
CHARTER TOWNSHIP OF WEST BLOOMFIELD

ORDINANCE NO. C-825

AN ORDINANCE TO REPEAL CHAPTER 24 IN ITS ENTIRETY; AND TO ADOPT A NEW CHAPTER 24 TITLED WATER SUPPLY, SEWAGE DISPOSAL, AND STORMWATER MANAGEMENT.

THE CHARTER TOWNSHIP OF WEST BLOOMFIELD ORDAINS:

Section 1 of Ordinance

Chapter 24, titled WATER SUPPLY AND SEWAGE DISPOSAL SYSTEMS SHALL BE **REPEALED IN ITS ENTIRETY.**

Section 2 of Ordinance

A new Chapter 24, titled **WATER SUPPLY, SEWAGE DISPOSAL, AND STORMWATER MANAGEMENT**, shall be adopted as follows:

CHAPTER 24

WATER SUPPLY, SEWAGE DISPOSAL, AND STORMWATER MANAGEMENT

ARTICLE I. – GENERAL REQUIREMENTS, PERFORMANCE SECURITY, MAINTENANCE, AND DEDICATION REQUIREMENTS FOR WATER SUPPLY AND SANITARY SEWER SYSTEMS

Sec. 24-1. Definitions.

- (a) *Water supply system.* The public water supply system refers to all mains, pipes, meters, hydrants, valves, and appurtenances that constitute the township water supply system.
- (b) *Sanitary sewer system.* The public sanitary sewer system refers to all sewer mains, manholes, and other related fittings. Private connections to the sanitary sewer system are to be made at the sewer main. Private connections, including the fittings, are the responsibility of private owners.

Sec. 24-2. General requirements prior to the commencement of construction.

As a precondition to the commencement of construction of any water supply or sanitary sewer main improvement regulated under this chapter, the property owner agent, or developer, referred to as the proprietor, shall comply with all of the following:

- (a) *Permits required.* Acquire and file with the township all required township permits and all required permits from any and all other governmental entities.

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- (b) *Provide easements.* Execute and file with the township all easements required for any proposed water supply and/or sanitary sewer facility intended to be incorporated into the township system. The easements shall be in a form approved by the township attorney.
 - (c) *Provide construction performance security.* File with the township the construction performance security required by section 24-3.
 - (d) *Commencement authorization.* Obtain authorization to commence construction from the township engineer.

Sec. 24-3. Construction performance security.

- (a) *Required.* To protect the public health, safety, and general welfare of the township, any proprietor planning to construct, install, and apply for the township to accept dedication of any water supply or sanitary sewer facility for incorporation into the township system in accordance with section 24-5 must post performance security prior to commencing construction to ensure the completed construction complies with (1) all approved plans; (2) all conditions of approval; (3) all permits; and (4) all applicable township ordinances, state statutes and federal laws. The proprietor shall maintain performance security until the security is released.
- (b) *Form and amount of security.* The proprietor shall provide performance security that guarantees the completed water and sewer improvements comply with (1) all approved plans; (2) all conditions of approval; (3) all permits; and (4) all applicable township ordinances, state statutes and federal laws. The performance security shall be in an amount equal to one hundred percent (100%) of the construction costs estimated to complete the proposed public improvements and shall be in the form of an irrevocable standby letter of credit, a cash bond, or for projects where the estimated construction costs will be in excess of \$250,000, the performance security may be submitted by surety bond on a township approved surety bond form guaranteeing that the principal will perform its obligation(s) to the township. The performance security shall comply with the requirements of Chapter 2, Article VI, Division 1 of the Code of Ordinances, and shall be in a form approved by the township attorney. The estimated amount of the construction costs shall be submitted by the proprietor and verified by the township engineer.
- (c) *Increase in security.* If at any time the performance security is deemed by the township to be insufficient to cover the construction costs required to complete the proposed public improvements, upon notice from the township of the deficiency, the proprietor shall increase the performance security by an amount sufficient to satisfy the requirements of this chapter. Failure to submit the required increase in security is a violation of the ordinance and may result in issuance of a stop work order.
- (d) *Release of security.* The performance security shall continue until the proprietor demonstrates that the completed construction complies with: (1) all approved plans; (2) all conditions of approval; (3) all permits; and (4) all applicable township ordinances, state statutes, and federal laws. Performance security, minus costs incurred by the township such as actual administrative, legal, engineering, and enforcement expenses will be released

upon acceptance of dedication of the improvements by the township board pursuant to section 24-5.

- (e) *Forfeiture of security.* In the event the requirements of this chapter have not been met, or the proprietor has failed to comply with the approved plans, the conditions of approval, all permits, or all applicable township ordinances, state statutes, or federal laws, the township shall issue a Notice of Default to the proprietor and (1) to the surety if the performance security is in the form of a surety bond; or (2) to the issuing bank if the performance security is in the form of a letter of credit. The Notice of Default shall identify the deficiencies to be cured and provide notice that if all deficiencies are not cured within the time specified in the notice, then the performance security shall be forfeited upon issuance of a Notice of Forfeiture to the proprietor. The township shall have the right to enter onto the property and to utilize the forfeited funds to complete the improvements in accordance with the approved plans, all conditions of approval, all permits, all applicable township ordinances, state statutes, and federal laws. The forfeited funds shall also be applied to costs incurred by the township resulting from the proprietor's failure to perform its obligation(s) such as actual administrative, legal, engineering, and enforcement expenses. The township shall refund any balance remaining to the proprietor in accordance with section 24-6.
- (f) *Reduction for multiple-phase developments.* After completion of the water supply and sanitary sewer main improvements for each phase, the proprietor may request a reduction in the amount of the performance security commensurate with the improvements completed and approved. The request will be reviewed by the township and, if approved, the amount of the performance security may be reduced as approved.
- (g) *Construction halted.* If the construction is not prosecuted diligently for a period of time in excess of one (1) year and the water and sanitary sewer main improvements have not been completed, the township may issue a Notice of Default to the proprietor and implement the provisions set forth in section 24-3(e), forfeit the performance security, and utilize the funds to complete the improvements in accordance with the approved plans, all conditions of approval, all permits, and all applicable township ordinances, state statutes, and federal laws.
- (h) *Workmanship and materials guarantee.* Proprietor shall guarantee that the workmanship and materials used for the construction of the water and/or sanitary sewer main improvements are guaranteed for a minimum of two (2) years after completion.

Sec. 24-4. Post-construction maintenance obligations and performance security.

- (a) *Maintenance required.* After completion of construction, proprietor is obligated to maintain the water supply and/or sanitary sewer main improvements in a good working condition for service, and to immediately repair any defect in the improvements due to any improper or defective material, equipment, labor, workmanship, or damage during the maintenance period. The proprietor shall also restore the property and any property of the Charter Township of West Bloomfield, or of third persons affected by the defect, maintenance, or repair work without expense to the township.

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- (1) *Maintenance period; commencement.* The minimum maintenance period for the water supply and/or sanitary sewer main improvements is two (2) years. The maintenance period shall begin when the following three (3) requirements are met: (1) the construction of the water supply and/or sanitary sewer main improvements is completed as verified by the township engineer; and (2) the as-built certification, signed and sealed by an engineer licensed in the State of Michigan, is filed with the township; and (3) the township board has accepted the dedication of the improvements.
- (2) *Maintenance period completed.* The maintenance period is completed when:
- (i) *Single-phase development.* Unless extended as provided in subsection (3), for a single-phase development, the maintenance period is completed upon the expiration of the minimum two-year maintenance period or when the final as-built plans for project close-out are approved by the township engineer and, if applicable, a final certificate of occupancy is issued by the township, whichever occurs later.
 - (ii) *Multiple phase development.* Unless extended as provided in subsection (3), for a multiple phase development, the maintenance period shall remain in effect until final as-built plans for project close-out are approved by the township engineer for the entire project, or for a period of five (5) years, whichever occurs first.
- (3) *Maintenance period extension.* In the event the township engineer discovers that the proprietor did not maintain and/or repair the water supply and/or sanitary sewer main improvements as required during the maintenance period, the township may extend the maintenance period and performance security for additional time to ensure the maintenance and/or repairs are completed as required by issuing a written Notice of Extension.
- (b) *Affidavit of maintenance obligations.* Prior to the township board accepting the dedication of the water supply and/or sanitary sewer main improvements into the public system as provided in section 24-5, the proprietor shall execute and submit to the township an Affidavit of Maintenance Obligations that acknowledges the obligations of the proprietor to maintain the improvements during the maintenance period. The affidavit shall be in recordable form and approved by the township attorney. The Affidavit of Maintenance Obligations shall include acknowledgment of all of the following:
- (1) *Inspection, maintenance, and repair.* The proprietor is obligated to inspect, maintain, and repair the water supply and/or sanitary sewer main improvements during the maintenance period. A report shall be filed with the township engineer following the inspection, maintenance, or repair of the water supply and sanitary sewer main improvements.
 - (2) *Written notice of intent to proceed.* The proprietor shall provide written notice to the township engineer of the intent to proceed with maintenance at least forty-eight (48) hours in advance of commencing work.

