<i>Larix laricina</i> (eastern)	12
Locust	<i>Gleditsia triacanthos</i>	24
Maple	<i>Acer</i> spp. (except <i>negundo</i>)	18
Oak	<i>Quercus</i> spp.	20
Pine	<i>Pinus</i> spp.	15
Spruce	<i>Picea</i> spp.	18
Sycamore (London plane tree)	<i>Platanus</i> spp.	18
Tuliptree	<i>Liriodendron tulipifera</i>	18

White walnut	Juglans cinerea	20
Wild cherry	Prunus spp.	18

SECTION 13 - TREE FUND

Section 13.1 Tree Fund

A Tree Fund is hereby created as the depository for all monies proposed to be paid by applicants in lieu of tree replacement or relocation, as provided in this Section. On site replacement and/or relocation shall be required for permitted activities. If lot coverage or site characteristics prohibit on-site mitigation, contribution to the (Community Name) Tree Fund may be permitted. In lieu of replacing regulated trees, the applicant has the option to contribute money to the (Community Name) Tree Fund. Payment to the Tree Fund per removed tree(s) shall be in accordance with replacement fee schedules as established by the (Community Name) Board.

Section 13.2 Tree Fund Administration

The (Community Name) Board/Council shall administer the Tree Fund with the objective of pursuing the planting of trees within the (Community Name). In the administration of the Tree Fund, the (Community Name) Board/Council shall, if reasonably feasible, attempt to purchase and install trees within a reasonable proximity of the development in connection with which funds have been paid to the Tree Fund.

Macomb County Communities with a Tree/Woodlands Ordinance

The following communities in Macomb County are considering or have adopted a tree/woodlands ordinance:

1) Shelby Township. Contact: Clerk, (586) 731-5100.

Additional Resources

1) Guidelines for Developing and Evaluating Tree Ordinances. 2001. International Society of Arboriculture.

2) U.S. Forest Service. www.fs.fed.us/.

Native Vegetation Ordinance

Objective

The goal of the ordinance is to encourage the use of native species of plants for all landscaping in the community and to maximize the use of native plant species in landscaping all areas of a site, including but not limited to; foundation plantings, lawn areas, screening and greenbelt areas, commercial and urbanized sites, and surface stormwater conveyance features. Preserving already existing native plant species should be strongly encouraged.



Source: Stock.xchng

Introduction

The regulatory component in the ordinance is to prohibit using non-native (or exotic), *invasive* plants. These plants are not native to the area, have no natural controls and are able to out-compete and gradually displace native plants. By reducing or eliminating as many non-native plants as possible, the native species can thrive and function in their natural habitat. Because exotic invasive plant species could potentially harm the environment, there is justification to regulate the use of these plants.

Background

Native plants are the trees, shrubs, flowers, grasses and ferns that have evolved in a particular area, over thousands of years. Over this long period of time, these plants have adapted to the particular growing conditions present here, including temperature, rainfall, winds, soils, slopes and fauna. Benefits of using native plants include the following:

- Native plants are well-adapted to local conditions, therefore requiring little maintenance once established. They eliminate or significantly reduce the need for fertilizers, pesticides, water, and lawn maintenance equipment. They also often attract beneficial insects, which prey upon pests, decreasing the need for pesticides.
- Native plants are less expensive to maintain. U.S. EPA reports that a prairie or wetland costs approximately \$150 a year per acre to maintain, while the same amount of lawn costs \$1,000 per year per acre to maintain.
- Native plants reduce air pollution, improve water quality and reduce soil erosion. Using native vegetation, unlike cultivated landscapes, does not require the use of lawn maintenance equipment, a major contributor to air pollution. They improve water quality by filtering contaminated storm water, and reduce soil erosion by stabilizing soils with their deep root systems.
- Most native species are perennial, or self-seeding biennial plants.

- Native plants attract our native songbirds and butterflies. Just as the plants have evolved and adapted to our area over time, the local wildlife has evolved along side them, depending on these plants for food and shelter.

Variables/Issues

Many of the provisions in the ordinance can be individually incorporated into a landscaping ordinance if the community is not ready or interested in a full range of native plant provisions. For instance, prohibiting “invasive” plants would be a basic provision to start with. While some introduced plants are harmful, or invasive, not all non-natives behave this way. An important rule of thumb is to “do no harm.” Therefore, if native species are not available, then non-invasive non-native species are the second best choice. Also, a community could allow cultivars of native species. Again, it is important that a community choose provisions that will advance their goals and fit in with their existing ordinances.

Procedure for Adoption

Standard procedures for ordinance adoption by your municipality should be followed. Consult with your City or Township Attorney regarding specific language of the Ordinance. This ordinance may be established based on the public concern for native plant species in the interest of the health, safety, and general welfare of the residents within a particular community in keeping with Article IV, Section 52 of the Michigan Constitution of 1963.

Stakeholders

Stakeholders that may be affected by a Native Vegetation Ordinance include:

- Residents
- Golf Courses
- MSU Extension office
- Developers
- Chamber of Commerce
- Michigan Department of Environmental Quality
- Michigan Department of Natural Resources
- Michigan Department of Agriculture
- Conservation District
- Large Businesses/Industry
- Local Units of Government
- Drain Commissioners Office
- Road Commission
- School Districts
- Home Builders Association
- Landscape architects
- Tree and landscape services
- Nurseries
- Orchards
- Tree farms

Enforcement

Most native plant ordinances include some regulations, and a considerable number of guidelines for the use of native plants. The guidelines help to educate development professionals about the possibilities of using native plants.

References and Resources

Center for Watershed Protection Website. www.cwp.org.

Springfield Township Native Vegetative Enhancement Project. This project includes printed information sheets for the homeowner and development professionals, and an interactive native plants CD that lists more than 230 plants native to southeastern Michigan. Contact the Township at 248-846-6510.

Wild Ones Natural Landscapers. National, non-profit organization dedicated to educating the public about native plants. www.for-wild.org.

Environmental Protection Agency (EPA). www.epa.gov/glnpo/ Under “Other Topics of Interest” at the bottom of the page, hit the “Landscaping with Native Plants (Greenacres) button.

Michigan Native Plant Producers Association. Professional association in south Michigan. Plant and seed guide available at the following link: www.nohlc.org/MNPPA.htm.

Macomb Land Conservancy. www.savingplaces.org.

Barnes, B.V. and Wagner, W.H., Jr. *Michigan Trees. A Guide to the Trees of Michigan and the Great Lakes Region*. University of Michigan Press, 1981.

Hightshoe, Gary L. *Native Trees, Shrubs, and Vines for Urban and Rural America*. Van Nostrand Reinhold Co., 1988.

Macomb County Ordinances

http://www.macombcountymi.gov/planning/Model_Envir_Ordinances.htm

Stock.xchgng photos <http://www.sxc.hu/index.phtml>

NATIVE VEGETATION

(COMMUNITY NAME), MICHIGAN

Ordinance No. _____

SECTION I. GENERAL

1.1 Intent:

SIDEBAR TEXT

- Native plant provisions are generally part of the landscaping section of the Zoning Ordinance.
- The “Intent” section of the landscaping ordinance should outline the benefits of preserving and using native vegetation in landscaping.
- As for any ordinance, support for the use of native vegetation should be included in the community’s Master Plan.

It is the intent of this section to encourage the use of desirable native species of plants for all landscaping and to maximize the use of native plant species in landscaping all areas of a site, including but not limited to, foundation plantings, lawn areas, screening and greenbelt areas, and surface storm water conveyance features.

Encouraging the use of native plants in this ordinance is based on the following:

- A. Native plants are a necessary part of the proper functioning of natural ecosystems within (Community Name) and perform tasks including, but not limited to, storm water attenuation, uptake and purification, air purification, wildlife food and habitat, and community character and aesthetics; and
- B. Landscaping with native plants encourages environmentally-sound maintenance practices by requiring little or no pesticide or fertilizer use, and minimal watering once plants are established, which, in turn, reduces the threat of environmental degradation; and
- C. The (Community Name) has stated in its Master Plan the goal to preserve the natural features and character of (Community Name) lands and protect the quality of vital (Community Name) air, land and water resources; and to encourage the uses of desirable native species of vegetation.

SECTION 2 – DEFINITIONS

2.1 Definition of Terms:

CULTIVAR means a certain variant of a species that is propagated for ornamental use. The cultivar name is always enclosed in single quotation marks or designated “cv.”; it is not italicized. Example: *Acer rubrum* ‘Sunset’.

ENVIRONMENTALLY-SOUND LANDSCAPE MANAGEMENT PRACTICES means landscape management practices that use appropriate native plant species for the site conditions, reduces the need for irrigation, eliminates the use of chemical pesticides and fertilizers, and significantly reduces or eliminates the use of gasoline-powered landscaping equipment.

EXOTIC PLANT SPECIES means a plant species that has evolved in a country or region other than Macomb County and has been introduced by human activity.

EXOTIC INVASIVE PLANT SPECIES means an exotic plant species that has no natural controls and is able to out-compete and gradually displace native plants. A list of prohibited exotic invasive plant species is included in this ordinance.

FLORISTIC QUALITY ASSESSMENT is a method for evaluating the relative significance of tracts of land in terms of their native floristic composition. This method was developed by the Michigan Department of Natural Resources. The plant list that results from this process provides information about the ecosystems on the site, the condition of those systems, and gives guidance as to what native plant species would be appropriate to use in landscaping the site after development has occurred.

NATIVE PLANT SPECIES means a plant species that has naturally evolved in a certain area over thousands of years under certain soil, hydrologic, and other site conditions. Where “native plant species” is used in the text, this means a straight species, not a cultivar of a species.

SIDEBAR TEXT

Common native plant species that are readily available in the landscaping trade include:

- Trees – Red Maple (*Acer rubrum*), Sugar Maple (*Acer saccharum*), Basswood (*Tilia americana*), Red Oak (*Quercus rubra*), Swamp White Oak (*Quercus bicolor*), Bur Oak (*Quercus macrocarpa*), Redbud (*Cercis Canadensis*), Flowering Dogwood (*Cornus florida*).
- Shrubs – Chokeberry (*Aronia melanocarpa*), Alternate-leaf Dogwood (*Cornus alternifolia*), Red-osier Dogwood (*Cornus stolonifera*), American Hazelnut (*Corylus americana*), Michigan Holly (*Ilex verticillata*), Serviceberry (*Ameranchier laevis or arborea*), Spicebush (*Lindera benzoin*), American Cranberry Viburnum (*Viburnum trilobum*).

- Perennials – New England Aster (*Aster novae-angliae*), Beebalm (*Monarda fistulosa*), Black-eyed Susan (*Rudbeckia hirta*), Wild Geranium (*Geranium maculatum*), Showy goldenrod (*Solidago speciosa*), Jack-in-the-pulpit (*Arisaema triphyllum*), Michigan Lily (*Lilium michiganense*), Common Milkweed (*Asclepias syriaca*), Trillium (*Trillium grandiflorum*).

NATIVE PLANT COMMUNITY is a collection of plant species native to Macomb County that have evolved together under similar site conditions.

NATURAL LANDSCAPING refers to a property that is landscaped so as to exhibit the deliberate and conscious decision to plant, cultivate and maintain those native species identified as wildflower, grass, shrub, or tree in commonly accepted publications, including “Michigan Flora” by Edward Voss, all volumes. This landscaping tries to capture the character and spirit of nature in a designed landscape by arranging plants in a community context, similar to their arrangement in nature.

NOXIOUS WEED refers to any plant species listed by the State of Michigan under Regulation 715, Seed Law Implementation, and under Act 359 of 1941 – Noxious Weeds.

SECTION 3 – PROHIBITED PLANT SPECIES

Section 3.1 Prohibited Plant Species

The following plants are prohibited for use in landscaping activities. Most of these plants are not native to the area, reproduce profusely and have potentially harmful effects on natural ecosystems. They are known as “exotic invasive species.”

SIDEBAR TEXT

- To ensure that the proposed plant species on a site plan are not the same as a plant on the “Prohibited Plant Species” list, common and botanic names (English and Latin) should be provided on the site plan. A plant species can have several common names, but it will only have one botanic name.

Common Name (Botanic Name):

Trees:

Norway Maple (*Acer platanoides*)
 Amur Maple (*Acer ginnala*)
 Tree of Heaven (*Ailanthus altissima*)
 European Alder (*Alnus glutinosa*)
 Goldenraintree (*Koeleruteria paniculata*)
 Amur Cork Tree (*Phellodendron amurense*)

White Poplar (*Populus alba*)
Siberian Elm (*Ulmus pumila*)

Shrubs and Vines:

Porcelainberry (*Ampelopsis brevipedunculata*)
Japanese barberry (*Berberis thunbergii*)
Common barberry (*Berberis vulgaris*)
Butterfly Bush (*Budlia davidii*)
Oriental Bittersweet (*Celastrus orbiculatus*)
Cotoneaster (*Cononeaster microphyllus*)
Cotoneaster (*Cotoneaster pannosus*)
Cotoneaster (*Cotoneaster lacteus*)
Autumn Olive (*Eleagnus umbellata*)
Russian Olive (*Eleagnus angustifolia*)
Burningbush (*Euonymus alatus*)
Wintercreeper (*Euonymus fortunei*)
English Ivy (*Hedra helix*)
Privet (*Ligustrum vulgare*)
Japanese Honeysuckle (*Lonicera japonica*)
Amur Honeysuckle (*Lonicera maackii*)
Morrow Honeysuckle (*Lonicera morrowi*)
Tartarian Honeysuckle (*Lonicera tatarica*)
White Mulberry (*Morus alba*)
Common Buckthorn (*Rhamnus cathartica*)
Glossy Buckthorn (*Rhamnus frangula*)
Multiflora Rose (*Rosa multiflora*)
Japanese Spiraea (*Spiraea japonica*)
Japanese Yew (*Taxus cuspidata*)
Guelder Rose (*Viburnum opulus* var. *opulus*)

Grasses and Grass-Like Plants:

Pampas Grass (*Cortaderia selloana*, *C. jubata*)
Chinese Silver Grass (*Miscanthus sinensis*)
Giant Reed (*Phragmites communis*)
Reed Canary Grass (*Phalaris arundinacea*)
Ribbon Grass (*Phalaris picata*)

Flowers and Groundcovers:

Creeping Bugleweed (*Ajuga reptans*)
Garlic Mustard (*Alliaria officinalis*)
Spotted Knapweed (*Centaurea maculosa*)
Crown Vetch (*Coronilla varia*)
Foxglove (*Digitalis purpurea*)
Japanese Knotweed (*Fallopia japonica*)
Dame's Rocket (*Hesperis matronalis*)
Purple Loosestrife (*Lythrum salicaria*)

Pachysandra (*Pachysandra terminalis*)
Myrtle, or Periwinkle (*Vinca minor*)

SECTION 4 – NATIVE VEGETATION GUIDELINES

SIDEBAR TEXT

- Many landscape ordinances have weed laws that prohibit the growth of plants or grasses taller than a certain height (usually 18” – 24”). However, this same ordinance could be interpreted to prohibit growing native wildflowers and the like. Therefore, existing regulations may need to be modified to permit native landscaping. (See the Introduction to this section for a discussion of this topic.)