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- (3) *Binding, recorded.* The Affidavit of Maintenance Obligations shall be recorded with the Oakland County Register of Deeds and shall be binding on the proprietor and all successors, assigns, and transferees during the maintenance period.
- (4) *Notice of Release.* A Notice of Release of Maintenance Obligations for the water supply and/or sanitary sewer main improvements will be recorded by the township after satisfaction of the maintenance obligations for the water supply and/or sanitary sewer main improvements.
- (c) *Performance security.* The proprietor shall provide a cash bond or irrevocable standby letter of credit that guarantees the maintenance obligations for the water supply and/or sanitary sewer improvements during the maintenance period. The original construction cost estimate shall be revised to incorporate up-to-date cost estimates and shall be submitted to the township engineer for verification. The amount of the performance security requires shall be determined by the township engineer based on a percentage of the revised construction cost estimate and the size of the project. However, the amount shall not exceed thirty percent (30%) of the revised construction cost estimate as verified by the township engineer. Additional requirements for performance security include:
- (1) *Increase in security.* If at any time the performance security is deemed insufficient by the township to cover the cost to inspect and maintain the improvements during the maintenance period, upon notice from the township, the proprietor shall increase the performance security by an amount the township determines is required to maintain the improvements. Failure to submit the required increase in security is a violation of the ordinance and may result in issuance of a stop work order.
 - (2) *Extension.* If the maintenance period is extended by the township for any reason, then the performance security shall be extended for a like period.
 - (3) *Release of maintenance security.* The maintenance security shall remain in effect for a minimum of two (2) years. The maintenance security, minus costs incurred by the township such as actual administrative, legal, engineering, and enforcement expenses shall be released only after completion of the maintenance period in compliance with the provisions of section 24-4(a).
- (d) *Forfeiture of security.* In the event the proprietor has failed to maintain the improvements as required, the township shall issue a Notice of Default to the proprietor and, if the performance security is in the form of a standby letter of credit, to the issuing bank. The Notice of Default shall identify the deficiencies to be cured and provide notice that if all deficiencies are not cured within the time specified in the notice, then the performance security shall be forfeited upon issuance of a Notice of Forfeiture to the proprietor. The township shall have the right to enter onto the property and to utilize the forfeited funds to perform the maintenance or repair required. The forfeited funds shall also be applied to costs incurred by the township such as actual administrative, legal, engineering, and enforcement expenses. The township shall refund any balance remaining to the proprietor in accordance with section 24-6.

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- (e) *Transfer of property during maintenance period.* In the event of any transfer during the maintenance period and prior to release of the maintenance security, the proprietor shall promptly provide written notice to the township of any transfer and the name of the transferee, successor, assign, or agent responsible to complete the project and maintain the water supply and sanitary sewer main improvements during the maintenance period. The performance security shall not be released upon a transfer during the maintenance period unless replaced with a cash bond or irrevocable standby letter of credit in an amount equal to the amount of the maintenance performance security required and submission of a new executed Affidavit of Maintenance Obligations form.

Sec. 24-5. Water supply and sanitary sewer acceptance; dedication requirements.

- (a) *Acceptance required.* No private connection to the township water supply and/or sanitary sewer main shall be made until the improvement has been accepted by the township as a public utility and all requirements of this chapter have been met.
- (b) *Compliance with Article V, Construction Permits.* No water supply and/or sanitary sewer main improvements will be accepted into the township's system unless the specifications, plans, engineering, construction, and inspection of the water supply or sanitary sewer improvement complies with all requirements of Chapter 24, Article V, Construction Permits and the final as-built plans signed and sealed by an engineer licensed in the State of Michigan are filed with the township.
- (c) *Acceptance.* The acceptance of dedication of water supply and/or sanitary sewer main improvements is typically done prior to completion of the project; therefore, prior to acceptance of the water supply or sanitary sewer main improvements into the township system, the executed Affidavit of Maintenance Obligations and the required performance security complying with section 24-4 shall be filed with the township.
- (d) *Extensions.* By accepting the dedication of any water supply or sanitary sewer main improvements, the township does not assume any obligation to construct an extension or enlargement of the water supply or sanitary sewer main to any property. Any extension or enlargement of the public system by the township shall be at the discretion of the township and under such reasonable conditions and methods of financing as the township board shall determine.

Sec. 24-6. Return of performance security.

Upon release of the performance security as provided in section 24-3 or 24-4, the performance security minus costs incurred by the township such as actual administrative, legal, engineering, and enforcement expenses shall be returned to the proprietor by U.S. mail. The return of the performance security shall be conclusively presumed to have been received by the proprietor if (1) enclosed in an envelope with postage fully paid; (2) addressed to the proprietor at the last address furnished by the proprietor to the township; and (3) deposited in the U. S. mail. The township is not obligated to conduct a search or attempt to locate a proprietor who after reasonable effort cannot be reached at the last known address on file with the township. Pursuant to section 3 of the Uniform Unclaimed Property Act, PA 29 of 1995, found at MCL 567.223, performance security not claimed by the proprietor within three (3) years from the date of mailing shall be deemed to be unclaimed property subject to the requirements of the Uniform Unclaimed Property Act.

Secs. 24-7 - 24-15. - Reserved.

ARTICLE II. WATER SUPPLY SYSTEMS

DIVISION 1. GENERALLY

Secs. 24-16—24-25. Reserved.

DIVISION 2. CROSS CONNECTIONS

Sec. 24-26. Definition.

For the purposes of this article, a "water supply cross connection" is defined as a connection or arrangement of piping or appurtenances through which water of questionable quality, wastes or other contaminants can enter the public water supply system.

(Ord. No. 103, § 1.00, 5-21-79)

Cross reference(s)—Definitions and rules of construction generally, § 1-2.

Sec. 24-27. Adoption of state department of health rules.

The township adopts by reference the Water Supply Cross Connection Control Rules of the Michigan Department of Public Health, being R 325.11401 through R 325.11407 of the Administrative Code and the Charter Township of West Bloomfield Cross Connection Control Program, adopted by the township on October 10, 2011, as well as the plan's implementation schedule, as that program and/or schedule may be amended from time to time. The Charter Township of West Bloomfield Water Utilities Department shall be the designated authority and administrator of the local cross connection control program which is on file with the township at the Water Utilities Department and the Michigan Department of Environment, Great Lakes, and

Energy (EGLE) Southeast Michigan District Office in complying with the EGLE Rules Manual, as amended.

Sec. 24-28. Inspection of water supply systems.

It shall be the duty of the Township to cause inspections to be made of all properties served by the public water supply where cross connections with the public water supply is deemed possible. The frequency of inspections and re-inspections based on potential health hazards involved shall be as established by the West Bloomfield Township Water Utilities Department and as approved by the Michigan Department of Environment, Great Lakes, and Energy.

Sec. 24-29. Right to enter private property for inspection.

The representative of the West Bloomfield Township Water Utilities Department shall have the right to enter at any reasonable time any property served by a connection to the public water supply system of West Bloomfield Township for the purpose of inspecting the piping system or systems thereof for identifying cross connections. On request, the owner, lessees or occupants of any property so served shall furnish to the inspection agency any pertinent information regarding the piping system or systems on such property. The refusal of such information or refusal of access, when requested, shall be deemed presumptive evidence of the presence that a cross connection exists on the property.

Sec. 24-30. Violators water supply discontinued.

- (a) The West Bloomfield Township Water Utilities Department is hereby authorized and directed to discontinue water service after reasonable notice to any property wherein any connection in violation of this division exists, and to take such other precautionary measures deemed necessary to eliminate any danger or contamination of the public water supply system. Water service to such property shall not be restored until the cross connection(s) has been eliminated in compliance with the provisions of this division.
- (b) All testable backflow prevention assemblies shall be tested at the time of installation or relocation and after any repair. Subsequent testing of devices shall be conducted at a time interval specified by the West Bloomfield Township Water Utilities Department and in accordance with the Michigan Department of Environment, Great Lakes, and Energy requirements. Only individuals that hold a valid Michigan plumbing license and have successfully passed an approved backflow testing class shall perform such testing. Each tester shall be approved by the Charter Township of West Bloomfield's Water Utilities Department. Individual(s) performing assembly testing shall certify the results of his/her testing when submitting test results to the Water Utilities Department.

Sec. 24-31. Notice required for water unsafe for drinking.

The potable water supply made available on the properties served by the public water supply shall be protected from possible contamination as specified by this division and by the Michigan Plumbing Code. Any water outlet which could be used for potable or domestic purposes and which is not supplied by the potable system must be labeled in a conspicuous manner as: "Water Unsafe For Drinking."

Sec. 24-32. Effect of state plumbing code.

The ordinance codified in this division does not supersede the Michigan Plumbing Code, but is supplemental thereto.

Sec. 24-33. Violation penalties.

Any person or customer found guilty of willfully violating any of the provisions of this division or any written order executed by the West Bloomfield Township Water Utilities Department Director, in pursuance thereof, shall be deemed guilty of a misdemeanor and upon conviction thereof shall be punished by a fine of not less than one hundred dollars (\$100.00), nor more than five hundred dollars (\$500.00) for each violation. Each day upon which a violation of the provisions of this act continues shall be deemed a separate and additional violation for the purpose of this division.

Secs. 24-34—24-45. Reserved.

ARTICLE III. SEWAGE DISPOSAL SYSTEMS

DIVISION 1. GENERALLY

Sec. 24-46. County enforcement of septic tank regulations.

The county shall enforce regulations concerning septic tanks and licensing for installing septic tanks.

Sec. 24-47. Discharge of sump water.

(a) *Definitions.* For purposes of this section:

- (1) *Highway* or *street* means the entire right-of-way of every public way open to travel.
- (2) *Sump* means a pit or reservoir serving as a drain or receptacle for groundwater.
- (3) *Sump pump* means any pump or other device, including any and all piping, tubing, channels and any other drainage devices, employed for the removal of deposits of ground or drainage water away from the building.

(b) *Discharge of sump water upon a highway or street or into storm sewers.* It shall be unlawful for any person to drain, empty or otherwise discharge groundwater from a sump by use of a sump pump upon any highway or street or within twenty (20) feet of the curb of any highway or street constructed with curb and gutter or within twenty (20) feet of the travel portion of any highway or street unless connected into a storm drain in such highway or street under valid permit from the authority having jurisdiction of such highway or street, or unless the flow is into an open roadside ditch along a highway or street validly permitted by the authority having jurisdiction of such highway or street.

(c) *New construction discharge systems:*

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- (1) All sump pumps installed in newly constructed dwellings or other buildings must discharge into a dedicated public storm drain, a natural watercourse or a ditch, swale or other approved facility which has been constructed for the purpose of receiving such discharge. Prior to its installation, the proposed sump pump discharge system, including the location at which the sump pump is intended to discharge, must receive the approval of the township engineer. If the grade between houses and street exceeds three (3) percent, the building inspector may require connection to underground drain or suitable on-site disposal before issuing certificate of occupancy.
 - (2) Storm sewers shall be provided to accommodate direct underground connections for all sump pumps for the purpose of stormwater drainage. The connection between storm sewers and sump pumps shall be approved by the township engineer.
- (d) *Existing structure discharge systems:*
- (1) Except as approved by the township engineer, and subject to applicable law as between private property owners, the sump pump discharge from existing dwellings and buildings may not flow or drain onto or in any way affect the property of adjacent property owners, nor interfere with the quiet enjoyment of land by adjacent property owners.
 - (2) In the event that the discharge from an existing dwelling or building violates subsection (d)(1) above, the township may serve written notice upon the owner of the property setting forth such violation. The notice shall also set forth a demand that the violation be cured within a stated reasonable time period. A violation may be cured by causing the sump pump to discharge into a dedicated public storm drain, a natural watercourse, or a ditch or swale or other approved facility which has been constructed for the purpose of receiving such discharge.
 - (3) Prior to its installation, the proposed new location and manner of sump pump discharge must be approved by the township engineer.

Secs. 24-48—24-60. Reserved.

DIVISION 2. CONSTRUCTION, CONNECTION, OWNERSHIP, AND USE OF SANITARY SEWERS

Sec. 24-61. Connection permit required.

No person shall connect nor cause to be connected any building within township residential, commercial or mixed, directly or indirectly, to any sewer which is part of the county sanitary sewer system, who shall not first have obtained such permits as are required by the county; nor shall any person cause such connection contrary to the regulations of the township or the county, nor contrary to the regulations of the state, particularly to those of the Environmental Protection Agency.

Sec. 24-62. Use and connection of nonaccepted sanitary sewers prohibited.

No sanitary sewer shall be used or connected for use, nor allowed to be used, nor bulkhead removed to permit the use of such sewer, in the township while such sewer connection or system has not been accepted by the township and the county department of public works, certifying compliance with the standards for construction, infiltration and exfiltration of such department as are in force at the time of connection.

Sec. 24-63. Permit required for connections carrying nondomestic waste.

No connection to any sanitary sewer shall be made, directly or indirectly, through which would come any nondomestic waste, without first obtaining a permit from the county and conforming to the requirements set forth in the County of Oakland Sewage Disposal System Industrial Waste Regulations, as amended and adopted by the township. Such connection and sewer system shall not be used in a way which violates the conditions for such connection including, but not limited to:

- (1) Rejection of the waste;
- (2) Pretreatment of the waste to an acceptable condition for discharge into the public sewer;
- (3) Required control over the quantities and rates of discharge;
- (4) Required extra payment to cover the added cost of handling and treating the waste not covered by existing sewer charges.

Sec. 24-64. Stormwater and groundwater control.

- (a) Yard drains, patio drains, catch basins, downspouts, weep tile, perimeter and footing drains or any other structure used for the collection and conveyance of stormwater and/or groundwater shall not be permitted to discharge into any sanitary sewer connected directly or indirectly to the township system and the county system, except as provided under paragraph (b).
- (b) The crock-to-iron joint shall be sealed by an approved flexible adaptor fitting such as those manufactured by Fernco Joint Sealer Company, or as approved by the county department of public works. The iron pipe inside the building shall be plugged and leaded and remain plugged and watertight until such time as the plumbing is carried on to the first floor, the basement backfilled and roof is on the building, thereby providing that no water from the excavated basement will enter the sanitary sewer.

Sec. 24-65. Septic tank abandonment and waste disposal.

- (a) Prior to connecting an individual building sewer to the sewers of the county or the township, either directly or indirectly, all existing wastewater treatment facilities, including septic tanks, tile fields and sump pumps, shall be physically and permanently disconnected from the building sewer.

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- (b) Septic tank sludge shall be discharged into the sewers of the county or the township, directly or indirectly, only at locations specified by the township or the county department of public works, and only after obtaining proper septic tank dumping tickets.
 - (c) The liquid and solids from an abandoned septic tank shall not be drained, dewatered, pumped or in any other manner discharged to the sewers of the township or the county, except as provided for above.

Sec. 24-66. Ownership, operation and maintenance responsibility.

All new sanitary sewer systems, except individual building sewers, connected directly or indirectly into the intercepting sewer or sewers of the county shall be owned, operated and maintained by the township. This includes but is not necessarily limited to on-site sewer systems serving condominiums, apartment projects, shopping centers and mobile home parks.

Sec. 24-67. Preservation of other rules and regulations.

Nothing in this division shall be construed to relieve the property owner of complying with all rules and regulations, including licensing requirements and other rules and regulations adopted by the township.

Sec. 24-68. User charges for sewer service.

- (a) *Establishment.* Rates and charges for the use of the sanitary sewer system of the township are hereby established and made against each lot, parcel of land or premises which may have direct or indirect connections to the system or which may otherwise discharge wastewater either directly or indirectly into the system.
- (b) *Basis, sufficiency, and review and revision.* The rates and charges hereby established shall be based upon a methodology which complies with applicable federal and state statutes and regulations. The amount of the rates and charges shall be sufficient to provide for debt service and for the expenses of operation, maintenance and replacement of the system as necessary to preserve the system in good repair and working order. The amount of the rates and charges shall be reviewed annually and revised when necessary to ensure that system expenses are met and that all users pay their proportionate share of operation, maintenance and equipment replacement expenses.
- (c) *Determination of amount and billing intervals.* The amount of such rates and charges, and the intervals at which users of the sanitary sewer system are billed, shall be determined by resolution of the township board.
- (d) *Uniformity of rates and charges; no free service.* The rates and charges for operation, maintenance and replacement hereby established shall be uniform within the area serviced by the township. No free service shall be allowed for any user of the sanitary sewer.
- (e) *Annual notifications.* All customers of the township sanitary sewer system shall receive an annual notification, either printed on the bill or included as a separate letter, showing the breakdown of the sanitary sewage disposal bill into its component parts for:

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- (1) Operation, maintenance, and replacement; and
 - (2) Debt service.

Secs. 24-69—24-80. Reserved.

***DIVISION 3. CLINTON-OAKLAND SEWAGE DISPOSAL SYSTEM CONNECTION
CHARGES***

Sec. 24-81. Connection fee.

No property within the Township which lies within an area served by the sewage disposal system known as the Clinton-Oakland Sewage Disposal System, as described in contracts between Oakland County and the Township pertaining to that system, shall be connected to any public sewer nor directly into the sewers themselves until there has been paid to the Township Treasurer, in addition to all other fees, charges or assessments of any kind otherwise payable for sewage disposal services, a connection fee as follows:

- (1) For each parcel of property occupied or to be occupied, the sum of four thousand dollars (\$4,000.00) per unit.
- (2) For all other parcels of property, a sum to be established by the Township Board, which sum shall be a multiple of the charge in subsection (1) and calculated in accordance with the unit assignment factors for sanitary sewer systems adopted by the Board.

Sec. 24-82. Direct connection charge.

- (a) *Direct connection charge.* In addition to the other charges provided for in section 24-81, every property or use which connects directly to the Clinton-Oakland Sewage Disposal Interceptor System, shall be subject to a direct connection charge of two thousand six hundred dollars (\$2,600.00) per single-family residential unit, or the equivalent Township assignment factor multiple thereof, and no such direct connection shall be made until such direct connection charge has been paid to the Township Treasurer.

Sec. 24-83. Increase in use fee.

If any user of the Clinton-Oakland Sewage Disposal System increases the use of the system or increases the discharge from his premises by changing the use of the premises as previously connected to the sewer system, the user or property owner shall pay to the Township an increase in use fee equal to the use fee for the use as established by the Township Board minus any connection fee previously paid. The fee shall be paid to the Township prior to the use of the sewer system by the new increased use. If the fee is not paid by the user or property owner, the Township may disconnect the user or property owner from the sewer system or may bring an appropriate action in a court of competent jurisdiction to collect the amount.

Sec. 24-84. Payment of direct connection charge for new and existing buildings.

Except as otherwise provided, the charges for connection to the Clinton-Oakland Sewage Disposal System shall be paid at the time of application for building permit, or, in the case of existing buildings, at the time of application for a sewer connection permit.

Sec. 24-85. Payment of direct connection charge for properties with septic tank facilities.

Owners of property lying within the Clinton-Oakland Sewage Disposal System service area, which properties have been improved with buildings and uses having septic tank facilities at the time public sewer service is available to serve the property, may pay the connection fees as required by sections 24-81 and 24-82 in accordance with section 24-84 or in the following manner:

- (1) The connection charge of four thousand dollars (\$4,000.00), or the equivalent unit multiple thereof, required by section 24-81 may be paid in installments as follows: three hundred seventy dollars (\$370.00), or the equivalent unit multiple thereof, at the time of application for a sewer connection permit and the balance in annual installments of not less than three hundred seventy dollars (\$370.00), or the equivalent unit multiple thereof, including interest at the rate of eight percent (8%) per annum.
- (2) The connection charge of two thousand six hundred dollars (\$2,600.00), or the equivalent unit multiple thereof, required by section 24-82 may be paid in installments as follows: two hundred forty dollars (\$240.00), or the equivalent unit multiple thereof, at the time of application for a sewer connection permit and the balance in annual installments of not less than two hundred forty dollars (\$240.00), or the equivalent unit multiple thereof, including interest at the rate of eight percent (8%) per annum.
- (3) Installments shall be due and payable on July first of each year following the date of application to connect to the sanitary sewer. Installments shall be applied first upon interest earned to the due date, and the balance upon principal.
- (4) The Township Treasurer shall send statements of installments, thirty (30) days prior to the due date and if payment is not made within thirty (30) days after the date the installment would be due, a seven percent (7%) penalty shall be added. The delinquent installment, interest and penalty shall become a lien upon the land so charged and shall be collected in the same manner as other taxes are assessed, levied and collected and shall be returned in the same manner for nonpayment.
- (5) Any installment may be paid at any time in advance, with interest to the date of payment.
- (6) Any installment that is not paid by the due date will be subject to an additional late charge of two percent (2%) for each month or fraction of a month that it remains unpaid.

Sec. 24-86. Disposition of funds.

All sums collected pursuant to this division shall be deposited in the receiving fund for transfer to the Capital Improvement, Replacement, and Finance Fund (CIRFF).

Secs. 24-87—24-95. Reserved.

DIVISION 4. FARMINGTON INTERCEPTOR SEWER SYSTEM CONNECTION CHARGES

Sec. 24-96. Connection fees.