Section 4.1 Noxious Weeds.

Noxious weeds are those defined per the Michigan Seed Law, P.A. 329 of 1965, as amended, Regulation No. 715, Rule 7. The noxious weeds are not native plants. They are introduced species. These plants are also prohibited from being used in any natural landscaping.

It shall be the responsibility of the owners of all subdivided lots to adequately control the growth of noxious weeds on their lot. The control of such weeds shall be by cutting said weed on a regular basis during the growing season so as to limit the height of said weeds to no more than six (6) inches. In the event the lot owner does not comply with this section of the ordinance, the (Community Name) shall, after written notice to the owner of record on the latest assessment roll, have the right to enter upon said lot or lots and cut said weeds in compliance with this ordinance. The cost of such action by the (Community Name) shall only apply to lots in subdivision and not to any other land within the (Community Name).

Section 4.2 Private Naturally Landscaped Lots

A private, “naturally landscaped” lot is a privately-owned lot where the landscaping exhibits the deliberate and conscious decision to plant, cultivate and maintain native plant species. A naturally landscaped lot often has a significantly different character than a traditionally landscaped lot, as it generally does not include much mown lawn, but is made up of relatively tall plants, often in an arrangement that emulates nature.

Naturally landscaped lots must be maintained so that herbaceous plants are mown or cut to 18” or less at least once prior to June 1 of each calendar year.

Natural landscaping on private lots shall not be located within two (2) feet of the front property line or at corner side property lines of lots having a public sidewalk, or within four (4) feet of any other property line; provided, however, no rear or side yard setback shall be required where the natural landscaping material is separated from adjacent lots by fencing or bushes, or where the natural landscaping material abuts permitted natural landscaping material on an adjacent lot. An intervening path or sidewalk shall not be deemed to prevent natural landscape materials from “abutting” for purposes of this section.

Section 4.3 Plant Rescue and Transplantation

In the development of many sites, there are appropriate native plant species that exist on the site that will be destroyed by development, but could be transplanted to other areas on the site. If this is the case, the following suggested guidelines should be followed:

Standards:

- A.** Where native plant species are being displaced by development, herbaceous and woody plants should be rescued to the extent possible before all land clearing operations begin. Plants that can be successfully transplanted should be designated by a qualified botanist during the site plan review process. These plants should be protected from construction activity and maintained in a healthy condition on site until they can be transplanted to other areas of the site.
- B.** Woody native plant species that are rescued from developed areas of a site may be used to fulfill landscaping requirements. Plants of a size smaller than the sizes outlined in this landscape ordinance are allowed as long as the plants are no less than one-half the required size, and that the total number of plants used adds up to the size requirements for a single species. For example, two, rescued 1-1/4” caliper Oaks can be used instead of one, 2-1/2” caliper Oak.
- C.** Native plant species should not be removed for transplanting or for other purposes from undisturbed areas of the site, or areas designated as preservation or conservation areas. Federal and state laws protecting native plant species designated as endangered, threatened or of special concern must be adhered to and under no circumstances shall these plants be damaged, destroyed or removed from the site.
- D.** Plants that will otherwise be destroyed through construction activities can be rescued from one site for transplanting to another site as long as permission for removing the plants is granted, in writing, by the land owner, and that the plants are inspected by the Michigan Department of

Agriculture Pesticide and Plant Pest Division. Inspection is also necessary if the plants are moved across a public road, even if the road is on the same property as the plant's original location.

SIDEBAR TEXT

- Communities can encourage the use of native plants through preservation and/or restoration of native plant communities, or by landscaping with native plants.
- “Restoration” of native plant communities differs from landscaping in that the plants are chosen to mimic the plant community being restored, and they are arranged as they would be in nature, rather than in a “garden” arrangement.

Section 4.4 Exotic Invasive Species Removal

Recommended standards for removing exotic invasive species are described below:

Standards:

- A. Where possible, exotic invasive plant species should be removed where they exist within native plant communities to remain after development is complete. Tested methods for removal of specific species should be employed to ensure that the invasive species do not return in the same or increased numbers.

Section 4.5 Native Plants in Landscaping

If native species are to be used in landscaping and plantings, the following guidelines should be considered:

Standards:

- A. Native plant species chosen for a site should be based on the existing vegetation and site conditions. The woodland, wetland or meadow species that currently grow on a site indicate the native species to be used in landscaping the site.
- B. For traditional (or “garden”) landscaping arrangements, it is recommended that native plant species rated a 0 through 7 in the Michigan Floristic Quality Assessment Plant Database be used. Rational for this recommendation is that the rarest plants (rated 8 – 10) are not readily available from local genetic stock and that common species (rated 0 – 2) are readily available through local nurseries. Endangered, threatened or

special concern plants should be avoided altogether. Listing of these plants are available from the (Community Name).

- C. For natural landscaping arrangements, such as open spaces or storm water systems, it is recommended that native plant species rated 3 through 7 in the Michigan Floristic Quality Assessment Plant Database be used. Rationale for this recommendation is that the rarest plants (rated 8 – 10) are not readily available from local genetic stock, and the most common plants (rated 0 – 2) will most likely be in the seed bank in existing topsoil or come in on their own. Endangered, threatened or special concern plants should be avoided altogether. Listings of these plants are available from the (Community Name).
- D. In entryways or other areas where aesthetics is of primary importance, cultivars of native plant species may be considered to ensure, to a certain degree, the plant's appearance.
- E. Plantings installed in areas of storm water conveyance, infiltration, or retention/detention should be planted with native species that specifically perform the necessary runoff attenuation, filtration, water uptake and purification functions needed in such areas. Both herbaceous and woody species should be incorporated into the plant mix, where the desired function dictates.

SIDEBAR TEXT

- Preserving native vegetation along undeveloped reaches of stream or river banks is an easy and cost effective way of protecting water quality from polluted runoff. A natural feature or riparian buffer ordinance could be included in the Best Management Practices (BMPs) to meet Phase II storm water permit requirements.
- Another way to meet Phase II requirements is using native vegetation in storm water BMPs, such as vegetated swales and wet ponds. The plants will help to filter the water of pollutants before it is outlet to a natural system.

- F. The arrangement of native species can be designed in both conventional arrangements, or more “natural” arrangements. Natural arrangements emulate the arrangements found in nature within the particular plant community being used for landscaping purposes. Natural arrangements should be used for landscaping open space, such as surface storm water systems, street tree plantings, and/or parks. If natural arrangements are used, plant spacing requirements can be relaxed as long as the function that the plants are to serve is accomplished.

- G.** The number of native species used in a natural arrangement should be more complex, and somewhat representative of the plant community being emulated, than would be used in a conventional planting arrangement.

Section 4.6 Maintenance

One purpose of using native vegetation is to reduce the amount of maintenance and watering required, eliminate the use of chemical fertilizers and pesticides, and reduce emissions from gasoline-powered landscaping equipment. These guidelines provide suggestions about how this can be accomplished.

Standards:

- A.** All ecosystem types should be maintained using environmentally-sound practices that will keep the plants in a healthy and thriving condition without the use of toxic chemicals. Maintenance programs should be based on the ecosystem type. For instance, prairie plantings require annual or biannual mowing or burning to encourage new, vigorous growth.
- B.** If a native planting is installed in a landscape bed that would otherwise require irrigation, the governmental body responsible for site plan approval may waive this requirement if the plants selected are drought-tolerant species, and that the planting will be regularly watered for the first full growing season so that the plants can become well established.
- C.** Residential landscapes that use native plants in a natural arrangement must be maintained to keep a mown edge three (3) feet wide and not higher than six (6) inches along all public sidewalks, and a strip not less than three (3) feet wide adjacent to neighboring property lines unless waived by the abutting property owner on the side affected. Vegetation must not interfere with sight distances from driveways and roads.

Low Impact Development Considerations

Objective

Low Impact Development (LID) is an innovative stormwater approach with a basic principle that is modeled to manage rainfall at the source. The goal is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to its source.

Introduction

The main objective of LID is to help protect aquatic resources, water quality, and the natural hydrology of a watershed as development takes place. Watershed hydrology is the relationship between rainfall, evaporation, groundwater infiltration, and surface water flow. LID is based on the premise that nature knows how to manage water and stormwater runoff best. Forests and other natural areas are extremely effective groundwater recharge areas. For example, there is very little surface runoff in a forested area. Most rainfall infiltrates to the ground, is absorbed by vegetation, or evaporates to the atmosphere. But when developers clear forests and put in roads, parking lots, roofs, and other impervious surfaces, rainfall can no longer soak into the ground. This results in a tremendous increase in surface runoff. Handling all of that additional water requires a lot of pipes and large, often unsightly and costly, stormwater ponds. LID takes another approach. Rather than collecting and conveying stormwater runoff through storm drains, pipes, or other conveyances to a centralized stormwater facility, LID-designed sites use natural vegetation and small-scale treatment systems to treat and infiltrate stormwater runoff close to where it originates. Reducing the amount of impervious surfaces reduces the amount of stormwater runoff generated in the first place.



Source: Stock.xchng

Background

Low Impact Development is an approach to incorporate economic and environmental considerations into the development process that filters and distributes rain water at the source. Specifically, LID aims to:

- Preserve open space and minimize land disturbance
- Limit infrastructure costs of development by reexamining the use and size of streets, curbs, and gutters
- Incorporate natural site elements (wetlands, stream corridors, mature forests) as design elements
- Allows rain water to restore underlying aquifer and watershed

LID programs address issues that conventional storm water programs challenge to meet. With increasing water quality regulations, it is important to economically address issues

concerning public health, environmental health, and improve community livability, while saving developers and local governments' money.

LID's features implement design strategies that reduce overall consumption. Some basic principles include reassessing traditional design dimensions. Some common examples include narrowing street width to decrease impervious surfaces that not only collect pollution, but carry rain water and pollutants to a common, down grade outlet. Also, eliminating storm drains and gutters decreases the haste of which rain water is removed from a site and allows for water shed recharge. Storm drains are usually a major cost for developers and local governments, so reliance on natural features for drainage, such as wetlands, forests, etc, strictly controls initial development costs.

Other features of LID include eliminating curbs to allow rain water to drain onto a natural surface. Some developers have incorporated rain gardens onto individual plots, which not only filter water but are considered a landscaped feature adding value to the property. Some benefits of the LID program include:

Economics:

- Reduce land clearing and grading costs
- Reduce infrastructure and utility costs
- Reduce stormwater management costs
- Potentially reduce impact fees and increase lot yield
- Increase lot and community marketability
- Reduce the need to replace aging infrastructure

Environment:

- Preserve integrity of ecological and biological systems
- Protect site and regional water quality by reducing sediment, nutrient, toxic loads to water bodies
- Preserve trees and natural vegetation
- Allow for watershed recharge

Stakeholders

The stakeholders in Low Impact Development include municipalities, developers, designers, regulators, land owners, road commission, drain commission, planning and zoning staff, and any other party concerned with land, runoff, watersheds, and development.

Variable/Issues

Some concern has arisen regarding the effectiveness of flood control with the absence of a storm drain. The purpose of a storm drain is to protect the public against floods occurring during 10 and 100 year storms and floods. It is not necessary to remove water from the area after any and every storm. Thus in the areas of high flood risk, other LID principles can be used while maintaining a storm drain, such as rain gardens, curb elimination, and maintenance of natural features.

Another concern arises from the greater upfront investment from developers. Using LID, the first stages of the development require additional resources to ensure accurate and functional LID design features. Also, there is an increased cost in landscape materials. However, the overall costs are outweighed by the cost benefits of the lower life time costs of the overall project.

Procedure for Adoption

Initializing a LID program begins in the municipality. Depending on the degree of the program, a planning official can either revise the local zoning and subdivision regulations in favor of supporting LID principles, or guidelines can be established during a site plan review session. These guidelines should be based on the community's specific environmental concerns, topography, goals, and development demands. Consultation with the Drain and Road Commissioners should be maintained before establishing guidelines. The developer must be willing to spend extra time up front with a designer to ensure the quality and effectiveness of the LID design approach. Finally the land owner must be willing to maintain the landscaping involved ensuring lower costs to the developer and the municipality.

LID is not a specific stand alone ordinance. LID is part of most community's master plan, zoning ordinance or code and should be addressed in the basic following sections: public streets and right-of-way, off street parking, development and design, zoning districts, and natural features. By using LID techniques in each of these categories, a community can protect water quality and develop the community with less of an impact on natural resources. Review the above listed references for more information about techniques and how to implement LID standards in your community.

References and Resources

Municipal Guide to Low Impact Development. NAHB Research Center, 2003.

"Introduction to Low Impact Development." Low Impact Development Center. Low Impact Development Center. 28 Dec. 2006
www.lidstormwater.net/intro/background.htm

The Practice of Low Impact Development. U.S. Department of Housing and Urban Development. 2002. 1-113. 27 Dec. 2006
http://www.lowimpactdevelopment.org/lid%20articles/practLowImpctDevel_jul03.pdf

Center for Watershed Protection. *Better Site Design: A Handbook for Changing Development Rules in Your Community*. August, 1998. Reprinted February, 2007.

Low Impact Development Center website. <http://www.lowimpactdevelopment.org>

Environmental Protection Agency – Low Impact Development Home.
<http://www.epa.gov/owow/nps/lid>

Puget Sound Action Team, Online website.
http://www.psat.wa.gov/Programs/LID/LID_works.htm

Stock.xchng photos <http://www.sxc.hu/index.phtml>

Stormwater Management Ordinance

Objective

The purpose of this ordinance is to protect the public health, safety and welfare citizens including, but not limited to, protecting natural systems that are related to stormwater runoff. This ordinance will help manage stormwater and protect those properties that can be affected by stormwater runoff. It will encourage the use of structural, vegetative, or managerial practices, referred to as Best Management Practices (BMPs), designed to treat, prevent, or reduce degradation of water quality due to stormwater runoff.