No property within the Township which lies within an area served by the sewage disposal system known as the Farmington Interceptor, described in agreements between the county and the Township as the Farmington Sewage Disposal System or Evergreen and Farmington Sewage Disposal Systems, pertaining to those systems and any existing or future arms, extensions or pollution-control facility improvements, shall be connected to any public sewer or drain connected directly or indirectly so as to flow into the system, nor directly into the system itself, until there has been paid to the Township Treasurer, in addition to all other fees, charges or assessment of any kind otherwise payable for sewage disposal services, a connection fee as follows:

- (1) For each parcel of property occupied or to be occupied, the sum of one thousand four dollars (\$1,400.00) per unit.
- (2) For all other parcels of property, a sum to be established by the Township Board, which sum shall be a multiple of the charge in subsection (1) and calculated in accordance with the unit assignment factors for sanitary sewer systems adopted by the Board.

Sec. 24-97. Direct connection charge.

(a) In addition to the charges provided in section 24-96, every property or use which connects directly to the Farmington Interceptor Sewer System, including any existing or future arms, extensions or pollution-control facilities thereof, shall be subject to the following direct connection charge and no such connection shall be made until the direct connection charge has been paid to the Township Treasurer:

- (1) For each parcel of property to be occupied and used as ~~and by~~ a single-family residence building, the sum of two thousand six hundred dollars (\$2,600.00).
- (2) For all other parcels or uses of property, a sum to be established by the Township Board, which sum shall be a multiple of the charge in subsection (a) after first taking into consideration the amount of sanitary sewage which will be discharged from such property or use as compared with that from the average single-family residence building.

Sec. 24-98. Increase in use fee.

If any user of the Farmington Interceptor Sewer System increases the use of the system or increases the discharge from the premises by changing the use of the premises as previously connected to the sewer system, the user or property owner shall pay to the Township an increase in use fee equal to the use fee for the use as established by the Township Board minus any connection fee previously paid. The fee shall be paid to the Township prior to the use of the sewer system by the new increased use. If the fee is not paid by the user or property owner, the Township may

disconnect the user or property from the sewer system or may bring an appropriate action in a court of competent jurisdiction to collect the amount.

Sec. 24-99. Time of payment.

Except as otherwise provided, fees and charges for connection to the Farmington Interceptor Sewer System shall be paid at the time of application for building permit or, in the case of existing buildings, at the time of application for a sewer connection permit.

Sec. 24-100. Installment payments.

Owners of property lying within the Farmington Interceptor Sewer System service area and which properties have been improved with dwellings having septic tank facilities may pay the connection fees as required by sections 24-96 and 24-97 in accordance with section 24-99, or may pay such fees and charges in the following manner:

- (1) The connection charge of one thousand four hundred dollars (\$1,400.00) required by section 24-96 above may be paid in installments by paying one hundred thirty dollars (\$130.00) at the time of application for sewer connection permit and the balance in annual installments of not less than one hundred thirty dollars (\$130.00), including interest at the rate of eight percent (8%) per annum.
- (2) The connection charge of two thousand six hundred dollars (\$2,600.00) required by section 24-97 above may be paid in installments by paying two hundred forty dollars (\$240.00) at the time of application for sewer connection permit and the balance in annual installments of not less than two hundred forty dollars (\$240.00), including interest at the rate of eight percent (8%) per annum.
- (3) Installments shall be due and payable on July first of each year following the date of application to connect to the sanitary sewer. Installments shall be applied first upon interest earned to the due date, and the balance upon principal.
- (4) The Township Treasurer shall send statements of installments, thirty (30) days prior to due date and if payment is not made within thirty (30) days after the date the installment would be due, a seven percent (7%) shall be added. The delinquent installment, interest and penalty shall become a lien upon the land so charged and shall be collected in the same manner as other taxes are assessed, levied and collected and shall be returned in the same manner for nonpayment.
- (5) Any installment may be paid at any time in advance, with interest to the date of payment.
- (6) Any installment that is not paid by the due date will be subject to an additional late charge of two percent (2%) for each month or fraction of a month that it remains unpaid.

Sec. 24-101. Disposition of funds.

All sums collected pursuant to this division shall be deposited in the receiving fund for transfer to the Capital Improvement, Replacement, and Finance Fund (CIRFF).

Sec. 24-102. Additional connection charges.

At the time a permit is applied for to connect any property within the township to any public sewer or drain, the cost of which shall have been specially assessed against the property by either the township or the county, there shall be collected from the owner of the property or the applicant for a connection permit, the aggregate amount, including interest and penalties, of installments of special assessments against property for the public sewer or drain which are then due and unpaid, provided the special assessments are at that time a lien on the property. Installments of special assessments unpaid but not then due shall be included. The township assessor shall, on request, prepare all allocations, which shall be conclusive and binding upon the township and the property owner or applicant for connection permit, of any special assessment made against a larger tract of property of which the property to be connected to a public sewer or drain is a part. The proceeds of the charges shall be deposited in the appropriate special assessment fund.

Secs. 24-103—24-114. Reserved.

DIVISION 5. REGULATION OF PRIVATE AND PUBLIC SEWAGE DISPOSAL SYSTEMS¹

Sec. 24-115.1. Purpose.

- (a) The purpose of this division is the protection of the environment, and of public health and safety by abating and preventing pollution through the regulation and control of the quantity and quality of wastes admitted to or discharged into the wastewater collection and treatment system under the jurisdiction of the township and enabling the township to comply with all applicable state and federal laws required by the Federal Water Pollution Control Act, being 33 U.S.C. 1251, et seq), and the General Pretreatment Regulations, being 40 C.F.R. part 403.
- (b) The objectives of this division are:
 - (1) To prevent the introduction of pollutants into the wastewater system which will interfere with the operation of the system or contaminate the resulting sludge, or will pose a hazard to the health or welfare of the people or of employees of the City of Detroit Water and Sewerage Department;
 - (2) To prevent the introduction of pollutants into the wastewater system which will pass inadequately treated through the system into receiving waters, the atmosphere or the environment, or otherwise be incompatible with the system;
 - (3) To improve the opportunity to recycle or reclaim wastewater or sludge from the system in an economical and advantageous manner; and

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- (4) To provide for the recovery of the costs from users of the wastewater collection and treatment system sufficient to administer regulatory activities and meet the costs of the operation, maintenance, improvement or replacement of the system.
- (c) This division provides for the regulation of contributors to the [City of] Detroit and township wastewater collection and treatment system through the issuance of wastewater discharge permits to certain users and through the enforcement of general requirements for all users, authorizes monitoring and enforcement, and authorizes fees and penalties.

Sec. 24-115.2. Authority.

By virtue of the obligations and authority placed upon the township by the Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, being (33 U.S.C. 1251, et seq; the 1963 Constitution of the State of Michigan; Public Act 245 of 1929, as amended, being M.C.L. 323.1, et seq; the 1997 City Charter; the National Pollutant Discharge Elimination System (NPDES) permit for the City of Detroit Publicly Owned Treatment Works (POTW); the Consent Judgment in *U.S. EPA v. City of Detroit, et al*, Federal District Court for the Eastern District of Michigan Case No. 77-1100, as amended; and existing or future contracts between the Board of Water Commissioners and suburban communities or other governmental or private entities; or by virtue of common law usage of the system, this division shall apply to every user contributing or causing to be contributed, or discharging, pollutants or wastewater into the wastewater collection and treatment system of the City of Detroit POTW.

Sec. 24-115.3. Definitions.

For purposes of this division and unless the context specifically indicates otherwise, the following terms and phrases shall have the meanings ascribed to them by this section:

Act or the act means the Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, being 33 U.S.C. 1251, et seq.

As-built plans means engineering drawings prepared after installations of wastewater facilities which shall show a statement by a registered engineer or surveyor certifying this to be as-built plans and shall include, but not be limited to, length of sewer, invert elevation, locations with respect to property lines, wye and riser locations and depths, sewer material and joints used, and mechanical, electrical, and structural details for pump stations, wastewater treatment facilities, and other appurtenances.

Authorized representative of industrial user means:

- (1) Responsible corporate officer, where the industrial user submitting the reports required by this division is a corporation, who is either (a) the president, vice-president, secretary, or treasurer of a corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation; or (b) the manager of one (1) or more manufacturing, production, or operation facilities employing more than two hundred and fifty (250) persons or having gross annual sales or expenditures exceeding twenty-five million dollars (\$25,000,000) in second-quarter 1980 dollars, when authority to execute documents has been assigned or delegated to said manager in accordance with corporate procedures; or

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- (2) A general partner or proprietor where the industrial user submitting the reports required by this division is a partnership or sole proprietorship respectively.

Available cyanide means the quantity of cyanide that consists of cyanide ion (CN) hydrogen cyanide in water (HCN_{aq}), and the cyano-complexes of zinc, copper, cadmium, mercury nickel and silver, determined by EPA method OIA-1677, or other method designated as a Standard Method or approved under 40 CFR 136.

Best management practices (BMP) means programs, practices, procedures or other directed efforts initiated and implemented by the User which can or do lead to the reduction, conservation or minimization of pollutants being introduced into the ecosystem, including but not limited to the Detroit sewer system. BMPs include, but are not limited to, equipment or technology modifications, process or procedure modifications, reformulation or redesign of products, substitution of raw materials, and improvements in housekeeping, maintenance, training, or inventory control and may include technical and economic considerations.

Biochemical oxygen demand (BOD) means the quantity of dissolved oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure five (5) days at twenty (20) degrees centigrade expressed in terms of mass and concentration (milligrams per liter (mg/l)) as measured by standard methods.

Board means the Board of Water Commissioners of the City of Detroit.

Building drain means that part of the lowest horizontal piping of a drainage system which receives discharge from soil, waste, and other drainage pipes inside the walls of the building and conveys it to the building's sewer (house sewer). The latter begins five (5) feet outside the inner face of the building wall.

Bypass means the intentional diversion of a waste stream from any portion of an industrial user's treatment facility. [See 40 C.F.R. 403.17.]

Centralized waste treatment (CWT) facility means any facility that treats any hazardous or nonhazardous industrial waste received from off-site by tanker truck, trailer/roll-off bins, drums, barges, or any other forms of shipment, including (i) a facility that treats industrial waste received exclusively from off-site, and (ii) a facility that treats industrial waste generated on-site as well as industrial waste received from off-site.

Compatible industrial wastewater means wastewater that is produced by an industrial user which has a pollutant strength or characteristics similar to those found in domestic wastewater, and which can be efficiently and effectively transported and treated with domestic wastewater.

Compatible pollutant means pollutants which can be effectively removed by the POTW treatment system to within the acceptable levels for the POTW residuals and the receiving stream.

Composite sample means a collection of individual samples which are obtained at regular intervals and collected on a time-proportional or flow-proportional basis over a specified period and which provides a representative sample of the average stream during the sampling period. A minimum of four (4) aliquot per twenty-four (24) hours shall be used where the sample is manually collected. [See 40 C.F.R. 403, Appendix E.]

Confidential information means the information which would divulge information, processes or methods of production entitled to protection as trade secrets of the industrial user.

Consent judgment means the judgment issued by Federal District Court on September 14, 1977, *U.S. EPA v City of Detroit, et al.*, C.A. No. 77-1100, as amended.

Control authority means the [City of] Detroit Water and Sewerage Department which has been officially designated as such by the State of Michigan under the provisions of 40 C.F.R. 403.12. [See 40 C.F.R. 403.12(a).]

Cooling water means the non-contact water discharged from any use such as air conditioning, cooling or refrigeration, and whose only function is the exchange of heat.

County means the County of Oakland, State of Michigan or the Oakland County Drain Commissioner.

County agency means the Oakland County Water Resources Commissioner's Office. References to the Oakland County Department of Public Works shall also mean Oakland County Water Resources Commissioner's Office.

Days means consecutive calendar days for the purpose of computing a period of time prescribed or allowed by this division.

Debt service charge means charges levied to customers of the wastewater system which are used to pay principal, interest and administrative costs of retiring the debt incurred for construction of the wastewater system. The debt service charge is separate and distinct and may be in addition to the user charge specified below.

Department means the City of Detroit Water and Sewerage Department, and authorized employees of the department.

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

Director means the director of the [City of] Detroit Department of Water and Sewerage, or the director's designee.

Discharger means a person who, directly or indirectly, contributes, causes, or permits wastewater to be discharged into the POTW.

Domestic sewage means waste and wastewater from humans or household operations which is discharged to, or otherwise enters, a treatment works.

Environmental Protection Agency or administrator or EPA administrator means the United States Environmental Protection Agency or, where appropriate, the authorized representatives or employees of the EPA.

Facility means a location which contributes, causes or permits wastewater to be discharged into the POTW including, but not limited to, a place of business, endeavor, arts, trade or commerce, whether public or private, commercial or charitable.

Fats, oils or grease (FOG) means any hydrocarbons, fatty acids, soaps, fats, waxes, oils, and any other nonvolatile material of animal, vegetable or mineral origin that is extractable by solvent in accordance with standard methods.

Flow proportional sample means a composite sample taken with regard to the flow rate of the waste stream.

Footing drain means a pipe or conduit which is placed around the perimeter of a building foundation and which intentionally admits groundwater.

Grab sample means an individual sample collected over a period of time not exceeding fifteen (15) minutes, which reasonably reflects the characteristics of the stream at the time of sampling.

Groundwater means subsurface water occupying the saturation zone, from which wells and springs are fed.

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

Indirect discharge or discharge means the discharge or the introduction of pollutants into the POTW from any non-domestic source regulated under 33 U.S.C. 1317(b), (c) or (d).

Industrial user means a person who contributes, causes or permits wastewater to be discharged into the POTW, including, but not limited to, a place of business, endeavor, arts, trade or commerce, whether public or private, commercial or charitable but excludes single-family and multi-family residential dwellings with discharges consistent with domestic waste characteristics.

Industrial waste means any liquid, solid or gaseous waste or form of energy, or combination thereof, resulting from any processes of industry, manufacturing, business, trade or research, including the development, recovery or processing of natural resources.

Infiltration means any waters entering the system from the ground, through such means as, but not limited to, defective pipes, pipe joints, connections or manhole walls. Infiltration does not include and is distinguished from inflow.

Infiltration/inflow means the total quantity of water from both infiltration and inflow.

Inflow means any waters entering the system through such sources as, but not limited to, building downspouts, footing or yard drains, cooling water discharges, seepage lines from springs and swampy areas, and storm drain cross connections.

Interference means a discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

- (1) Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and
- (2) Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent state or local regulations): Section 405 of the Clean Water Act, as amended, being 33 U.S.C. 1345, the Solid Waste Disposal Act (SWDA), as amended, (including the Resource Conservation and Recovery Act (RCRA), and state regulations contained in any state sludge management plan prepared pursuant to subtitle D of the SWDA), the Clean Air

Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Local means a prefix denoting jurisdiction by the Charter Township of West Bloomfield.

May means permissive.

Municipality means the Charter Township of West Bloomfield.

National categorical pretreatment standard means any regulation containing pollutant discharge limits promulgated by the EPA in accordance with 33 U.S.C. 1317 (b) and (c) which applies to a specific class or category of industrial users.

National Pollutant Discharge Elimination System (NPDES) permit means a permit issued pursuant to 33 U.S.C. 1342.

Natural outlet means any outlet into a watercourse, pond, ditch, lake, or other body of surface 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 33 U.S.C. 1317(c) 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 where no other source is located; or (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 of 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, and the extent to which the new facility is engaged in the same general type of activity as the existing source should be considered; or
- (2) Construction on a site where an existing source is located resulting in a modification rather than a new source if the construction does not create a new building, structure, facility or installation meeting the criteria of subsections (1)(b) or (1)(c) of this definition but otherwise alters, replaces, or adds to existing process or production equipment; or
- (3) Construction of a new source has commenced where 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; or (2) significant site preparation work including clearing, excavation, or removal of existing buildings, structures, or facilities that are necessary for the placement, assembly, or installation of 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 section.

Operation-maintenance (O&M) means all work, materials, equipment, utilities and other effort required to operate and maintain the wastewater transportation and treatment system consistent with insuring adequate treatment of wastewater to produce an effluent in compliance with the NPDES permit and other applicable state and federal regulations, and includes the cost of replacement.

Owner means the owners of record of the freehold of the premises or lesser estate therein, a mortgagor or vendee in possession, assignee of rents, receiver, executor, trustee, lessee, or other person, firm or corporation in control of a building.

Pass through means discharge which exits the POTW into waters of the United States in quantities or concentrations, which alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit, including an increase in the magnitude or duration of a violation.

Person means any individual, partnership, copartnership, firm, company, corporation, association, joint stock company, trust, estate, unit of government, school district, or any other legal entity, or their legal representative, agent or assigns.

pH means the intensity of the acid or base condition of a solution, calculated by taking the negative base-ten logarithm of the hydrogen ion activity. Activity is deemed to be equal to concentration in moles per liter.

Pollutant means any dredged spoil, solid waste, incinerator residue, sewage garbage, sewage sludge, munitions, chemical waste, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, or industrial, municipal and agricultural waste which is discharged into water.

Pollution means the introduction of any pollutant that, alone or in combination with any other substance, can or does result in the degradation or impairment of the chemical, physical, biological or radiological integrity of water.

Pretreatment means the reduction of the amount of pollutants, the removal 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, removal or alteration may be attained by physical, chemical or biological processes, or process changes by other means, except as prohibited by federal, state or local law, rules and regulations.

Pretreatment requirements means any substantive or procedural requirements related to pretreatment, other than a national pretreatment standard imposed on an industrial user. [See 40 C.F.R. 403.3(r).]

Pretreatment standards means all National Categorical Pretreatment Standards, the general prohibitions specified in 40 C.F.R. 403.5(a), the specific prohibitions delineated in 40 C.F.R. 403.5(b), and the local or specific limits developed pursuant to 40 C.F.R. 403.5(c), including the discharge prohibitions specified in Section 24-115.7(B).

Public sewer means a sewer of any type controlled by a governmental entity.

Private means a prefix denoting jurisdiction by a non-governmental entity.

Public means a prefix denoting jurisdiction by any governmental subdivision or agency.

Publicly owned treatment works (POTW) means a treatment works as defined by 33 U.S.C. 1292(2)(A) which is owned by a state or municipality, as defined in 33 U.S.C. 1362, including:

- (1) Any devices and systems used in the storage, treatment, recycling, or reclamation of municipal sewage or industrial waste of a liquid nature;
- (2) Sewers, pipes and other conveyances only if they convey wastewater to a POTW treatment plant; or
- (3) The municipality, as defined in 33 U.S.C. 1362, which has jurisdiction over the indirect discharges to and the discharges from such a treatment works.

POTW treatment plant means that portion of the POTW designed to provide treatment to wastewater, including recycling and reclamation of wastewater.

Quantification level means the measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calculated at a specified concentration above the detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for monitoring of the contaminant.

Replacement means the replacement in whole or in part of any equipment, appurtenances and accessories 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.

Representative sample means any sample of wastewater, which accurately and precisely represents the actual quality, character, and condition of one or more pollutants in the waste stream being sampled. Representative samples shall be collected and analyzed in accordance with 40 C.F.R. Part 136.

Sanitary wastewater means the portion of wastewater that is not attributable to industrial activities and is similar to discharges from domestic sources including, but not limited to, discharges from sanitary facilities and discharges incident to the preparation of food for on-site non-commercial consumption.

Service area means any area whose wastewater is received by the township or the county for the transmission for treatment by the City of Detroit DWSD.

Sewer means a pipe or conduit that carries wastewater or drainage water. See the following definitions modifying sewer:

- (1) Building sewer—In plumbing, the extension from the building drain to the public sewer or other place of disposal. Also called house connection.
- (2) Combined sewer—A sewer intending to receive both wastewater and stormwater, surface or drainage water.
- (3) Common sewer—A sewer in which all owners of abutting properties have equal rights.

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- (4) County sewer—A public sewer controlled by the county agency.
 - (5) Intercepting sewer—A sewer that received dry-weather flow from a number of transverse sewers or outlets in frequently additional predetermined quantities of stormwater (if from a combined system) and conducts such waters to a point for treatment or disposal).
 - (6) Lateral sewer—That portion of the sewer system located under the street, within the street right-of-way, or easement and which collects sewage from a particular property for transfer to the trunk line or interceptor. A sewer which is designed to receive a building sewer.
 - (7) Municipal sewer—A public sewer exclusive of a county sewer or City of Detroit sewer.
 - (8) Public sewer—A common sewer controlled by a governmental agency or public utility.
 - (9) Sanitary sewer—A sewer that carries liquid and water-carried waste from residences, commercial buildings, industrial plants, and institutions, together with minor quantities of groundwater, stormwater, surface water and drainage water and are not admitted intentionally.
 - (10) Storm sewer—A sewer that carries stormwater and surface water, street wash and other wash waters, or drainage, but excludes domestic wastewater and industrial wastewater. Also called a "storm drain."
 - (11) Trunk sewer or trunk line—A sewer which connects the lateral sewer to the intercepting sewer and to which building sewers may be connected.