Source: Stock.xchng

Introduction

Many communities have engineering guidelines that describe the minimum standards for handling stormwater; however, most do not address the stormwater management philosophy or position regarding stormwater in land use planning. This ordinance lays that foundation for how the community will manage stormwater in the land use planning process. The ordinance describes the level of water quality protection the community demands from developers during development and redevelopment.

Background

The authority to regulate stormwater comes from the City and Village Zoning Act (Act 207 of 1921 as amended), and the Township Zoning Act (Act 184 of 1943 as amended). Many communities are changing their philosophy about how to manage stormwater. Instead of removing it from the site as quickly as possible to retention/detention ponds; more infiltration techniques and filtering/treatment of runoff is typical and helps to improve water quality.

Variables/Issues

All development projects subject to review under the ordinance should be designed, constructed, and maintained using BMP's to prevent flooding, protect water quality, reduce soil erosion, maintain and improve wildlife habitat, and contribute to the aesthetic values of the project. The ordinance incorporates stormwater management and impervious surface reduction guidelines into the text, and provides site development standards that guide individuals to finding opportunities for stormwater reduction and treatment as they go through the site planning process.

A balance between the benefits and potential issues needs to be considered in designing any stormwater system. There are many positive benefits to managing and storing stormwater above ground rather than in underground pipes. However, above ground methods raise some issues to keep in mind, such as the safety of potential standing water

on a site, or allowing certain pollutants such as motor fluids or other hazardous substances to infiltrate into the ground.

It is important to explain through the Master Plan the approach a community wants developers to take in designing stormwater systems. Results such as protection of wetlands, riparian corridors, and hydrologic patterns should be discussed in general terms to clearly communicate the connection between stormwater and the community's vision for its future water quality.

Procedure for Adoption

Both the City and Village Zoning Act and the Township Zoning act allow governmental entities to provide zoning ordinances for the regulation of land development and to facilitate efficient provision for public services and facilities. Standard procedures for ordinance adoption by your municipality should be followed. Consult with your City or Township Attorney regarding specific language of the Ordinance.

Stakeholders

The stakeholders regarding a stormwater ordinance include, but may not be limited to: municipalities, developers, designers, regulators, land owners, road commission, drain commission, planning and zoning staff, and any other party concerned with land, runoff, watersheds, and development.

Enforcement

The ordinance will be enforced during the planning stages of proposed developments and redevelopments. An important component to consider is maintenance of the BMPs or other stormwater management techniques. It is the responsibility of the landowner to maintain any necessary maintenance that will need to be completed so that the stormwater continues to be managed over time.

References and Resources

Center for Watershed Protection Website. www.cwp.org.

Environmental Protection Agency Website. Menu of Best Management Practices for Stormwater Phase II.

www.epa.gov/npdes/stormwater/menuofbmps/menu.cfm.

Center for Watershed Protection. *Better Site Design: A Handbook for Changing Development Rules in Your Community*. August, 1998. Reprinted February, 2007.

Schueler, Thomas R. and Holland, Heather K. *The Practice of Watershed Protection*. Center for Watershed Protection. 2000.

Southeast Michigan Council of Governments (SEMCOG). *Land Use Tools and Techniques. A Handbook for Local Communities*. March, 2003.

Southeast Michigan Council of Governments (SEMCOG). *Opportunities for Water Resource Protection in Local Plans, Ordinances, and Programs. A Workbook for Local Governments.* August, 2002.

City of DeWitt, watershed protection web page.
<http://www.dewittmi.org/Watershed.asp>

Macomb County Ordinances
http://www.macombcountymi.gov/planning/Model_Envir_Ordinances.htm

Stock.xchng photos <http://www.sxc.hu/index.phtml>

City of DeWitt Stormwater Management Ordinance

DISCLAIMER: Below is the Storm Water Management Article contained in the Zoning Chapter of the City Code. This has been placed on the website for those interested in reviewing the City's storm water standards or using this ordinance as a guide for developing an ordinance for another community. Planners and engineers working on land development projects proposed for the City of DeWitt should access the entire City Code at www.municode.com so that the zoning ordinance can be reviewed in its entirety.

ARTICLE XIV. STORM WATER MANAGEMENT*

***Editor's note:** An amendment of Jan. 13, 2003(2), provided for the enactment of a new art. XIV to read as herein set out. Provisions of said amendment have been renumbered to maintain style of Code. See the Code Comparative Table for a detailed analysis of inclusion.

DIVISION 1. GENERAL

Sec. 78-981. Purpose of article.

The purpose of this article is to protect the public health, safety and welfare of city residents and to protect property values, quality of life, and natural systems relating to storm water runoff control and management. The city finds it is a matter of public concern and benefit to protect water bodies and properties within the city and to reduce the future need for public expenditures relating to flooding, water quality, and storm water system maintenance. Both the quality and quantity of storm water runoff are a matter of public concern.

(Amend. of 1-13-2003(2), § 1-1)

Sec. 78-982. Findings and objectives.

(a) Findings. The city finds that storm water regulation and management is a matter of public health, safety, and welfare because:

- (1) Water bodies, roadways, structures, and other property within, and downstream of the city are at times subjected to flooding;
- (2) Flooding is a danger to the lives and property of the public and is also a danger to the natural resources of the city and the region;
- (3) Changes in land use alter the hydrologic response of watersheds, resulting in increased storm water runoff rates and volumes, which further result in increased flooding, increased stream channel erosion, and increased sediment transport and deposition;
- (4) Storm water runoff produced by changes in land use contributes to increased quantities of water-borne pollutants
- (5) Increases of storm water runoff, soil erosion, and non-point source pollution have occurred as a result of changes in land use, and cause deterioration of the water resources within and downstream of the city;
- (6) Increased storm water runoff rates and volumes, and the sediments and pollutants associated with storm water runoff from future earth change projects within the city will,

absent reasonable regulation and control, adversely affect the city water bodies and water resources, the resources contained therein, and those of downstream municipalities;

(7) Storm water runoff, soil erosion, and non-point source pollution can be controlled and minimized by the regulation of storm water runoff from earth changes and by the use of Best Management Practices and other innovative means;

(8) Adopting and implementing the standards, criteria and procedures contained in this article will address many of the deleterious effects of storm water runoff, both from a water quality and a water quantity perspective;

(9) Adopting these standards is necessary for the preservation of the public health, safety, and welfare and mitigation of adverse impacts from storm water runoff.

(b) Objectives. Based on the findings listed above, the city has established the following objectives to guide administration, decision-making, and enforcement of this article. It is therefore the purpose of this article to establish minimum storm water management requirements and controls to accomplish, among others, the following objectives:

(1) To reduce flood damage;

(2) To minimize increased storm water runoff rates and volumes due to changes in land use;

(3) To minimize the physical deterioration of existing watercourses, culverts and bridges, and other structures;

(4) To encourage water recharge into the ground where geologically favorable conditions exist;

(5) To prevent an increase in non-point source pollution;

(6) To maintain the integrity of stream channels for their biological functions, as well as for drainage and other purposes;

(7) To minimize the impact of changes in land use upon stream bank and streambed stability;

(8) To reduce erosion from earth change or construction projects;

(9) To preserve and protect water supply facilities and water resources by means of controlling increased flood discharges, stream erosion, and runoff pollution;

(10) To reduce storm water runoff rates and volumes, soil erosion, and non-point source pollution, wherever practicable, from lands proposed for redevelopment that were not previously developed with storm water management controls meeting the purposes and standards of this article;

(11) To reduce the adverse impact of changing land use on neighboring properties and water bodies and, to that end, this article establishes minimum standards to protect water bodies from degradation resulting from changing land use.

(Amend. of 1-13-2003(2), § 1-2)

Sec. 78-983. Definitions.

i;Definitions. For the purpose of this article, the following words and phrases shall have the meanings respectively ascribed to them by this section unless the context in which they are used specifically indicates otherwise:

Best Management Practices (BMPs). A practice, or combination of practices and design criteria that comply with the Michigan Department of Environmental Quality's Guidebook of BMPs for Michigan Watersheds, or equivalent practices and design criteria

that accomplish the purposes of this article (including, but not limited to minimizing storm water runoff and preventing the discharge of pollutants into storm water) as determined by the city engineer, and, when applicable, the standards of the Clinton County Drain Commissioner.

Changes in land use. Any land use change, including, but not limited to, construction, earth change, and redevelopment.

Construction site storm water runoff. Storm water runoff from a development site following an earth change.

Cut. An earth change, which lowers topography or removes soil.

Design storm. A precipitation event of a designated amount and/or frequency. Typically used in a regulatory setting to designate required design criteria for storm water facilities.

Detention. A system, which is designed to capture storm water and release it over a given period of time through an outlet structure at a controlled rate.

Detention basin. A designed (although may be a natural area) facility which stores and detains runoff and releases water at a controlled rate. Size will depend on the design storm event (10-, 25-, 100-year storm). These basins may be dry between runoff events or may be "wet bottom", where a base water level occurs below the elevation of the outlet structure.

Detention time. The length of time water is held in a detention basin. This time is dictated by the amount of water stored and the release rate of same.

Developed or development. The installation or construction of impervious surfaces on a development site that require, pursuant to state law or local article, the city approval of a site plan, plat, site condominium, special land use, planned unit development, land division approval, private road approval or other approvals required for the development of land or the erection of buildings or structures; provided, however, that for purposes of this article only, developed or development shall not include the actual construction of, or an addition, extension or modification to, an individual single-family or a two-family detached dwelling.

Discharge. The rate of flow or volume of water passing a given point. Expressed as cubic feet per second.

Disturbed area. The surface of land from which vegetation has been removed and/or subjected to earth moving activities.

Drain. Any drain as defined in the Drain Code of 1956, as amended, being MCL 280.1, et seq., other than an established county or inter-county drain.

Drainage. The collection, conveyance, or discharge of ground water and/or surface water.

Drainage area. The contributing watershed, which is expressed in acres or square miles.

Earth change. Any human activity which removes ground cover, changes the slope or contours of the land, or exposes the soil surface to the actions of wind and rain. Earth change includes, but is not limited to, any excavating, surface grading, filling, landscaping, or removal of vegetative roots.

Erosion. The process by which the ground surface is worn away by action of wind, water, gravity or a combination thereof.

Fill. Earth or other materials added to existing topography.

First flush. The term given to the initial runoff quantity, typically highest in pollutant concentration, which is generally believed to be the first 1/2 inch of precipitation which washes pollutants off impermeable surfaces.

Grading. Any stripping, excavating, filling, and stockpiling of soil or any combination thereof and the land in its excavated or filled condition.

Groundwater. The naturally existing water beneath the land surface. The uppermost elevation, or "water table", will fluctuate seasonally or in response to precipitation. May be in multiple layers separated by aquatards (relatively impermeable layers). Deeper aquifers are used to withdraw water for domestic wells or irrigation.

Impervious. The ground condition (e.g. roads, parking lots, sidewalks, and rooftops) which does not allow percolation or infiltration of precipitation. The condition causes water to accumulate on the surface resulting in increased runoff.

Infiltration. The percolation and movement of water downward into and through the soil column. The rate of this movement is expressed in inches per hour.

Non-point source. " . . . sources of pollution which enter surface or groundwaters through widely diffused small increments," (from Federal Clean Water Act, 33 U.S. CFR Part 1344). This type of pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands and underground sources of drinking water.

Offsite facility. Any portion of a storm water management system which is located off the development site which it serves.

100-year flood. That water occupation adjacent to a waterbody which results from a storm event having a 1percent probability of occurrence in any given year. Thus, a 50-year storm has a two percent probability, a ten-year storm a ten percent probability, etc.

Overland flow-way. Surface area that conveys a concentrated flow of storm water runoff.

Peak discharge rate. The maximum rate of storm water flow from within a drainage area expressed as cubic feet per second.

Point source. A discharge that is released to the surface waters of the State by a discernible, confined and discrete conveyance, including, but not limited to, a pipe, ditch, channel, tunnel, conduit, well, boat, and concentrated animal feeding facility.

Practicable. Available and capable of being done after taking into consideration cost, existing technology and logistics.

Property owner. Any person, firm or corporation having legal or equitable title to property or any person having or exercising care, custody, or control over any property. **Retention.** A system, which is designed to capture storm water and contain it until it infiltrates the soil or evaporates.

Retention basin. A storm water management facility, either natural or manmade, which does not have an outlet, which captures and holds runoff directed into it.

Runoff. The portion of precipitation which does not infiltrate or percolate into the ground, but rather moves over the land, eventually reaching a waterbody, wetland, or low area.

Runoff coefficient. The ratio of the amount of precipitation which is runoff over rainfall. **Sediment.** Any solid particulate matter which has been moved from the site of origin by erosion, is being transported by water, is in suspension in water, or has been deposited in a water body, wetland or floodplain.

Sheetflow. Overland runoff which moves relatively uniformly over the ground surface rather than being concentrated in a conveyance channel.

Site. Any tract, lot, or parcel of land or combination of tracts, lots, or parcels, which compose an area proposed for development and/or earth change.

Soil erosion. The stripping of soil and weathered rock from land creating sediment for transportation by water, wind or ice, and enabling formation of new sedimentary deposits.

Soil erosion control. Structures, facilities, barriers, berms, vegetative cover, basins, and/or any other installation, temporary or permanent, which are designed to minimize and prevent erosion.

Storm drain. A system of open or enclosed conduits and appurtenant structures intended to convey or manage storm water runoff, ground water and drainage.

Storm water facility. Methods, structures, BMP's, areas, or related items, which are used to control, store, receive, infiltrate, or convey runoff.

Storm water runoff. The runoff and drainage of precipitation resulting from rainfall, snowmelt or other natural event or process.

Time of concentration. The time it takes runoff to travel from the furthest portion of the watershed or drainage area to the point of flow measurement.

Watershed. The total land area which contributes runoff, or is within such an area, to a common outlet, such as a lake or stream. Also known as the drainage area.

Wetland. Land characterized by the presence of water at a frequency and duration sufficient to support, and that under normal circumstances does support, wetland vegetation and/or aquatic life. Also known as a bog, swamp, marsh, etc. (from § 324.30301 of Michigan Compiled Laws, Part 303 of NREPA, Wetlands Protection). The Michigan Department of Environmental Quality is the authority on the presence and regulatory status of wetlands.