Sewer service charge means the sum of the applicable user charge, surcharges and debt service charges.

Shall means mandatory.

Significant industrial users means any user of the POTW who:

- (1) Has an average discharge flow of twenty-five thousand (25,000) gallons per day or more of process wastewater excluding sanitary, boiler blowdown, and noncontact cooling water; or
 - (2) Has discharges subject to the national categorical pretreatment standards; or
 - (3) Requires pretreatment to comply with the specific pollutant limitations of this division; or
 - (4) Has in its discharge toxic pollutants as defined pursuant to 33 U.S.C. 1317, or other applicable federal and state laws or regulations that are in concentrations and volumes which are subject to regulation under this division as determined by the department; or
 - (5) Is required to obtain a permit for the treatment, storage or disposal of hazardous waste pursuant to regulations adopted by this state or adopted under the Federal Solid Waste Disposal Act, as amended by the Federal Resource Conservation and Recovery Act, as amended, and may or does contribute or allow waste or wastewater into the POTW including, but not limited to, leachate or runoff; or
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- (6) Is found by the City of Detroit or township to have a reasonable potential for adverse effect, either singly or in combination with other contributing industries, on the POTW operation, the quality of sludge, the POTW's effluent quality, or air emissions generated by the POTW.

Significant noncompliance means any violation which meets one or more of the following criteria:

- (1) Chronic violations of wastewater discharge limits, defined as those in which sixty-six (66) percent or more of all of the measurements taken during a six-month period exceed by any magnitude the daily maximum limit or the average limit for the same parameter;
- (2) Technical review criteria (TRC) violations, defined as those in which thirty-three (33) percent or more of all of the measurements for each pollutant parameter taken during a six-month period equal or exceed the product of the daily maximum limit or the average limit multiplied by the applicable TRC (TRC = 1.4 for BOD, TSS, Fats, Oil and Grease, and 1.2 for all other pollutants except pH);
- (3) Any other violation of a pretreatment effluent limit (daily maximum or longer term average) that the department determines has caused, alone or in combination with other discharges, interference or pass-through including endangering the health of POTW personnel or the general public;
- (4) Any discharge of a pollutant that has caused imminent endangerment to human health or welfare, or to the environment, or has resulted in the POTW's exercise of its emergency authority;
- (5) Failure to meet a compliance schedule milestone contained in a local control mechanism, or enforcement order for starting construction, completing construction, or attaining final compliance within ninety (90) days after the scheduled date;
- (6) Failure to provide required reports such as baseline monitoring reports, ninety-day compliance reports, periodic self-monitoring reports, and reports on compliance with compliance schedules within thirty (30) days after the due date;
- (7) Failure to accurately report noncompliance; or
- (8) Any other violation or group of violations which the department determines will adversely affect the operation or implementation of the local pretreatment program.

Slug means any discharge of a non-routine episodic nature including, but not limited to, an accidental spill or a non-customary batch discharge.

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, 1987, as amended.

Standard methods means methods set forth in 40 C.F.R. Part 136, "Guidelines for Establishing Test Procedures for Analysis of Pollutants" or the laboratory procedures set forth in the latest edition, at the time of analysis, of "Standard Methods for the Examination of Water and Wastewater" prepared and published jointly by the American Public Health Association, the

American Water Works Association, and the Water Pollution Control Federation, or methods set forth in 40 C.F.R. 136, "Guidelines for Establishing Test Procedures for Analysis of Pollutants." Where these two (2) references are in disagreement regarding procedures for the analysis of a specific pollutant, the methods given in 40 C.F.R. Part 136 shall be followed.

State means the State of Michigan.

Stormwater means any flow occurring during or following any form of natural precipitation and resulting therefrom.

Superintendent means the director of the township department of public works or his duly authorized representative.

Supervisor means the township supervisor of the Charter Township of West Bloomfield or his authorized representative.

Surface water means:

- (a) All water on the surface as distinguished from groundwater or subterranean water.
- (b) Water appearing on the surface in a diffused state, with no permanent source of supply or regular course for any considerable time, as distinguished from water appearing in watercourses, lakes, or ponds.

Suspended solids (total) mean the total suspended matter which floats on the surface of, or is suspended in, water, wastewater or other liquids, and is removable by laboratory filtration or as measured by standard methods.

Total equivalent master metered water consumption means the equivalent to the total amount of potable water used by a municipality as recorded by a master water meter for sewered premises, and shall include, but not be limited to, fire protection water, gardening and lawn water.

Total PCB means the sum of the individual analytical results for each of the PCB aroclors 1016, 1221, 1232, 1242, 1248, 1254, and 1260 during any single sampling event with any aroclor result less than the quantification level being treated as zero.

Total Phenolic Compounds means the sum of the individual analytical results for each of the phenolic compounds of 2-chlorophenol, 4-chlorophenol, 4-chloro-3-methylphenol, 2,4-dichlorophenol, 2,4-dinitrophenol, 4-methylphenol, 4-nitrophenol, and phenol during any single sampling event expressed in mg/l.

Township means the Charter Township of West Bloomfield.

Toxic pollutant means any pollutant or combination of pollutants designated as toxic in regulations promulgated by the Administrator of the U.S. Environmental Protection Agency under the provisions of the Clean Water Act, being 33 U.S.C. 1317, or included in the Critical Materials Register promulgated by the Michigan Department of Environmental Quality, or by other federal or state laws, rules or regulations.

Trade secret means the whole, or any portion or phase, of any proprietary manufacturing process or method, not patented, which is secret, is useful in compounding an article of trade having a commercial value, and whose secrecy the owner has taken reasonable measures to

prevent from becoming available to persons other than those selected by the owner to have access for limited purposes but excludes any information regarding the quantum or character of waste products or their constituents discharged or sought to be discharged into the Detroit wastewater treatment plant, or into the wastewater system tributary thereto.

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with limits imposed under this division or with national categorical pretreatment standards due to factors beyond the reasonable control of the industrial user but excludes noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

User means any person who, directly or indirectly, contributes, causes or permits the discharge of wastewater into the POTW as defined herein.

User charge means a charge levied on users of a treatment works for the cost of operation and maintenance of sewerage works pursuant to Section 204(b) of P.L. 92-500 and includes the cost of replacement.

Wastewater or *waste stream* means the liquid and water-carried industrial or domestic wastes of dwellings, commercial buildings, industrial facilities, and institutions, whether treated or untreated, which are contributed to or permitted to enter the POTW including infiltration and inflow waters, stormwater, and cooling water.

Wastewater discharge permits means permits issued by the department in accordance with subsection 24-115.7(D) of this Code.

Waters of the state mean groundwater, lakes, rivers, streams, all other watercourses and waters within the confines of this state as well as bordering this state in the form of the Great Lakes.

(Ord. No. C-233, § 3, 10-16-89; Ord. No. C-233-A-2001, § 1, 11-19-01; Ord. No. C-233-B, § 1, 1-9-06)

Sec. 24-115.43. Abbreviations.

For purposes of this article, the following acronyms shall have the meanings designated by this section:

- (1) BMR—Baseline monitoring report.
- (2) BOD—Biochemical oxygen demand.
- (3) C.F.R.—Code of Federal Regulations.
- (4) DWSD—Detroit Water and Sewerage Department.
- (5) EGLE – Michigan Department of Environment, Great Lakes, and Energy.
- (6) EPA—Environmental Protection Agency.
- (7) FOG—Fats, oil or grease.
- (8) l—Liter.

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- (9) mg—Milligrams.
 - (10) mg/l—Milligrams per liter.
 - (11) NPDES—National Pollutant Discharge Elimination System
 - (12) P—Phosphorus.
 - (13) POTW—Publicly owned treatment works.
 - (14) RCRA—Resource Conservation and Recovery Act, being 42 U.S.C. 6901 et seq.
 - (15) SIC—Standard industrial classification.
 - (16) SWDA—Solid Waste Disposal Act, being 42 U.S.C. 6901 et seq.
 - (17) TSS—Total suspended solids.
 - (18) U.S.C.—United States Code

(Ord. No. C-233, § 4, 10-16-89; Ord. No. C-233-A-2001, § 1, 11-19-01)

Sec. 24-115.5. General regulations of Oakland County Water Resources Commissioner’s Office, County of Oakland, sewage disposal systems.

- (a) *Compliance required.* All sanitary sewer systems connected directly or indirectly into the intercepting sewer or sewers of the Oakland County Water Resources Commissioner’s Office shall meet the requirements set forth in this section.
- (b) *Plans, permits and bonds:*
 - (1) Prior to connection and prior to start of construction, all sanitary sewer systems shall have engineering plans and specifications prepared by a professional engineer and shall be approved by the Oakland County Water Resources Commissioner’s Office.
 - (2) A connection permit shall be obtained by the owner or contractor from the Oakland County Water Resources Commissioner’s Office. Said connection permit shall show the location of the work, the extent of the work, information regarding the contractor, the owner and the engineer, and any other pertinent information as shall be determined necessary by the department of public works. A fee shall be charged for said permit to cover the cost of inspection of each connection, and to verify the result of the acceptance test. The permit fee shall be one hundred fifty dollars (\$150.00) for each connection plus fifteen dollars (\$15.00) for each new manhole constructed. Inspections requested during other than normal working hours shall be performed only if deemed necessary by the Oakland County Water Resources Commissioner’s Office. The fee for such inspections shall be two hundred fifty dollars (\$250.00) per day minimum, in addition to the normal connection permit fee.
 - (3) Individual building sewers which are directly connected into the county sanitary sewer system shall conform to all applicable requirements of this division. A connection permit, for which a charge of fifty dollars (\$50.00) will be made by the Oakland County Water Resources Commissioner’s Office, shall be obtained from the department of public works before such connection is made. Prior to the issuance of

such connection permit, the person obtaining such permit shall have obtained the written approval of the local unit of government. Connection shall be made in a workmanlike manner and in accordance with methods and procedures established by the department of public works.