(Amend. of 1-13-2003(2), § 1-3)

Sec. 78-984. **Watershed map.**

The city council by resolution adopted a watershed map and storm water management standards for the City of Dewitt which establishes the minimum design standards for calculating runoff, storm water discharge release rates, and requirements for dischargers to implement on-site detention, detention, infiltration, or other methods necessary to control the rate and volume of surface water runoff discharged into the storm water drainage system. Attachment A (Watershed Map) and Attachment B (Storm Water Management Standards) of a resolution adopted January 13, 2003, are not set out herein and are available for inspection in the offices of the city.

(Res. of 1-13-2003(3), Att. A, B)

Secs. 78-985--78-990. Reserved.

DIVISION 2. STORM WATER MANAGEMENT PLAN APPROVAL

Sec. 78-991. Systems subject to review.

(a) Applicability. A storm water management plan approved in accordance with this article shall be required for any earth change, any use subject to site plan approval under section 78-132(b) of the Code, and any subdivision subject to approval under Chapter 38 of the Code, with the exceptions listed in subsection (b) below.

(b) Exceptions. A storm water management plan shall not be required for:

- (1) Agricultural activity that is consistent with an approved soil conservation plan.
- (2) Additions or modifications to any single family or duplex structure.
- (3) Landscaping or gardening involving less than 5,000 square feet of land.

(4) Construction of a dwelling on a legal lot within a development that itself previously received approval under this article, provided that less than 5,000 square feet of land is cleared or graded for such construction.

(c) Requirements. A storm water management plan shall be submitted and reviewed in accordance with requirements of division 2, section 78-992.

(Amend. of 1-13-2003(2), § 2-1)

Sec. 78-992. Procedures for review.

(a) Process. Twenty copies of the proposed storm water management plan for each development and earth change project as required under division 2, section 78-991 shall be submitted to the development official at the same time a site plan or preliminary subdivision plat is submitted.

For any development other than a platted subdivision, the storm water management plan shall be received at least 30 days prior to a planning commission meeting in order to be reviewed at that meeting. In the case of a platted subdivision, it shall be submitted at least 15 days prior to a planning commission meeting.

(b) Agency review.

(1) Upon receipt of a completed application for approval of a storm water management plan, the city clerk shall transmit one copy of the plan to the planning commission and each of the following officials or agencies for their comments:

- a. Fire chief;
- b. Police chief;
- c. Clinton County Drain Commissioner;
- d. Superintendent of DeWitt Public Schools;
- e. City public services department;
- f. City engineer;
- g. Mid-Michigan District Health Department;
- h. Other agencies deemed necessary by the city clerk.

(2) Review agencies listed in this section shall have 15 days from the date of transmittal to respond to the development official in writing. Should a review agency or official fail to respond in the required time or before the scheduled date for planning commission action on the application, it shall be presumed that the review official or agency has no comment regarding the application.

(c) Planning commission review.

(1) If the planning commission determines that all required information has not been received, the applicant may request that the matter be tabled, and the planning commission may, at its discretion, with or without such a request, table the matter to allow for the submittal of the required information.

(2) The planning commission shall review the storm water management plan to determine compliance with the conditions contained in section 78-992(d).

(3) The planning commission may add conditions for approval of the plan.

(4) The planning commission shall consider the comments made by the agencies listed in this article in making its determination.

(5) The authority to grant final approval for a storm water management plan shall be vested with the planning commission for all types of projects except for special land use permits and platted subdivisions. In the case of a special land use permit or a platted

subdivision, final authority for approval of the plan shall be vested with the city council. Action of the city council shall occur after the planning commission has provided a recommendation on the plan.

(d) Conditions of approval. The city shall grant approval of a storm water management plan, which may impose terms and conditions in accordance with division 2, section 78-995, and which shall be granted only upon compliance with each of the requirements stated below.

(1) The applicant has submitted a storm water management plan complying with this article.

(2) The applicant has paid or deposited the management plan review fee pursuant to division 2, section 78-995.

(3) The applicant has paid or posted the applicable financial guarantee pursuant to division 2, section 78-995.

(4) The applicant provides all easements necessary to implement the approved storm water management plan and to otherwise comply with this article including, but not limited to, division 5, section 78-1029, in form and substance acceptable to the city, and to be recorded with the Clinton County Register of Deeds.

5. The storm water management plan conforms with all applicable design and performance standards for drains and storm water management systems, as set forth in division 3.

6. All storm water facilities are designed in accordance with current BMPs.

7. The applicant provides the required maintenance plan for routine, emergency, and long-term maintenance of all storm water facilities and in compliance with the approved storm water management plan and this article including, but not limited to, division V, sections 78-1027 and 78-1029. The maintenance plan shall be in form and substance acceptable to the city and shall be recorded with the Clinton County Register of Deeds.

(Amend. of 1-13-2003(2), § 2-2)

Sec. 78-993. Plan requirements.

(a) General plan requirements. Through maps, illustrations, reports, and calculations, the storm water management plan shall display the required information in a clear and logical sequence.

The storm water management plan shall be sufficiently detailed to specify the type, location, and size of soil erosion control measures and storm water facilities, including calculations. Scale for mapping. The storm water management plan shall be drawn to a scale of at least one inch equal to 40 feet (1 inch = 40 feet) for property less than three acres and one inch equal to one hundred feet (1 inch = 100 feet) for property three acres or more in size.

(b) Plan submittal requirements. The following plan requirements are in addition to other requirements specified in division 3, sections 78-1005 and 78-1006 of this article and other applicable chapters of the Code. The applicant shall provide a storm water management plan to the city for review and approval. Upon request by the applicant, or at its own initiative, the planning commission may determine that one or more requirements may not be applicable and may be waived. Applicant shall submit 20 copies of the storm water management plan, which shall identify and contain all of the following information:

- (1) Contact information. The name, address, and telephone number of all persons having a legal interest in the property and the tax reference number and parcel number of the property or properties affected. Include information on the zoning classification of the applicant's parcel and all adjacent parcels.
- (2) Location map. A map depicting the location of the development site and all water bodies that will ultimately receive storm water runoff.
- (3) Topographic base map. The existing and proposed topography of the development site, including the alignment and boundary of the natural drainage courses, with contours having a maximum interval of not greater than two feet. The map shall also show existing surface water drainage (permanent and intermittent) and flow direction, including streams, ponds, culverts, ditches, and wetlands; location of 100-year floodplain, if applicable to the site; current land use including all existing structures; locations of utilities, roads, and easements; and significant natural and manmade features not otherwise shown.
- (4) Soils information. The site soil information from the Clinton County Soil Map Survey.
- (5) Watershed. A map showing the drainage boundary of the proposed development and/or earth change, each point of discharge from the development and/or earth change, and the drainage relationship with existing council-approved watershed patterns.
- (6) Calculations. Storm water calculations shall be provided in accordance with the design standards referenced in division 3.
- (7) Site plan drawing. A drawing showing all proposed storm water facilities with existing and final grades. This map shall also show existing and proposed lot lines, property lines, and structures, parking areas, etc. on the parcel and within 100 feet of the site.
- (8) Outlet and culvert information. The sizes and locations of upstream and downstream culverts serving the major drainage routes flowing into and out of the development site, with arrows indicating the direction of flow to the ultimate receiving water body. Any significant offsite and onsite drainage outlet restrictions other than culverts should be noted on the drainage map. Storm sewer calculations indicating the number of acres, calculated to the nearest tenth of an acre, contributing to each specific inlet/outlet and maximum flow in cubic feet per second shall be stated on the plan. The applicant shall demonstrate that suitable conveyance exists downstream of the development site to receive the storm water, including easements, if necessary, for such conveyance. If easements do not exist, and cannot be acquired, the applicant shall demonstrate the means of volume controls. Any areas of offsite sheet flow shall be identified.
- (9) Construction plan. An implementation and sequencing plan for construction and inspection of all storm water facilities, including a schedule of the estimated dates of completing construction of the storm water facilities shown on the plan and an identification of the proposed inspection procedures to ensure that the storm water facilities are constructed in accordance with the approved storm water management plan.
- (10) Sedimentation and erosion control plan. A soil erosion and sedimentation plan for all construction activities related to implementing any onsite storm water management practices. This plan shall provide the effective control of construction site storm water runoff and sediment track-out onto roadways.

(11) Construction specifications. All construction specifications for the storm water facilities and a single sheet showing all proposed storm water facilities, including vegetative BMP's, with drainage easements overlaid onto the overall road and utility plan and drawn to the same scale.

(12) Additional drawings. Drawings, profiles, and specifications for the construction of the storm water facilities, including vegetation, reasonably necessary to ensure that storm water runoff will be drained, stored, or otherwise controlled in accordance with this article. All drawings will include the date (month, day, year), including dates of any revisions, a title block, scale, and north point.

(13) Maintenance plan. A document in form and substance acceptable to the city for ensuring maintenance of any privately owned storm water facilities. The maintenance plan shall include a mandatory association or other enforceable commitment to provide routine, emergency, and long-term maintenance of the facilities and, in the event that the facilities are not maintained in accordance with the approved storm water management plan, the maintenance plan shall authorize the city to maintain any onsite storm water facility as reasonably necessary, at the owner's expense.

(14) Firm contact information. Name and signature of planner, architect, engineer, surveyor, wetland specialist, landscape architect, and/or other technical experts who have assisted in the preparation of the storm water management plan, designed the storm water facilities, and will inspect the final construction of the storm water facilities. The submitted plan shall be stamped and signed by the licensed design engineer or registered landscape architect.

(15) Vegetation plan. A drawing, which details the existing vegetation to remain and protective measures to be undertaken during construction.

(16) Other environmental permits. All other applicable environmental permits shall be acquired for the site prior to construction.

(17) Additional information. Any other information necessary for the city to verify that the storm water management plan complies with the city's design and performance standards for drains and storm water facilities.

(18) Fees. Payment of applicable review fees is required before any review will commence.

(19) Phased development plans. Should the applicant plan to subdivide or develop a given area but wishes to begin with only a portion of the total area, the original preliminary plan will include the proposed general layout for the entire area. The first phase of the subdivision will be clearly superimposed upon the overall plan in order to illustrate clearly the method of development and/or earth change that the applicant intends to follow. However, the storm water management plan shall be submitted for the entire development, with calculations and devices designed for buildout sufficient to demonstrate to the planning commission the feasibility of future phases complying with the standards of this article.

(20) Site features. The location and description of onsite and adjacent offsite features that may be relevant in determining the overall requirements for storm water management. These features may include, but are not limited to, the following:

- a. Adjoining roads, subdivisions, and other developments and/or earth change activities;
- b. Schools, parks, and cemeteries;
- c. Drains, sewers, water mains, septic fields and wells;

d. Overhead power lines, underground transmission lines, gas mains, pipelines or other utilities;

e. Existing and proposed easements;

f. Natural and artificial watercourses, wetlands and wetland boundaries, floodplains, lakes, bays and lagoons;

g. Designated natural areas;

h. Any proposed environmental mitigation features.

(21) Soil borings. Soil borings shall be required at various locations including the sites of proposed retention/detention/infiltration facilities.

(22) Weekly construction reports. As required by section 78-1009(b), construction reports shall be submitted weekly, unless some other period of time is approved by the planning commission.

(23) Previously developed sites. For earth changes, development or redevelopment occurring on a previously developed site, an applicant shall be required to include within the storm water management plan measures for controlling existing storm water runoff discharges from the site in accordance with the standards of the article, or to match existing discharge rates, whichever is less.

(Amend. of 1-13-2003(2), § 2-3)

Sec. 78-994. Approved plans and amendments.

(a) Approved plans. Approval of final development plans, site plans, and final preliminary subdivision plats shall not be granted prior to approval of the storm water management plan.

Upon approval of the storm water management plan, the planning commission chair, or the chair's designee, shall sign three copies thereof. One signed copy shall be made a part of the city's files; one copy shall be forwarded to the city engineer; and, one copy shall be returned to the applicant.

Planning commission approval shall expire two years from the date of such approval, unless construction has commenced and proceeds satisfactorily.

(1) An applicant may request from the planning commission unlimited one-year extensions of the plan approval, provided such request is applied for in writing prior to the date of expiration of plan approval.

a. The planning commission shall grant the request if plan requirements and standards, including those of this article that are reasonably related to the earth change, have not changed.

(b) Amendments. Amendments to an approved storm water management plan may occur only under the following circumstances:

(1) The holder of an approved plan shall notify the development official of any proposed amendment to such approved plan.

(2) Minor changes may be approved by the development official upon certification in writing to the planning commission that the proposed revision does not alter the basic design nor any specified conditions of the plan as agreed upon by the planning commission. The development official shall consider the following to be a minor change:

a. Any change that does not decrease the effectiveness of approved storm water facilities.

b. Any change that does not cause an increase in runoff rate and/or volume.

c. Any change deemed to be minor as determined by the planning commission from time to time.

(3) Should the development official determine that the requested modification to the approved plan is not minor, then the applicant shall submit a new plan for review as required by this article.

(Amend. of 1-13-2003(2), § 2-4)

Sec. 78-995. Fees and performance guarantees.

(a) Review fees. Fees and escrow account payments shall be sufficient to cover administrative and technical review costs anticipated to be incurred by the city.

(1) All expenses and costs incurred by the city directly associated with processing, reviewing and approving or denying storm water management plan application shall be paid to the city from the funds in an escrow account established by the applicant and held by the city.

(2) The city may draw funds from an applicant's escrow account to reimburse the city for out-of-pocket expenses incurred by the city relating to the application. Such reimbursable expenses include, but are not limited to, expenses related to the following:

a. Services of the city attorney directly related to the application.

b. Services of the city engineer directly related to the application.

c. Services of other independent contractors or consultants working for the city, which are directly related to the application.

d. Any additional public hearings, required mailings and legal notice requirements necessitated by the application.

(3) At the time an applicant applies for approval of a storm water management plan, the applicant shall deposit with the city clerk, as an escrow deposit, an initial amount equal to six percent of the estimated cost of constructing the proposed storm water management plan improvements as submitted by the applicant and reviewed and approved by the city engineer unless the city determines that a greater amount is appropriate, in which case the basis for such determination shall be provided to the applicant in writing. Any excess funds remaining in the escrow account after the application has been fully processed, reviewed, and the final city approval and acceptance of the earth change has occurred will be refunded to the applicant with no interest to be paid on those funds. Additional amounts may be required to be placed in the escrow account by the applicant, at the discretion of the city.

(4) Construction observation fees shall be equal to two percent of the cost estimate, which shall be submitted prior to the start of construction and approved by the city as noted above. Any excess funds remaining in the escrow account after the application has been fully processed, reviewed, and the final city approval and acceptance of the earth change has occurred will be refunded to the applicant with no interest to be paid on those funds. Additional amounts may be required to be placed in the escrow account by the applicant, at the discretion of the city.

(b) Performance guarantees. The city shall not approve a storm water management plan until the applicant submits to the city, in a form and amount satisfactory to the city, an irrevocable letter of credit or other similar financial guarantee for the timely and satisfactory construction of all storm water facilities in accordance with the approved storm water management plan. Performance bonds are not acceptable. The amount of the

financial guarantee shall be equal to the estimated cost of constructing the improvements, approved by the city as noted above.

Upon designation by the city engineer that the storm water facilities appear to have been completed in general accordance with the approved storm water management plan, the city may release the irrevocable letter of credit, subject to final city acceptance and approval. The city shall retain not less than ten percent of the original face value of the irrevocable letter of credit for a period of one year and one day after the city engineer's designation noted above. The purpose of this retainage is to guarantee that the storm water facilities perform as designed.

This article shall not be construed or interpreted as relieving an applicant of its obligation to pay all costs associated with onsite private storm water facilities as well as those costs arising from the need to make other drainage improvements in order to reduce an earth change's impact to property owners and watercourses.

(Amend. of 1-13-2003(2), § 2-5)

Sec. 78-996. Appeals.

(a) Appeals. A person aggrieved by the decision of the planning commission or city council with respect to an action regarding the storm water management plan may appeal the action to the board of zoning appeals pursuant to the process defined in Chapter 78, Article III of the City Code.

(Amend. of 1-13-2003(2), § 2-6)

Secs. 78-997--78-1004. Reserved.

DIVISION 3. DESIGN AND CONSTRUCTION STANDARDS

Sec. 78-1005. Performance/general standards.

(a) Responsibility. The city is not responsible for providing drainage facilities on private property for the management of storm water on the private property. It shall be the responsibility of the property owner to maintain private storm water facilities serving the property and to prevent or correct the accumulation of debris, which interferes with the drainage or storm water management function of the system.

All developments and earth changes subject to review under the requirements of this article shall be designed, constructed, and maintained to control runoff, prevent flooding and protect water quality. The particular facilities and measures required onsite shall reflect the natural features, wetland, and watercourses on the site; the potential for onsite and offsite flooding, water pollution, and erosion; and the size of the site.

(b) General standards for onsite and offsite storm water management.

(1) Storm water facilities shall be designed to prevent flood hazards and water pollution related to storm water runoff, soil erosion and channel erosion from the proposed earth change.

(2) Existing storm water from upstream and offsite locations shall be conveyed around or through the site, or stored onsite.

(3) Every storm water facility shall control the release of storm water in accordance with the design standards adopted by city council resolution.

(4) Unless otherwise approved, storm water runoff shall be conveyed through swales and vegetated buffer strips so as to decrease runoff velocity, allow for natural infiltration and passive storage, allow suspended sediment particles to settle, and to remove pollutants.

- (5) Alterations to natural drainage patterns shall not increase runoff, create flooding or water pollution for adjacent or downstream property owners.
- (6) Cutting, filling, and grading shall be minimized and the natural topography of the site shall be preserved to the maximum extent practicable, except where specific findings demonstrate that major alterations will still meet the purposes and requirements of this article.
- (7) Grading of lands at locations that are adjacent to or near lands, streets, alleys, sidewalks, or other public or private property shall be done in a manner to protect the property from settling, cracking or sustaining other damage.
- (8) All development and other earth changes shall be designed, constructed, and completed so that the exposed area of any disturbed land is limited to the shortest possible period of time.
- (9) Damage to public utilities or services and damage to or impairment of any water body on or near the location of any water body shall be prevented.
- (10) Natural wetlands shall be maintained to the maximum extent practicable.
- (11) Increased offsite release of storm water shall be minimized to the maximum extent practicable. Therefore, the volume of storm water shall be managed and stored to the maximum extent practicable.
- (12) The increased volume of water discharged due to earth changes and/or development of the site shall not create adverse impacts to property owners and watercourses. These adverse impacts may include, but are not limited to flooding, excessive soil saturation, crop damage, erosion, and/or degradation in water quality or habitat.
- (c) Storm water facilities. The types of storm water facilities are listed in order of preference, with the most desirable listed first.
- (1) Infiltration facilities. This article encourages the use of infiltration systems as a part of storm water management plan design. Storm water storage and/or infiltration facilities, which protect water quality and minimize flooding, shall be designed to meet the standards of this article. Storage facilities may include, but are not limited to, detention basins, retention basins, infiltration trenches, swales with check dams, bioretention structures and other facilities and/or BMP's proposed by the applicant. It shall be the responsibility of the applicant to demonstrate that all proposed facilities meet the intent, goals, and standards of this article.
- As the rate of percolation/infiltration of water into the soil column varies depending on the soil type, the type of infiltration system used may be site specific. Storm water management plan designers shall consider soil permeability when designing storm water infiltration components of a management system. The site developer shall attempt to minimize compaction of soil, which decreases infiltration and groundwater recharge and contributes to increased storm water runoff.
- (2) Storm water storage facilities. All detention and/or retention basins shall be designed to meet the standards of this article. The types of basins are listed in order of preference, with the most desirable listed first:
- a. Wet basins, or detention basins with a fixed minimum water elevation between runoff events. Wet basins, which serve to trap soil particles onsite, are preferable to dry basins.
 - b. Detention basins, which detain the first flush of an event and attenuate its release over an extended period.

c. Extended detention basins, which hold storm water from a less frequent storm event over an extended period before completely draining to become a dry basin. Dry basins without extended detention shall not be permitted.

Detention and/or retention basins shall be designed to hold runoff from a 100-year frequency storm event. Basins shall be permanently stabilized to minimize erosion. Detention and/or retention basins shall have an overflow system. If the overflow system cannot discharge to a creek, lake, or wetland without causing flooding on adjacent or downstream properties, then the basin shall be designed to hold storm water runoff from back-to-back 100-year storm events.

Detention and/or retention basins and associated berms and landscaping shall be designed to protect public safety and to be visually attractive.

Detention and/or retention basins shall be provided in platted outlots, common areas or open space areas.

(Amend. of 1-13-2003(2), § 3-1)

Sec. 78-1006. Design standards.

The city council shall adopt by resolution minimum design standards for calculating runoff, storm water discharge release rates, and requirements for dischargers to implement onsite detention, retention, infiltration, or other methods necessary to control the rate and volume of surface water runoff discharged into the storm water drainage system.

(Amend. of 1-13-2003(2), § 3-2)

Sec. 78-1007. Soil erosion and sedimentation control.

(a) Requirements. All persons who cause, in whole or in part, any earth change to occur shall provide soil erosion and sedimentation control to adequately prevent soils from being eroded and discharged or deposited onto adjacent properties or into a storm water drainage system, a public street or right of way, wetland, creek, stream, water body, or floodplain. All earth changes shall be in accordance with all applicable federal and state laws, and local ordinances and applicable rules, regulations, and standards. The strictest of such requirements shall apply. The applicant shall obtain and comply with the terms of a soil erosion and sedimentation control permit if required by law.

No grading, site preparation, or removal of vegetative cover shall take place prior to storm water management plan approval and the installation of erosion control facilities.

(Amend. of 1-13-2003(2), § 3-3)

Sec. 78-1008. Landscaping/revegetation.

(a) Landscaping requirements. An applicant shall address the following guiding principles and standards:

(1) Native, natural existing vegetation shall be retained to the maximum extent practicable, recognizing earth changes will occur and it is not possible to retain much of what exists and still accomplish the basic project purpose.

(2) Native species shall be used for revegetation and landscaping to the maximum extent practicable.

(3) The flood tolerance of proposed species shall be considered, particularly in storm water management areas and components.

(4) Water requirements of species proposed in areas other than storm water management facilities shall be considered, with the goal of reducing their water demand and nutrient requirements to the maximum extent practicable.

(5) The storm water management components shall be chemical-free zones within the development, with the exception of accepted management techniques for the establishment and maintenance of components requiring the same.

(6) Bio-retention areas shall be vegetated with species, which maximize the infiltration, uptake and evapotranspiration of water.

(Amend. of 1-13-2003(2), § 3-4)

Sec. 78-1009. Maintenance/inspection/reporting.

(a) Construction maintenance requirements.

(1) The applicant shall be responsible for maintenance and inspection of storm water BMP's and management components on a regular basis during construction.

(2) Authorized representatives of the city may enter the project site to conduct onsite inspections at any time during construction, and is by reference a condition of any approval, and may review any log the applicant maintains pursuant to Subsection (b).

(b) Inspection/reporting. The applicant shall notify the city in advance before the commencement of construction. A licensed professional engineer or his or her designee who has been approved by the city shall conduct regular observations of the storm water facilities construction. All observations shall be documented with brief, written reports prepared, and submitted to the city, the frequency of which shall be determined at the time the plan is approved. The report shall contain the following information:

(1) The date and location of the site visit.

(2) Recent precipitation events.

(3) Copies from the NPDES construction site logbook, if applicable.

(4) Whether construction is in general compliance with the approved storm water management plan.

(5) Variations from the approved construction specifications.

(6) Any violations that exist with a timetable for completing corrective actions or a brief description of corrective actions completed.

If any violations are found, the property owner shall be notified by the city in writing of the nature of the violation and the corrective actions necessary. No additional work shall proceed until all violations are corrected by the applicant and approved by the city.

Should a city observation reveal noncompliance with the approved storm water management plan, a violation and stop work order may be issued in accordance with division 4 of this article entitled "Enforcement".

(Amend. of 1-13-2003(2), § 3-5)

Sec. 78-1010. Variances.

The board of zoning appeals shall have the authority to interpret this article and may grant variances to these requirements provided the variances are consistent with the general purpose and intent of the requirements. The procedural requirements for appeals under article III shall be applicable to appeals under this article. In addition to the procedures of article III, when variances are requested from the storm water management

system article, the applicant shall show that storm water management systems have been provided to the maximum extent feasible with the requirements of this article.

(Amend. of 1-13-2003(2), § 3-6)

Secs. 78-1011--78-1016. Reserved

DIVISION 4. ENFORCEMENT

Sec. 78-1017. Violations.

A person who violates any provision of this article is responsible for a municipal civil infraction, subject to payment of a civil fine as set forth in section 42-38 of the Code.

Repeat offenses under this article shall be subject to increased fines as set forth in section 42-38 of the Code.

(Amend. of 1-13-2003(2), § 4-1)

Sec. 78-1018. Stop work order.

(a) Stop work order. Where there is work in progress that causes a violation of any provision of this article, the city is authorized to issue a stop work order to prevent further or continuing violations. All persons to whom the stop work order is directed, or who are involved in any way with the work or matter described in the stop work order shall fully and promptly comply with the order. The city may also undertake or cause to be undertaken any necessary measures to prevent violations of this article or to avoid or reduce the effects of noncompliance. The cost of any such protective measures shall be the responsibility of the owner of the property upon which the work is being done and the responsibility of any person carrying out or participating in the work, and such cost shall be a lien upon the property until paid.

(b) Emergency measures. When emergency measures are necessary to moderate a nuisance, to protect public safety, health and welfare, or to prevent loss of life, injury or damage to property, the city is authorized to carry out or arrange for all such emergency measures. Property owners shall be responsible for the cost of such measures made necessary as a result of a violation of this article, and shall promptly reimburse the city for all of such costs. Such costs shall be a lien upon the property until paid.

(Amend. of 1-13-2003(2), § 4-2)

Sec. 78-1019. Restoration.

Any violator of this article may be required to restore land to its undisturbed condition and/or repair and stabilize damaged areas. In the event that restoration or repairs are not undertaken within a reasonable time after notice, the city may take necessary corrective action, the cost of which shall become a lien upon the property until paid.

(Amend. of 1-13-2003(2), § 4-3)

Secs. 78-1020--78-1026. Reserved.

DIVISION 5. MAINTENANCE

Sec. 78-1027. Responsibility.

(a) Responsibility. Maintenance of storm water facilities shall be the responsibility of the person or persons holding title to the property. These persons are responsible for the continual operation, maintenance, and repair of storm water facilities and BMPs in accordance with the provisions of this article.

For privately maintained storm water facilities, the maintenance requirements specified in this article shall be enforced by the city against the owner(s) of the property served by the storm water facilities.

(b) Maintenance plan. A maintenance plan, as specified in division 2 section 78-993, shall include specific maintenance activities for each storm water facility and any other elements of the approved storm water management plan. The maintenance plan shall be submitted simultaneously for municipal review with all other required elements of the storm water management plan.

(c) Record keeping. Parties responsible for the operation and maintenance of storm water facilities shall make records of the installation and of all maintenance and repairs, and shall retain the records for at least five years. These records shall be made available to the city during inspection of the facility and at other reasonable times upon request. All storm water facilities shall be maintained according to the measures outlined in the approved storm water management plan.

The person(s) or organization(s) responsible for maintenance shall be designated in the plan. Options include:

(1) Property owner's association provided that provisions for financing necessary maintenance are included in deed restrictions or other contractual agreements.

(2) Means of permanent maintenance through agreement with the Office of the Clinton County Drain Commissioner, or other appropriate governmental agency.

(Amend. of 1-13-2003(2), § 5-1)

Sec. 78-1028. Access.

When any new storm water facilities are installed on private property, or when any new connection is made between private property and a public drainage control system, the property owner shall grant to the city through an easement the right to enter the property at reasonable times and in a reasonable manner for the purpose of inspection. This access includes the right to enter a property when the city has reason to believe that a violation of this article is occurring or has occurred, and to enter when necessary for the abatement of a public nuisance or correction of a violation of this article.

(Amend. of 1-13-2003(2), § 5-2)

Sec. 78-1029. Easements.

(a) Easements. The owner shall provide all easements necessary to implement the approved storm water management plan and maintenance plan and to otherwise comply with this article in form and substance required by the city and/or any other governmental agency assuming authority, and shall record such easements as directed by the city. The easements shall assure access for proper inspection and maintenance of storm water facilities in perpetuity and shall provide adequate emergency overland flow-ways. The maintenance plan shall, among other matters, assure access for proper inspection and maintenance of storm water facilities and adequate emergency overland flow-ways. Easement widths will be determined by the city and be situated in such a way as to allow maximum maintenance access. In general, easement widths shall conform to the following:

(1) Open channels and watercourses: A minimum of 50 feet total width. Additional width may be required in some cases, including but not limited to: watercourses with

floodplains delineated by FEMA; sandy soils, steep slopes, at access points from road crossings.