The party to whom such a permit is issued shall be responsible for notifying the department of public works twenty-four (24) hours in advance of the date and time when such a connection is made so that proper inspection of same can be made by the department.

- (4) Prior to the adjustment, reconstruction, relocation or any other altering of the sewers of the County of Oakland, including manhole structures, the contractor or the person responsible for the work shall first obtain a permit to do such work from the Oakland County Water Resources Commissioner's Office. Said permit fee shall be determined by the department of public works.
- (5) Prior to construction and during the life of permits obtained in accordance with subsections (b)(2), (3) and (4) of this section, all owners or contractors shall: (1) yearly furnish to the Oakland County Water Resources Commissioner's Office a satisfactory surety bond in the amount of five thousand dollars (\$5,000.00) as security for the faithful performance of the work in accordance with the plans and specifications and departmental standards, and (2) yearly furnish to the Oakland County Water Resources Commissioner's Office a cash deposit in the amount of five hundred dollars (\$500.00). Such deposit shall provide funds for emergency work and/or such other work as may be deemed necessary by the Oakland County Department of Public Works, arising as a result of construction by the owner or contractor. Such bonds shall not be cancelled by the owner, the contractor or the surety without first having given ten (10) days' written notice to the Oakland County Water Resources Commissioner's Office. Cash deposits may be returned to the owner or contractor within ten (10) days of receipt of written request therefor, except that no deposits will be returned until such time as all outstanding permits have received final inspection and approval. In the event that it becomes necessary for the Oakland County Water Resources Commissioner's Office to expend funds for work arising as a result of construction by the owner or the contractor, then the cost of such work shall be deducted from the aforementioned cash deposit.

The owner or contractor shall have the right and opportunity to correct any deficiencies promptly before any deposit funds will be spent by the Oakland County Department of Public Works. The owner or contractor shall, within thirty (30) days of the mailing of written notice thereof, pay to the Oakland County Department of Public Works the entire amount of such cost. Failure to comply with these rules and regulations and the standards of the Oakland County Department of Public Works may result in the immediate termination of the surety and cash bonds.

- (c) *Bulkhead.* The contractor shall install a suitable bulkhead to prevent construction water, sand, silt, etc., from entering the existing sewer system. Such bulkhead shall be left in place until such time as removal is authorized by the Oakland County Department of Public Works.

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- (d) *Acceptance test.* All sanitary sewer systems shall be subjected to infiltration, air or exfiltration tests or a combination thereof in accordance with the following requirements prior to acceptance of the system by the Oakland County Department of Public Works and prior to removal of the bulkhead as required in paragraph (c).

All final acceptance tests shall be witnessed by the Oakland County Department of Public Works.

- (1) **Infiltration Test:** All sewers over twenty-four-inch diameter shall be subjected to infiltration tests. All sewers above twenty-four-inch diameter or smaller, where the groundwater level above the top of the sewer is over seven (7) feet, shall be subjected to an infiltration test.

Maximum allowable infiltration shall not exceed two hundred fifty (250) gallons per inch of diameter per mile of pipe per twenty-four (24) hours or the overall project. Maximum allowable infiltration shall not exceed five hundred (500) gallons per inch of diameter per mile of pipe per twenty-four (24) hours for any individual run between manholes.

- (2) **Air Test or Exfiltration Test:** All sewers of twenty-four-inch diameter or less, where the groundwater level above the top of the sewer is seven (7) feet or less, shall be subjected to air tests or exfiltration tests.

For exfiltration tests, the internal water level shall be equal to the external water level plus seven (7) feet as measured from the top of pipe. The allowable exfiltration rate shall be the same as that permitted from infiltration.

The procedure for air testing of sewers shall be as follows:

- a. The sewer line shall be tested in increments between manholes. The line shall be cleaned and plugged at each manhole. Such plugs shall be designed to hold against the test pressure and shall provide an airtight seal. One (1) of the plugs shall have an orifice through which air can be introduced into the sewer. An air supply line shall be connected to the orifice. The air supply line shall be fitted with suitable control valves and a pressure gauge for continually measuring the air pressure in the sewer. The pressure gauge shall have a minimum diameter of three and one-half (3½) inches and a range of zero (0) to ten (10) PSIG. The gauge shall have minimum divisions of 0.10 PSIG and an accuracy of 0.04 PSIG.
 - b. The sewer shall be pressurized to four (4) PSIG greater than the greatest back pressure caused by groundwater over the top of the sewer pipe. At least two (2) minutes shall be allowed for the air pressure to stabilize between three and five-tenths (3.5) and four (4) PSIG. If necessary, air shall be added to the sewer to maintain a pressure of three and five-tenths (3.5) PSIG or greater.
 - c. After the stabilization period, the air supply control valve shall be closed so that no more air will enter the sewer. The sewer air pressure shall be noted and timing for the test begun. The test shall not begin if the air pressure is less than three and five-tenths (3.5) PSIG or such other pressure as is necessary to compensate for ground water level.
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- d. The time required for the air pressure to decrease one (1) PSIG during the test shall not be less than the time shown in the "Oakland County Water Resources Commissioner's Office Air Test Tables."
 - e. Manholes on sewers to be subjected to air tests shall be equipped with a one-half-inch diameter galvanized capped pipe nipple extending through the manhole three (3) inches into the manhole wall and at an elevation equal to the top of the sewer pipe. Prior to the air test, the groundwater elevation shall be determined by blowing air through the pipe nipple to clear it and then connecting a clear plastic tube to the pipe nipple. The tube shall be suspended vertically in the manhole and the groundwater elevation determined by observing the water level in the tube. The air test pressure shall be adjusted to compensate for the maximum groundwater level above the top of the sewer pipe to be tested. After all tests are performed and the sewer is ready for final acceptance, the pipe nipple shall be plugged in an acceptable manner.
 - f. If a sewer fails to pass any of the previously described tests, the contractor shall determine the location of the leaks, repair them and retest the sewer. The tests shall be repeated until satisfactory results are obtained.
 - g. All visible leaks and cracks shall be repaired regardless of test results.
- (e) *Storm and groundwater control:*
- (1) Yard drains, patio drains, catch basins, downspouts, weep tile, perimeter and footing drains or any other structure used for the collection and conveyance of stormwater and/or groundwater shall not be permitted to discharge into any sanitary sewer connected directly or indirectly to the county system, except as provided under subsection (e)(2) below.
 - (2) Perimeter and footing drains from buildings existing before December 16, 1968, shall not be required to disconnect from the sanitary sewer system; provided, that federal, state or local law or regulation does not require, or may not require subsequent to the adoption of these standards and regulations, the disconnection of such perimeter and footing drains.
 - (3) The crock to iron joint shall be sealed by approved flexible adaptor fittings such as those manufactured by Fernco Joint Sealer Company, or as approved by the Oakland County Department of Water Resources Commissioner's Office. The iron pipe inside the building shall be plugged and leaded and remain plugged and watertight until such time as the plumbing is carried on to the first floor, the basement backfilled and the roof is on the building, thereby providing that no water from the excavated basement will enter the sanitary sewer.
- (f) *Building sewers.* The house connection sewer from the lateral sewer in the street or easement to within five (5) feet from the house shall be:
- (1) Six-inch-diameter extra strength vitrified sewer pipe, manufactured in accordance with current NCPI Designation ER 4-67 Standards, or equal, with DPW-approved premium joint; or
 - (2) Six-inch-diameter Class 2400 Asbestos Cement Pipe with Ring-Tite, Fluid-Tite or DPW-approved joint; or
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- (3) Six-inch-diameter, service strength, cast-iron soil pipe with hot poured-lead joint, or WRC-approved equal; or
 - (4) Six-inch-diameter extra strength (ES) solid wall pipe extruded from Acrylonitrile-Butadiene-Styren (ABS) plastic meeting the minimum cell classification 2-2-3 as defined in ASTM Specification D1788-68.
 - (5) Other pipe and joints as may be approved by the Oakland County Water Resources Commissioner's Office.

Copies of the Oakland County Department of Public Works approved joint shall be on file at the offices of each community in the systems.

House connection sewers shall be six-inch minimum diameter, except that four-inch pipe of comparable strength and joint material may be used if permitted by the local unit of government. All joints shall be tight and when tested for infiltration, or exfiltration, shall not exceed the requirements of paragraph (d) of this section.

(g) *Septic tank abandonment and waste disposal:*

- (1) Prior to connecting an individual building sewer to the sewers of the County of Oakland, either directly or indirectly, all existing wastewater treatment facilities, including septic tanks, tile fields and sump pumps, shall be physically and permanently disconnected from the building sewer.
- (2) Septic tank sludge shall be discharged into the sewers of the county, directly or indirectly, only at locations specified by the Oakland County Water Resources Commissioner's Office, and only after obtaining proper septic tank dumping tickets.
- (3) The liquid and solids from an abandoned septic tank shall not be drained, dewatered, pumped or in any other manner discharged to the sewers of the county, except as provided for above.

(h) *Ownership, operations and maintenance responsibility.* All new sanitary sewer systems, except individual building sewers, connected directly or indirectly into the intercepting sewer or sewers of the County of Oakland shall be owned, operated and maintained by the governing community. This includes, but is not necessarily limited to, on-site sewer systems serving condominiums, apartment projects, shopping centers and mobile home parks.

(i) *Manholes:*

- (1) All manholes constructed on sanitary sewer systems shall be provided with lid frames bolted to the cone section of the manhole with rubber O-ring gaskets compressed between the frame and the top of the cone in accordance with the current "Standard Manhole Detail" of the Oakland County Water Resources Commissioner's Office.

Adjustments to manhole tops shall be accomplished by using precast concrete adjustment rings bolted to the cone section of the manhole with rubber O-ring gaskets compressed between each adjacent ring.

Mortar and brickwork adjustment at the top of manholes will not be allowed. All manhole riser and cone sections shall have modified groove-tongue joint with rubber gasket.

The bolted frame, bolts, adjustment rings and O-ring gaskets shall be in accordance with the standards of the Oakland County Water Resources Commissioner's Office.