(2) Open swales (cross lot drainage): minimum of 30 feet total width.

(3) Enclosed storm drains: A minimum of 20 feet will be required, situated in such a way as to allow maximum maintenance access. Additional width will be required in some cases. These may include but are not limited to, pipe depths exceeding four feet from the top of pipe, sandy soils, and steep slopes.

(Amend. of 1-13-2003(2), § 5-3)

STORMWATER MANAGEMENT/ IMPERVIOUS SURFACE MITIGATION

MODEL

(COMMUNITY NAME), MICHIGAN
Ordinance No. _____

SECTION 1: GENERAL

1.1 Intent

It is the intent of this Ordinance to encourage the use of structural, vegetative, or managerial practices, commonly referred to as Best Management Practices (BMP's), designed to treat, prevent, or reduce degradation of water quality due to stormwater runoff. All development projects subject to review under the requirements of this Ordinance shall be designed, constructed, and maintained using BMP's to prevent flooding, protect water quality, reduce soil erosion, maintain and improve wildlife habitat, and contribute to the aesthetic values of the project. The particular facilities and measures required on-site shall reflect and incorporate existing grade, natural features, wetlands, and watercourses on the site to the maximum extent feasible.

SIDEBAR TEXT

- Best Management Practices (BMPs) include a broad range of physical structures, plantings, or management practices. The common denominator that makes them BMPs is that they either reduce stormwater runoff, reduce pollutants that could reach surface waters, or treat stormwater before it enters a natural water body. Examples of structural BMPs include sedimentation basins and wet ponds (or manufactured wetlands). Vegetated BMPs could include vegetated swales or rain gardens. Management practice BMPs include washing vehicles in commercial car washes (versus in an area where the soapy water could wash into a storm drain), and soil testing before applying fertilizers.

1.2 Stormwater Drainage/Erosion Control

All stormwater drainage and erosion control plans shall meet the standards adopted by the (Community Name) or other jurisdiction for design and construction and shall, to the maximum extent feasible, utilize nonstructural control techniques, including but not limited to:

- A. Limitation of land disturbance and grading;

- B.** Maintenance of vegetated buffers and natural vegetation;
- C.** Minimization of impervious surfaces;
- D.** Use of terraces, contoured landscapes, runoff spreaders, grass or rock-lined swales;
- E.** Use of infiltration devices;

SIDEBAR TEXT

- Engineering and construction standards are often provided for BMPs identified in stormwater regulations. The engineering information, usually provided in a separate document, ensures that the BMPs are designed and constructed properly.

1.3 General Standards

- A.** Stormwater management systems shall be designed to prevent flooding and the degradation of water quality related to stormwater runoff and soil erosion from proposed development.
- B.** All properties which are subject to this ordinance shall provide for on-site storage of stormwater. Facilities shall be designed to provide a volume of storage and discharge rate which meets the standards of the (Community Name) Engineering and Design Standards.
- C.** Priority shall be placed on site design which maintains natural drainage patterns and watercourses. Alterations to natural drainage patterns shall not create flooding or degradation in water quality for adjacent or downstream property owners. Site designs must be approved by the Macomb County Public Works Department if it is a watercourse under their jurisdiction.
- D.** The use of swales and vegetated buffer strips (containing desirable native plant materials) or other infiltration practices is encouraged as a method of stormwater conveyance so as to decrease runoff velocity, allow for biofiltration, allow suspended sediment particles to settle, and to remove pollutants. Tolerance for water saturation, sunlight, pesticides, metals, and salts, shall be required in determining appropriate plantings in these areas.

SIDEBAR TEXT

- A balance between the benefits and potential issues needs to be considered in designing any stormwater system. There are many positive benefits to managing and storing stormwater above ground rather than in underground pipes. It allows the runoff to infiltrate into the ground (filtering it of pollutants and sediments) or evaporate over time. The stormwater recharges ground water or returns to the atmosphere, and does not contribute to high stream flows which scour stream banks, adding to sedimentation. However, above-ground methods raise some issues to keep in mind, such as the safety of potential standing water on a site, or allowing certain pollutants such as motor fluids to infiltrate into the ground.

- E.** Drainage systems shall be designed to be visually attractive. The integration of stormwater conveyance systems and retention and detention ponds in the overall landscape concept is recommended. Ponds with a naturally contoured, rather than square or rectangular, design and appearance shall be encouraged.

SIDEBAR TEXT

- Integrating stormwater systems into a site design is one of the major concepts in a new approach to stormwater management called Low Impact Development (or LID). This approach looks at stormwater runoff as a resource, not a waste product. It calls for managing rainfall at its source through uniformly distributed, micro-scale controls, rather than directing all stormwater to one large detention/retention basin. LID's goal is to mimic a site's pre-development hydrology through design techniques that infiltrate, filter, store, evaporate and detain runoff close to its source. For more information on these cutting-edge design ideas, go to the Low Impact Development Center's web site at www.lid-stormwater.net

- F.** Where large amounts of grease and oil may accumulate, as in the case of commercial/industrial developments and large areas of pervious surfaces for parking, oil separators shall be required.
- G.** For sites that store or use chemicals, a spill response plan shall be submitted and approved by the (Community Name).

SECTION 2: DEFINITIONS

Section 2.1 - Definition of Terms

Terms not specifically defined shall have the meaning customarily assigned to them.

BEST MANAGEMENT PRACTICE (BMP) means a structural, vegetative, or managerial practice that is designed to treat, prevent, or reduce degradation of water quality due to stormwater runoff, and to reduce the amount of stormwater runoff.

BUFFER STRIP means a vegetated area that treats sheet flow and/or interflow by removing sediment and other pollutants. The area may be grass-covered, forested or of mixed vegetative cover, depending on the amount of pollutants to be removed and the size of the buffer strip.

FLOODPLAIN means the area which is inundated by the base flood (or a flood having a 1 percent chance of being equaled or exceeded in any given year) and carries and discharges the floodwaters of the base flood as determined by the Federal Emergency Management Agency (FEMA) and as indicated in the flood boundary and floodway map.

IMPERVIOUS SURFACE means surfaces that do not allow water to infiltrate into the ground. Examples include buildings, pavement, and compacted soils within grassed or landscaped areas.

NATIVE PLANT means a plant species that has naturally evolved in a certain area over thousands of years under certain soil, hydrologic, and other site conditions. Where “native plant” is used in the text, this means a straight species, not a cultivar of a species.

NATURAL FEATURE means a wetland, as defined in the (Community Name) Wetland’s Ordinance, and shall mean a watercourse, including a lake, pond, river, stream, or creek.

SWALE means an open drainage channel or depression, explicitly designed to detain and promote the filtration of stormwater runoff into an underlying soil media.

WATERCOURSE means any natural or artificial watercourse, stream, channel, creek, ditch, canal, conduit, culvert, drain, waterway, gully, ravine or wash in which water flows in a definite direction or course, either continuously or intermittently, and which has a definite channel, bed and banks, and shall include any area adjacent tracts subject to inundation by reason of overflow of floodwater.

WETLAND means land characterized by the presence of water at a frequency and duration sufficient to support and that under normal circumstances does support, wetland vegetation or aquatic life, and is commonly referred to as a bog, swamp, or marsh..

SECTION 3: USE OF WETLANDS

3.1 Stormwater Management and Wetlands

Wetlands may be used for stormwater management if all the following conditions are met:

- A.** Wetlands and their current functions shall be protected from impairment due to the discharges of stormwater. Measures shall be taken to reduce erosive velocities of stormwater and remove sediment and other pollutants prior to discharge to a wetland.
- B.** Wildlife, fish or other beneficial aquatic organisms and their habitat within the wetland will not be impaired
- C.** The wetland has sufficient holding capacity for stormwater, based upon calculations prepared by the proprietor and reviewed and approved by the (Community Name), and that the additional stormwater will not impair the wetland's current functions.
- D.** On-site erosion control shall be provided to protect the natural functioning of the wetland.
- E.** Provisions approved by the (Community Name) shall be established so as to insure that the wetland is not disturbed or impaired in the future relative to the needed storage capacity.
- F.** Applicable permits from the local government and the Michigan Department of Environmental Quality are obtained.

SIDEBAR TEXT

- Information provided by the Michigan Natural Features Inventory (MNFI) for Macomb County could also be used to evaluate whether it is appropriate to use a particular wetland as part of a stormwater system. Refer to the introduction of this booklet for more information on Macomb County's General MNFI.

SECTION 4: IMPERVIOUS SURFACE REDUCTION/ INFILTRATION ENHANCEMENT

4.1 General

The (Community Name) recognizes that, due to the specific requirements of any given development, inflexible application of the design standards may result in development with excessive paving, stormwater runoff, and a waste of space which could be left as an open space.

The (Community Name) may permit deviations from Ordinance requirements during the site plan review process to reduce impervious surfaces. These deviations can be either prescribed by Ordinance or proposed through creative land development techniques that are permitted by the Ordinance. The (Community Name) may permit deviations whenever it finds that such deviations are more likely to meet the intent and standards of this Ordinance and accommodate the specific characteristics of the use in question.

4.2 Site Plan Standards

The (Community Name) may attach conditions to the approval of a deviation that bind such approval to the specific use in question. Measures that reduce impervious surface and increase infiltration may include, but are not limited to, the following:

- A. Streets and Access.**
 - 1.** Design residential streets with the minimum required pavement width needed to support travel lanes, on-street parking, and emergency (as defined by applicable emergency response agencies), maintenance, and service vehicle access and function based on traffic volumes.
 - 2.** Reduce the total length of residential streets by examining alternative street layouts to determine the best option for increasing the number of homes per unit length.
 - 3.** Design street right-of-way widths/private road easements to reflect the minimum required to accommodate the travel-way, the sidewalk, and vegetated open channels.
 - 4.** Minimize the number of street cul-de-sacs and reduce the radius of cul-de-sacs to the minimum required to accommodate emergency and maintenance vehicles. Alternative turnarounds

shall be considered, including the use of mountable curbing and grass shoulders for the occasional event of access by fire trucks and other large commercial trucks. Provide landscape center islands wherever cul-de-sacs exist.

SIDEBAR TEXT

- Some of these standards may be developed in part, or in coordination with, the mandatory “cluster” options that are required by the State of Michigan for most Macomb County communities.

5. Where density, topography, soils, and slope permit, use vegetated open channels in the street right-of-way/private road easements to convey and treat stormwater runoff.
6. Use alternative driveway surfaces and shared driveways that connect two or more sites. (Use agreements should accompany any such application.)
7. Promote more flexible design standards for residential subdivision sidewalks. Where practical, consider locating sidewalks on only one side of the street and providing common walkways linking pedestrian areas.

B. Parking

1. Base parking requirements on the specific characteristics of the use, landbanking in open space parking required to satisfy Ordinance requirements.
2. Reduce the overall imperviousness associated with parking lots by providing compact car spaces, minimizing stall dimensions, incorporating efficient parking lanes, depressed center islands with curb cuts, and using pervious materials in the spillover parking areas where possible.
3. Encourage shared parking between compatible users.

C. Site Design

1. Direct rooftop runoff to pervious areas such as yards, open channels, or vegetated areas and avoid routing rooftop runoff to the roadway and the stormwater conveyance system.

2. Create naturally vegetated buffer systems, which may vary in width as determined by the (Community Name) along all drainageways. Critical environmental features such as the 100-year floodplain, steep slopes, and wetlands shall be considered.
3. Minimize clearing and grading of woodlands and native vegetation to the least amount needed to build lots, allow access, and provide fire protection.
4. Conserve trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native plants.

SIDEBAR TEXT

Other standards include:

- Encourage open space design subdivisions that use smaller lot sizes. This minimizes impervious surfaces by clustering development in one area of the site. The open space allows stormwater to infiltrate into the ground.
- Link open spaces to existing wetlands, river systems, and other open spaces. This provides a buffer to the sensitive water features, allows scenic recreational opportunities, provides a wildlife movement corridor, and could provide an opportunity for non-motorized transportation/recreation such as biking and walking.
- Require that disturbed areas, to be used for infiltration, be aerated/decompacted after construction activities are complete. Heavy construction equipment compacts soils and can make them almost as impervious as asphalt. Could also require that infiltration areas be marked on site plans and roped off in the field to avoid compaction.

SECTION 5: MAINTENANCE

5.1 Stormwater Facility Maintenance

Whenever a landowner is required to provide on-site stormwater retention and/or surface drainage to wetlands, or whenever other protective environmental measures including monitoring devices are required, such measures or facilities shall be provided and maintained at the landowner's expense. The landowner shall provide assurance to the (Community Name) that the landowner will bear the responsibility of providing and maintaining such methods or facilities, by written agreement, suitable for recording at the office of the Macomb County Register of Deeds, that will act as a perpetual restriction on the land, the form and content of which shall be approved by

the (Community Name) Attorney. A maintenance plan shall be provided including notation and description of maintenance requirements and timelines.

Overlay Districts – Considerations

Objective

An overlay district is a zoning district superimposed upon any number of underlying districts. It provides a separate set of district regulations that go above and beyond those of the underlying district. It is especially useful when dealing with environmental considerations.

Introduction

An overlay district can be used to gain consistency whenever there is a feature that spans several diverse zoning districts. An example would be a river that crosses agricultural, residential and even commercial zoning districts. Having an overlay zone for the river corridor would permit additional restrictions and regulations designed to protect and preserve the desired attributes of the river. This tool could also be used for a commercial corridor that again spans several different zoning districts or for a floodplain district.



Source: Stock.xchng

Background

In zoned communities such as cities and townships, there is sometimes a feature which spans several zoning districts but that is more appropriate to have its own set of restrictions. Examples are normally natural or cultural features such as waterways, downtown historical districts, scenic views, watersheds, business corridors and even agricultural areas. An overlay district imposes additional or stricter district standards or criteria above and beyond the requirements of the particular underlying zone.

Variables and Issues

The overlay zoning district regulations must be more stringent than those of the underlying district – they cannot permit something that would not be permitted in the underlying zone. In addition, it is imperative that the goals and objectives of an overlay district be provided for in the goals and objectives of the Comprehensive Development Plan (Master Plan) of the community.

Procedures for Adoption

This would depend upon each particular zoning ordinance and the rules set out for adoption and amendment that vary for each particular unit of government. Standard procedures for ordinance adoption by your municipality should be followed. Consult with your City or Township Attorney regarding specific language of the ordinance.

Stakeholders

Being that this is a zoning district within the zoning ordinance; the stakeholders would be all of those parties concerned with the passage or amendment of the zoning ordinance. It

would also specifically apply to those parties directly influenced by the overlay district proposed. For example, an overlay district for a river would not only impact all residents, it would particularly impact riparian property owners.

Enforcement

An overlay zoning district would have its provisions enforced exactly the way any other district regulations are enforced. In most communities, this would be by the zoning administrator or code enforcement official.

References and Resources

Filling the Gaps – Environmental Protection Options for Local Governments, Ardizzone and Wyckoff, June, 2003

Michigan Zoning Enabling Act of 2006

Macomb County Ordinances

http://www.macombcountymi.gov/planning/Model_Envir_Ordinances.htm

Watertown Zoning Ordinance <http://www.twp.watertown.mi.us/ordinances.html>

Stock.xchng photos <http://www.sxc.hu/index.phtml>

CHAPTER 17- Watertown Charter Township
LGR LOOKING GLASS RIVER OVERLAY DISTRICT

SECTION 17.1 DESCRIPTION AND PURPOSE

- A. The Looking Glass River Overlay District is a supplementary District which applies to designated lands, as described in this Chapter, simultaneously with any of the other Zoning Districts established in this Ordinance, hereinafter referred to as the "underlying" Zoning District. Lands included in the Looking Glass River Overlay District are all such lands located along the shoreline areas of the Looking Glass River and are characterized by uses which are strongly oriented toward the residential and recreational experience and enjoyment of the surface waters and shorelines of the River within Watertown Charter Township.
- B. It is the intent of the Looking Glass River Overlay District to provide regulations in addition to those contained in the underlying Zoning District pertaining to lands located along the surface waters and shorelines of the River. The purpose of these regulations is to recognize the unique physical, economic, and social attributes of these shoreline properties and to ensure that the structures and uses in this District are compatible with and protect these unique attributes. Where specific requirements of the Looking Glass River Overlay District vary or conflict with the regulations contained in the underlying zoning district, the stricter requirement shall govern.

SECTION 17.2 PERMITTED USES

Land in the LGR District may be used for the following purposes by right, subject to Site Plan Review in accordance with the provisions of Section 20.2:

- A. Any Permitted Use in the underlying zoning district.
- B. Private boat docks, accessory to residential uses, subject to the following provisions:
 - 1. One (1) private boat dock per dwelling shall be permitted for each single family and two-family dwelling unit. No dock shall extend for more than four (4) feet from the bank or shoreline of the Looking Glass River; nor extend for more than twelve (12) feet in width parallel to and along any shoreline.
 - 2. Boat docks shall be used only by persons residing on the premises or their guests, and shall not be leased, rented, or otherwise made available for compensation, except in conjunction with the lease or rental of the dwelling unit on the same lot.
 - 3. Docks shall be designed, constructed, and maintained to blend with natural surroundings. The use of natural, native materials is encouraged.
- C. Private boat docks, accessory to non-residential uses, subject to the following

provisions:

1. One (1) boat dock shall be permitted for each lot or parcel.
2. Docks shall not extend for more than four (4) feet from the bank or shoreline of the Looking Glass River nor more than twelve (12) feet in width along any shoreline.
3. Boat docks shall be used only by patrons of the premises or their guests, and shall not be leased, rented, or otherwise made available for compensation.
4. Docks shall be designed, constructed, and maintained to blend with natural surroundings. The use of natural, native materials is encouraged.

SECTION 17.3 SPECIAL LAND USES

Land and/or buildings in the Looking Glass River Overlay District may be used for the following purposes after approval by the Township Board as a Special Land Use in accordance with the procedures of Chapter 19:

- A. Any Special Land Use in the underlying zoning district.
- B. Public or private campgrounds.
- C. Public or private boat launches.

SECTION 17.4 DISTRICT REGULATIONS

- A. The regulations of this Chapter apply to all waterfront lots (as defined in Chapter 2, Section 2.13, "Lot, Waterfront") or parcels with a shoreline along the Looking Glass River.
- B. All District Regulations of the underlying zoning district apply to properties within the LGR Overlay District, except as modified in this Section.
- C. Additional setbacks and lot widths for structures adjacent to the Looking Glass River.
 1. A minimum lot width of one hundred and fifty (150) feet shall be required.
 2. Notwithstanding any other provision of this Ordinance, no dwelling, accessory building, or septic system shall be hereafter constructed, erected, installed, or enlarged within a minimum of one-hundred fifty (150) feet (as measured from the shoreline or ordinary high water mark) from the Looking Glass River, except that for every one (1) foot of bank height above a minimum of seven (7) feet above the ordinary high water mark new structures may be placed five (5) feet closer to the River, except that no structure shall be located closer than one hundred (100) feet to the shoreline or ordinary high water mark.
 3. New structures must be set back at least fifty (50) feet from the top of the bluff on the cutting edges of the River.
 4. No dwelling shall be constructed or placed on lands which are subject to

flooding or on banks where a minimum of four (4) feet between the finished grade level and high ground water cannot be met. Land may be filled to meet the minimum requirement of four (4) feet between the finished grade level and ordinary high water mark only under the following conditions:

- a. The vegetative strip is maintained, as required by 17.04, D.
- b. No material is allowed to enter the water either by erosion or mechanical means.
- c. Fill material is of a pervious material such as gravel or sand.
- d. Any and all permits have been acquired as required by the laws of the State of Michigan and the rules and regulations of the Department of Natural Resources of the State of Michigan, provided that it shall be unlawful to alter the shoreline of any river or creek in the Township by soil removal or fill.
- e. All filling or grading work shall be accomplished so as not to alter the natural drainage of adjoining land.

D. Vegetative Strip.

1. Excepted as noted in 2, below, a strip fifty (50) feet bordering each bank of the Looking Glass River, as measured from the shoreline or ordinary high water mark, shall be maintained in its natural vegetative state, except for the permitted clearing of dead or noxious plants.
2. Within this strip a space of no greater than fifty (50) feet in width may be selectively trimmed and pruned to allow for the placement of private boat docks (subject to the requirements of Section 16.02) and/or for a view of the waterway, with the approval of the Zoning Administrator. In addition, forty percent (40%) of the lot width of the lot line adjacent to the River may be cleared.
3. The Zoning Administrator may allow limited clearing of the vegetative strip, only when required for construction of a permitted building or structure outside the vegetative strip, provided that the land cleared is returned to a vegetative state which is approximately the same quality and extent as that which existed prior to the clearing.

E. No building or structure, nor the enlargement of any building or structure, shall be thereafter erected unless the requirements of the underlying Districts are met and maintained in connection with such building, structure, or enlargement, except as noted below:

1. Except as otherwise required by this Chapter, no main building shall be placed closer than fifty (50) feet from the break of the bank, or from the shoreline if no break of the bank exists.
2. Developments within the Looking Glass River Overlay District shall maintain, to a reasonable extent, open and unobstructed views to the waterway from adjacent properties, roadways, and pedestrian ways.

CHAPTER 16 Watertown Charter Township
F-1 FLOODPLAIN DISTRICT

SECTION 16.1 INTENT AND PURPOSE

This District is intended primarily to protect those undeveloped areas of Watertown Charter Township which are subject to predictable flooding in the floodplain area of the Looking Glass River and its tributaries so that the reservoir capacity will not be reduced or impede, retard, accelerate or change the direction of flow or carrying capacity of the river valley or to otherwise increase the possibility of flood. The requirements of this Chapter, while permitting reasonable use of properties within the floodplain, will help protect human life, prevent or minimize material and economic losses and reduce the cost to the public in time of emergency through public aid or relief efforts occasioned by the unwise occupancy of such flood areas.

SECTION 16.2 DELINEATION OF THE FLOOD HAZARD OVERLAY ZONE

- A. The flood hazard area zone shall overlay existing zoning districts delineated on the official Watertown Charter Township Zoning Map.
 - 1. The boundaries of the flood hazard area zone shall coincide with the boundaries of the areas indicated as within the limits of the 100-year flood in the current report entitled "The Flood Insurance Study, Watertown Charter Township," with accompanying Flood Insurance Rate Maps and Flood Boundary and Floodway Maps.
 - 2. Within the flood hazard area zone a regulatory floodway shall be designated. The boundaries of the regulatory floodway shall coincide with the floodway boundaries indicated on the Flood Boundary and Floodway Map.
 - 3. The Study and accompanying maps are adopted by reference, appended, and declared to be part of this Ordinance.
 - 4. The term flood hazard area as used in this Ordinance shall mean the flood hazard area zone and the term floodway shall mean the designated regulatory floodway.
- B. Where there are disputes as to the location of a flood hazard area zone boundary, the Board of Appeals shall resolve the dispute.
- C. In addition to other requirements of this Ordinance applicable to development in the underlying zoning district, compliance with the requirements of this Chapter shall be necessary for all development occurring within the flood hazard area zone.

SECTION 16.3 PERMITTED USES

Notwithstanding any other provisions of this Ordinance land in the F-1 District may be used for the following purposes by right, subject to Site Plan Review in accordance with the provisions of Section 20.2:

- A. Open space uses such as farms, truck gardens, nurseries, parks, playgrounds, golf courses, nature preserves, bridle trails, natural trails, and recreation, provided no alteration is made to the existing level of the floodplain or erected structure which may interfere with the flow of the river or floodplain capacity.
- B. Industrial or commercial accessory use areas, such as loading and parking areas, and similar uses.
- C. Accessory residential uses such as lawn, gardens, parking areas, and play areas.

SECTION 16.4 SPECIAL LAND USES

Land and/or buildings in the F-1 District may be used for the following purposes after approval by the Township Board as a Special Land Use in accordance with the procedures of Chapter 19.

- A. Removal and processing of topsoil, stone, rock, sand, gravel, lime or other soil or mineral resources.
- B. Seasonal uses, as regulated by Section 3.16.
- C. Docks and piers.

SECTION 16.5 DATA SUBMISSION

Prior to the issuance of a building permit for structures on or within one hundred (100) feet of floodplain areas, the Building Inspector shall require the applicant for such permit to submit an approved permit as required by the Michigan Department of Natural Resources, topographic data, engineering studies, proposed site plan and/or other similar data needed to determine the possible effects of flooding on a proposed structure and/or the effect of the structure on the flow of water. All such required data shall be prepared by a Licensed Professional Engineer, Licensed Land Surveyor, or Licensed Architect in the State of Michigan.

SECTION 16.6 LIABILITY

Watertown Charter Township shall incur no liability whatsoever by permitting any use of a building within the floodplain within the township.

SECTION 16.7 GENERAL STANDARDS FOR FLOOD HAZARD REDUCTION

- A. Development within a flood hazard area, including the erection of structures as permitted by this Chapter, shall not occur except upon issuance of a zoning

compliance permit in accordance with the requirements of this Ordinance and the following standards:

1. The requirements of this Chapter shall be met.
 2. The requirements of the underlying zoning district and applicable general provisions of this Ordinance shall be met;
 3. All necessary development permits shall have been issued by appropriate local, state, and federal authorities, including a floodplain permit, approval, or letter of No Authority from the Michigan Department of Natural Resources under authority of Act 245, of the Public Acts of 1929, as amended. Where a development permit cannot be issued prior to the issuance of a zoning compliance permit, a letter from the issuing agency indicating intent to issue contingent only upon proof of zoning compliance shall be acceptable.
- B. The use pattern and structure proposed to accomplish said use shall be so designed as not to reduce the water impoundment capacity of the floodplain or significantly change the volume or speed of the flow of water.
- C. Specific base flood elevation standards:
1. On the basis of the most recent available base flood elevation data all new construction and substantial improvements shall have the lowest floor, including basements, elevated at least one (1) foot above the flood level; or for nonresidential structures, be constructed such that at or below base flood level, together with attendant utility and sanitary facilities, the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.
 2. A Licensed Professional Engineer, Licensed Land Surveyor, or Licensed Architect in the State of Michigan shall certify that these standards are met and that the floodproofing methods employed are adequate to withstand the flood depths, pressures, velocities, impact, and uplift forces and other factors associated with the base flood in the location of the structure. Such certification shall be submitted as provided in this Ordinance and shall indicate the elevation to which the structure is floodproofed.
 4. Available flood hazard data from federal, state, or other sources shall be reasonably utilized in meeting the standards of this Chapter. The most recent flood elevation data received from the Federal Insurance Administration shall take precedence over data from other sources.
- D. All new construction and substantial improvements within a flood hazard area, shall:
5. be designed and anchored to prevent flotation, collapse, or lateral movement of the structure;

6. be constructed with materials and utility equipment resistant to flood damage; and
 7. be constructed by methods and practices that minimize flood damage.
- E. All new and replacement water supply systems shall minimize or eliminate infiltration of flood waters into the systems.
- F. All new and replacement sanitary sewage systems shall minimize or eliminate infiltration of flood waters into the systems and discharges from systems into flood waters. On site waste disposal systems shall be located to avoid impairment to the system or contamination from the system during flooding.
- G. All public utilities and facilities shall be designed, constructed and located to minimize or eliminate flood damage.
- H. Adequate drainage shall be provided to reduce exposure to flood hazards.
- I. The flood carrying capacity of any altered or relocated watercourses not subject to state or federal regulations designed to ensure flood carrying capacity shall be maintained.

Fats, Oils, and Grease Policy/Regulation

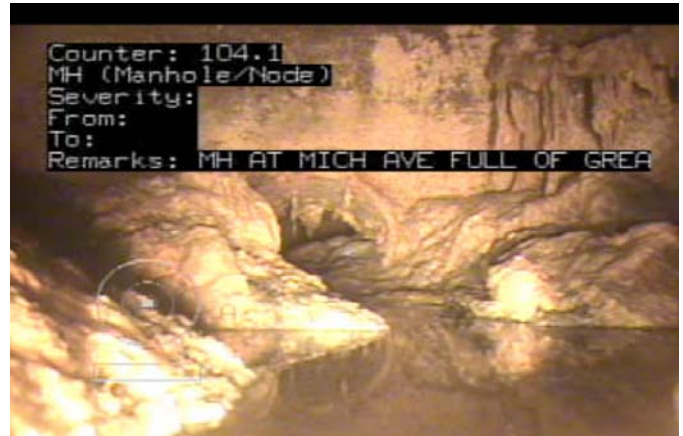
Objective

The purpose of the Fats, Oils, and Grease (FOG) regulation or policy statement is to reduce the amount of FOG that contributes to sewer overflows, and residential and commercial sewer back ups. By managing FOG, public health and water quality can be protected and improved.

Introduction

Residual fats, oils, and grease (FOG) are by-products that food service establishments must constantly manage.

Typically, FOG enters a facility's plumbing system from ware washing, floor cleaning, and equipment sanitation. Sanitary sewer systems are neither designed nor equipped to handle the FOG that accumulates on the interior of the municipal sewer collection system pipes. The majority of sanitary sewer overflows are the result of pipe blockages from FOG accumulation from residential, institutional and commercial sources. The best way to manage FOG is to keep the material out of the plumbing systems through Best Management Practices (BMP).



Grease encrusted sewer manhole, courtesy of City of Lansing

Background

Authority is granted to the Director under Chapter 46 – Article III – Division 1 – Section 46-128, Chapter 46 – Article III – Division 2 – Subdivisions I, II, and III, P.A. 451 of 1994 of the State of Michigan, and 40 CFR. Since the current State Plumbing Code is very vague in addressing FOG, it is highly recommended that Public Works Departments develop a policy similar to that described here.

Variables/Issues

Natural resources and energy are conserved through source reduction and recycling. FOG recycling keeps these materials from clogging municipal sewer lines, as well as using valuable landfill space and diverts it to a useful purpose. The charge for pumping out a grease trap is considerably more than the service fee charged by a renderer. Furthermore, with dry cleanup and other source reduction techniques, many restaurants are reducing their water consumption and sewer use and are saving money. Rendering also helps restaurants avoid discharge penalty charges. Renderers service fees are low and often provided at no charge. In some cases, rendering companies are willing to pay for restaurant oil and grease. Natural resources and energy are conserved through source reduction and recycling. FOG recycling keeps these materials from clogging municipal sewer lines, as well as using valuable landfill space and diverts it to a useful purpose.

Maintenance is the key to avoiding FOG blockages. For whatever method or technology is used to collect, filter and store FOG, ensure that equipment is regularly maintained. All

staff should be aware of and trained to perform correct cleaning procedures, particularly for under-sink interceptors that are prone to break down due to improper maintenance. A maintenance schedule is highly recommended.

Procedure for Adoption

Many communities have sewer use ordinances that severely limit the allowable concentrations of oil and grease in wastewater. Standard procedures for ordinance or policy adoption by your municipality should be followed. Consult with your City or Township Attorney regarding specific language of the ordinance or policy statement.

Stakeholders

Any person or company that uses, handles, or distributes FOG will be impacted by the regulation or policy statement. This includes, interceptor pumpers, restaurant owners/workers, public works departments (municipality), etc.

Enforcement

Here is an example of an enforcement procedure when a blockage due to FOG is discovered:

Discovery of grease blockage in the public sewer. Log in day, time and location of the grease blockage. Video the sewer to determine source of grease-laden discharge – log in day and time when videoing occurred.

Send “First Letter” advising business/property owner that they are discharging grease laden waste. This would eliminate the “lack of knowledge” defense. Include “Grease Brochure 1” and “Grease Brochure 2”. Include “Separator Code Reference” and any other applicable educational materials related to FOG.

If problem continues. Document day and time of subsequent violations. Perform additional videoing. Enforcement agent sends “Notice of Violation” to the offending business/property owner.

If the violator complies and sends the required maintenance documentation. Enforcement agent signs Notice of Compliance. One copy for the file, one copy to violator.

If the violator does not comply.

Memo is sent to the City Attorney for enforcement. Enforcement is the same procedure as the I/I enforcement. Memo is sent to Wastewater Division for referral to the IPP program.

References and Resources

City of Lansing, GREASE INTERCEPTOR ENFORCEMENT –PROCEDURE, February 2006.

City of St. Petersburg, Grease website.

<http://www.stpete.org/grease.htm>

Michigan Department of Environmental Quality - Pollution Prevention website.
http://www.michigan.gov/deq/0,1607,7-135-3585_4127_10957---,00.html

City of Clare, Wastewater Department website.
<http://www.cityofclare.org/depts/wwt.htm>

North Carolina Department of Environment and Natural Resources, The Green Plan for the Food Service Industry website. <http://www.p2pays.org/food/main/oil.htm>

City of Clare

Grease and Sand Interceptor Policy

A. Purpose

It is the duty of the City of Clare to prevent the excessive introduction of grease, oil and sand into the sewer system and wastewater treatment plant of the city. This program is designed to implement and enforce the grease discharge rules of the City of Clare.

The intent of this program is to ensure compliance with the City of Clare's Pretreatment Program, rules and regulations of the U.S. Environmental Protection Agency, rules and regulations of the Michigan Dept. of Environmental Quality, and to protect the public health and welfare.

Accumulations of grease and sand within the sewer lines increase the potential to cause sewer blockages, which in turn can cause overflows, which degrade the quality of local surface waters. Blockages also cause sewer back-up into businesses or homes and can cause extensive damage.

B. Authority and Applicability

Authority is granted to the Director under Chapter 46 – Article III – Division 1 – Section 46-128, Chapter 46 – Article III – Division 2 – Subdivisions I, II, and III, P.A. 451 of 1994 of the State of Michigan, and 40 CFR.

All Food Service Establishments, Metal Working Establishments and Automotive Establishments constructed prior to January 1st, 2007 shall be exempt from Sections D and E of this policy. All Food Service Establishments, Metal Working Establishments and Automotive Establishments whose plumbing has been significantly modified after January 1st, 2007 shall conform to Sections D and E of this policy.

C. Definitions

Automotive Service Establishment. Any facility where automobiles, trucks or equipment are serviced or maintained, including but not limited to: car washes, service centers, repair shops, detailing centers, garages, and any other facility that the Director determines to need a grease, oil or sand interceptor by virtue of its operation. Establishments that solely sell automotive parts are not included.

City. The City of Clare, Michigan

Director. The Director of Water and Wastewater Treatment for the City of Clare or his duly appointed representative.

Food Grinder. Any device installed for the purpose of disposing food waste into the sanitary sewer system.

Food Service Establishments. Any facility discharging kitchen or food preparation wastewater including, but not limited to the following: restaurants, motel, hotels, cafeterias, hospitals, schools, nightclubs, bowling alleys, delicatessens, meat cutting preparation, bakeries, grocery stores, gas stations, and any other facility that the Director determines to need a grease interceptor by virtue of its operation.

Grease. All fats, oils (animal or vegetable), greases, starch, wax, cellulose or other lipids whether emulsified or not, whether natural or synthetic in the sanitary sewer system. These are substances that may solidify or become viscous at temperatures between thirty-two (32) degrees Fahrenheit and one hundred fifty degrees (150) Fahrenheit.

Grease Interceptor. A device used for separating and retaining waterborne greases and grease complexes prior to the wastewater entering the City sanitary sewer system.

Metal Working Establishment. Any facility discharging wastewater arising from operations of metal working, including but not limited to: welding shops, machine shops and any other facility that the Director determines to need a grease, oil or sand interceptor by virtue of its operation.

Sand. Any form of soil, dirt, grit, or sand.

Sand Interceptor. A device used for separating and retaining waterborne sand or grit prior to the wastewater entering the City sanitary sewer system.

Significantly Modified Plumbing. Any modification that requires a plumbing permit.

Plumbing Code. The current edition of the Michigan Plumbing Code.

Oil. Any petroleum product that is capable of being carried in or on water into the sanitary sewer system.

Oil Interceptor. A device used for separating and retaining waterborne oils and oil complexes prior to the wastewater entering the City sanitary sewer system.

Owner. An individual, person, firm, company, association, society, corporation, or group upon whose property the building or structure is located.

Under-the-Counter Grease Trap. A grease interceptor designed to be installed underneath a sink.

User. Any individual, person, firm, company, association, society, corporation, or group that operates the business or organization residing the building or structure located on the property.

D. Design

All new interceptors shall be designed in accordance with this section herein unless otherwise approved by the Director, but in no case may it be less than the Plumbing Code. All interceptor plans and specifications shall be submitted and approved by the Director prior to installation.

All interceptors shall be installed by a licensed State of Michigan Plumbing Contractor and maintained by the User so as to be in continuous effective and satisfactory operation.

There shall be sufficient clearance for the removal of the interceptor cover for cleaning.

E. Sizing

Grease interceptors shall be sized in the Washington Suburban Sanitary Commission manner of

(Max. Flow) * (Diversity Factor) * (Retention) = Size in gallons

Where Diversity factor = .2 for light grease,
.3 for moderate grease
.4 for heavy grease

Retention time = 24 minutes

Max. Flow = The sum of all U.S. EPA Fixture Flow Rates into the
Interceptor.

The sizing criteria will follow the Uniform Plumbing Code (UPC), Appendix I-9. The UPC does not specify requirements for all specific applications; however, the basic formula may be easily adapted to differing applications or parameters.

(a) Parameters: the parameters for sizing SOI units are hydraulic loading, retention time, and storage factor for one or more fixtures or industrial applications.

(b) Sizing Formula: the size of the SOI will be determined by use of the following formula:

Number of Units

Washed per Hour * X Waste Flow Rate** X Retention Time # X Storage Factor ## =
Interceptor Size

(Liquid Capacity)

* Number of units washed per hour (i.e., auto's, engines, parts, etc.)

** Waste Flow Rate:

Gallons per unit cleaned (for intermittent use), or gallons per hour (for constant use)

Retention Time: 2.0 hours

Storage Factors (vehicle/equipment/parts, etc. washing):

a. Self service/public 1.5 hours

- b. Employee operated automated/commercial 2.0 hours
 - c. Other industrial/commercial applications 2.0 hours
- The minimum size SOI allowed by the City is 100 gallons.

F. Maintenance

The User shall be responsible for the proper removal and lawful disposal of the interceptor waste. No interceptor waste shall be discharged directly into the wastewater collection system or wastewater treatment facility.

Maintenance shall include the complete removal of all contents, including floatable materials, wastewater, sludge, and solids. Separation, decanting or back flushing of the interceptor or its wastes is prohibited. Maintenance of interceptors with grease or solids accumulation shall not exceed 25% of the total operating hydraulic depth of the interceptor. Service records shall be submitted as in Section H.

No food grinder shall be plumbed to an interceptor.

All establishments shall maintain interceptors in a continuous satisfactory and effective operation.

Any additional fixtures that are added to the establishment shall be plumbed into the appropriate type of interceptor.

All grease interceptors shall be maintained as prescribed in the Plumbing Code.

The exclusive use of chemicals, enzymes or biological additives as a grease degradation agent is not considered acceptable maintenance practice. These additives are authorized for supplemental use only.

G. Inspections

The City may conduct mandatory inspections at a minimum of once a year and at other times as the City deems necessary, in its discretion. All establishments shall be open and available to inspections by the Director at all times during normal business hours to ensure operation and maintenance.

If grease is responsible for a sewer blockage, inspections of all upstream Food Service Establishments will be conducted.

If sand is responsible for a sewer blockage, inspections of all upstream Automotive Service Establishments will be conducted.

Access to all interceptors shall be maintained in a manner that is free and open to inspection at all times.

H. Records and Inspection

The user of the interceptor shall be required to maintain cleaning and maintenance records the interceptor. Cleaning records shall include at a minimum all instances of cleaning, time performed, volume removed, date performed and the initials of the individual that performed the cleaning. Maintenance records shall include type of maintenance performed, time performed, date performed and the initials of the individual that performed the cleaning. In lieu of the above records invoices of contracted services shall be maintained. All cleaning and maintenance records shall be maintained a minimum of three (3) years.

I. Prohibitions and Violations

No user shall contribute or cause to be contributed into the sanitary sewer system the following:

- a. Hot water running continuously through a grease interceptor.
- b. Discharge wastewater in excess of 140 degrees Fahrenheit to any grease interceptor.
- c. Discharge of concentrated detergents into an interceptor.
- d. Discharge of concentrated alkaline or acidic solutions into an interceptor.
- e. Discharge of pure grease or oil directly into an interceptor from a pan, vat, pot, or any similar device.

It shall be a violation of this program for any person to:

- a. Modify an interceptor without consent from the Director.
- b. Falsify maintenance or design records.
- c. Not provide maintenance or design records.
- d. Install food grinders.
- e. Toilets, urinals, and other similar fixtures shall not discharge through a grease interceptor.

J. Variance

Under certain circumstances due to lot and building size in an area of the City, the interceptor size and location may require modification. This will be limited only to preexisting buildings on lots with little or no room. A request for a variance must be submitted in writing to the Director for approval.

K. Enforcement

Whenever the City finds that any user has violated this policy the City may serve upon the user a written notice stating the nature of the violation. Within 30 days of this notice, a plan for the satisfactory correction of the violation shall be submitted to the City.

If after 30 days a plan for the satisfactory correction of the violation has no been submitted to the City shall be fined under Chapter 46, Division 2, Subdivision III, Section 46-221 Civil Penalties. Fines shall be recommended in accordance with Table 1.) of this policy.

Any party found falsifying information is guilty of a misdemeanor under Chapter 46, Division 2, Subdivision III, Section 46-222 Falsifying Information. The matter and all pertinent information shall be turned over to the City of Clare Police Department for further investigation.

Table 1. *Criminal misdemeanor charges may also be filed.

	Violation	1st Offense	2nd Offense	3rd Offense	4th Offense
Minor Violations					
	Failure to Maintain On-Site Records	Enforcement Letter	\$100	\$100	\$500
	Inspection Hindrance (equipment related)	Enforcement Letter	\$100	\$100	\$500
	Failure to Properly Clean Interceptor (excess of 25% full)	Enforcement Letter	\$100	\$500	\$1,000
Intermediate Violations					
	Intercepts in Excess of 75% full	Enforcement Letter	\$500	\$1,000	Termination of Service
	Failure to Maintain Interceptor Other than Cleaning	Enforcement Letter	\$500	\$1,000	Termination of Service
Major Violations					
	Source of Sewer Blockage	Enforcement Letter & Clean up Costs	\$500 & Clean up Costs	\$1,000 & Clean up Costs	Termination of Service
	Falsification of Maintenance or Cleaning Records*	\$500	\$1,000	Termination of Service	Termination of Service
	Refusal for Inspection	Termination of Service			

GLRC MEMBERS

City of DeWitt

City of East Lansing

City of Grand Ledge

City of Lansing

City of Mason

Village of Dimondale

Alaiedon Township

Bath Charter Township

Delhi Charter Township

Delta Charter Township

DeWitt Charter Township

Lansing Charter Township

Meridian Charter Township

Oneida Charter Township

Watertown Charter Township

Windsor Charter Township

DeWitt Public Schools

Lansing Public Schools

Clinton County

Eaton County

Ingham County