- (2) All manholes shall be provided with bolted waterproof covers in accordance with the current "Standard Manhole Detail" of the Oakland County Water Resources Commissioner's Office.

Although not recommended, and only under certain circumstances, consideration will be given to the burying of manholes in lieu of providing bolted covers and only upon written request of the Oakland County Water Resources Commissioner's Office.

- (j) *As-built plans.* Prior to the acceptance of any sewer system and prior to the removal of the bulkhead as required in paragraph (c) (except under extenuating circumstances as may be approved by the director), as-built plans shall be provided to the Oakland County Water Resources Commissioner's Office. Said as-built plans shall show a statement by a registered engineer or surveyor certifying this to be "as-built plans" and shall include, but not be limited to, length of sewer, invert elevation, locations with respect to property lines, wye and riser locations and depths, and sewer material and joints used.
- (k) All combined sewer systems connected directly or indirectly to the intercepting sewer or sewers of the County of Oakland shall meet the following requirements:
- (1) Paragraphs (b), (c), (f), (g), (h), (i) and (j) of this section are required for sanitary sewer system connecting to interceptor sewers of the County of Oakland as hereinbefore mentioned.
 - (2) Prior to acceptance of the system and prior to removal of the bulkhead as required under paragraph (c) of this section, all combined sewer systems shall be subjected to an infiltration test in accordance with the infiltration requirements of the Oakland County Water Resources Commissioner's Office as outlined in paragraph (d) of this section. Said test shall be witnessed by the Oakland County Water Resources Commissioner's Office.
 - (3) Downspouts and footing drain tile may be connected to a combined sewer if permitted by the local unit of government.
 - (4) No requirements of the Oakland County Department of Public Works, or permits issued hereunder by said department, shall relieve the property owner of complying with all the rules and regulations of the local unit of government wherein such property is located when such rules and regulations are not in conflict with the requirements of the department of public works.
 - (5) All sewer construction shall comply with the "General Specifications" of the Oakland County Water Resources Commissioner's Office. Copies of said specifications may be obtained from the office of the department of public works.
 - (6) Construction of new combined sewer systems shall be prohibited except when no prudent or feasible alternative exists.

**Sec. 24-115.6. General regulations of Oakland County Water Resources Commissioner
Sewage Disposal System.**

- (a) *Application.* This section sets forth the procedures and regulations governing the granting of permits to connect into the Twelve Towns Relief Drains directly and to all other county drains that are tributary directly or indirectly to the facilities under the jurisdiction of the Southeastern Oakland County Sewage Disposal System.
- (b) *General provisions:*
- (1) Each municipality is requested to furnish an up-to-date plan of its sewerage system. Such plan should include the location, size and direction of flow in all existing sewers. Sewers should be identified as separated or combined. Pumping stations, flow regulation and diversion structure should be shown.
 - (2) Plans for lateral shall be submitted in the name of the municipality by the municipal officials or a firm of consulting engineers officially authorized to do so. Generally, this authority will be vested in the Charter Township engineer or a single firm of consulting engineers retained as the Charter Township engineer. All plans submitted to this office shall bear the signature of the above-designated official.
 - (3) A letter requesting the approval of plans by the Oakland County Water Resources Commissioner's Office and the Water Resources Division of the Michigan Department of Environment, Great Lakes, and Energy (EGLE) shall be addressed to the Oakland County Water Resources Commissioner and shall be accompanied by a minimum of five (5) sets of plans. Upon approval of the plans, the drain commissioner's office will retain one (1) set and forward the remaining sets to EGLE, along with a letter requesting their approval. Copies of this letter will be sent to the applicant municipality and the consulting engineer. EGLE, upon their approval of the plans, will return at least three (3) sets of approved plans, bearing the construction permit number, to the applicant municipality. The applicant municipality will keep one (1) set, send one (1) set to the Oakland County Water Resources Commissioner's Office and send one (1) set to the consulting engineer. In the event that the applicant municipality or consulting engineer requires an extra set of approved plans, additional sets shall be included with the initial request for approval.
 - (4) Plan detail. Plans submitted to this office for review must meet the following requirements:
 - a. General location plan which shows the relationship to existing sewerage facilities, including outlet sewer interceptors, pumping stations, etc.
 - b. Detail plan and profile drawings along with criteria of hydraulic design (storm frequency, line capacity, line velocities, tributary areas, etc.).
 - c. Material and construction standards, regular and special.
 - d. Desirable scale and size for plan and profile drawings are:
 1. Horizontal scale: 1" = 100', 1" = 50'
 2. Vertical scale: 1" = 10', 1" = 50'
 3. Plan size: 24" = 36"

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- (c) *Regulations governing connections in combined sewer areas (including Twelve Towns Relief Drains and county combined drains tributary thereto):*
- (1) A connection permit must be obtained prior to connection from the Oakland County Water Resources Commissioner's Office, One Public Works Drive, Pontiac, Michigan 48054 (858-0958). A legal description of the property to be served by the connection is required.
 - (2) The fee as determined by the Water Resources Commissioner for connection permits shall be one hundred fifty dollars (\$150.00), which is to cover the cost of the inspection of the tap.
 - (3) The connection to the county drain will be made under the supervision of an inspector from the drain commissioner's office in accordance with approved plans of said connection.
 - (4) A minimum of twenty-four (24) hours' notice (excluding Saturday, Sunday, and holidays) must be given prior to tap to enable this office to arrange for inspection.
 - (5) Requests for inspection shall be directed to the technician charged with the responsibility of permit issuance (858-0978).
 - (6) All lines connected to county drains shall be clean (free from silt, dirt, debris, etc.).
 - (7) Yard drains, catch basins, downspouts, weep tile, perimeter drains or other structures used for the collection and conveyance of stormwater will be permitted to outlet into the county combined drains, provided said properties lie within said combined drainage district.
 - (8) The contractor, during the construction of a lateral, shall install a suitable bulkhead to prevent sand, silt, dirt or other debris from entering the county drain. Upon work completion and removal of any debris that may have been collected, the contractor shall contact the inspection office for permission to remove the bulkhead.
 - (9) A connection from any industrial plant or facility using chemical processes shall be provided with a readily available sampling point (manhole or equivalent).
 - (10) All wastes discharged into county drains shall meet the standards as specified in the current Detroit ordinance governing domestic and industrial wastes.
- (d) *Regulations to prevent the discharge of storm and ground water into the southeastern system from those areas lying outside the designated combined sewer area:*
- (1) General Requirements: All sanitary sewer systems² lying in these areas of the S.O.C.S.D.S. district, designated as separated, to be connected directly or indirectly into the intercepting sewer or sewers of the S.O.C.S.D.S. prior to connection, shall meet the following requirements:

²Note(s)—"System" is defined as a lateral having two (2) or more connections. A construction permit from the Michigan State Department of Natural Resources is required for a sewer system.

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- a. A connection permit shall be obtained by the owner or contractor from the Oakland County Water Resources Commissioner's Office. Said connection permit shall show the location of the work, the extent of the work, information regarding the contractor, the owner and the engineer, the scheduled date of infiltration test and any other pertinent information as shall be determined necessary by the Oakland County Water Resources Commissioner's Office. A fee shall be charged for said permit to cover the cost of inspection of the connection and system connected.
 - b. All sewer systems shall be subjected to infiltration, air or exfiltration tests or a combination thereof in accordance with the following requirements prior to acceptance of the system by the Oakland County Water Resources Commissioner's Office.

1. Infiltration test. All sewers over twenty-four-inch diameter shall be subjected to infiltration tests. All sewers of twenty-four-inch diameter or smaller where the groundwater level above the top of the sewer is over seven (7) feet shall be subjected to an infiltration test.

Maximum allowable infiltration shall not exceed two hundred fifty (250) gallons per inch of diameter per mile of pipe per twenty-four (24) hours for the overall project. Maximum allowable infiltration shall not exceed five hundred (500) gallons per inch of diameter per mile of pipe per twenty-four (24) hours for any individual run between manholes.

2. Air test or exfiltration test. All sewers of twenty-four-inch diameter or less, where the groundwater level above the top of the sewer is seven (7) feet or less, shall be subjected to air tests or exfiltration tests.

For exfiltration tests the internal water level shall be equal to the external water level plus seven (7) feet as measured from the top of pipe. The allowable exfiltration rate shall be the same as that permitted from infiltration.

The procedure for air testing of sewers shall be as follows: The sewer line shall be tested in increments between manholes. The line shall be cleaned and plugged at each manhole. Such plugs shall be designed to hold against the test pressure and shall provide an airtight seal. One (1) of the plugs shall have an orifice through which air can be introduced into the sewer. An air supply line shall be connected to the orifice. The air supply line shall be fitted with suitable control valves and a pressure gauge for continually measuring the air pressure in the sewer. The pressure gauge shall have a minimum diameter of three and one-half (3½) inches and a range of zero (0) to ten (10) PSIG. The gauge shall have minimum divisions of 0.10 PSIG and an accuracy of 0.04 PSIG.

The sewer shall be pressurized to four (4) PSIG greater than the greatest back pressure caused by groundwater over the top of the sewer pipe. At least two (2) minutes shall be allowed for the air pressure to stabilize between three and five-tenths (3.5) and four (4) PSIG. If necessary, air shall be added to the sewer to maintain a pressure of three and five-tenths (3.5) PSIG or greater.

After the stabilization period, the air supply control valve shall be closed so that no more air will enter the sewer. The sewer air pressure shall be noted and timing for the test to begin. The test shall not begin if the air pressure is less than three and five-tenths (3.5) PSIG, or such other pressure as is necessary to compensate for groundwater level.

The time required for the air pressure to decrease one (1) PSIG during the test shall not be less than the time shown in the "Oakland County Drain Commissioner's Air Test Tables."

Manholes on sewers to be subjected to air tests shall be equipped with a one-half-inch diameter galvanized capped pipe nipple extending through the manhole three (3) inches into the manhole wall and at an elevation equal to the top of the sewer pipe. Prior to the air test, the groundwater elevation shall be determined by blowing air through the pipe nipple to clear it and then connecting a clear plastic tube to the pipe nipple. The tube shall be suspended vertically in the manhole and the groundwater elevation determined by observing the water level in the tube. The air test pressure shall be adjusted to compensate for the maximum groundwater level above the top of the sewer pipe to be tested. After all tests are performed and the sewer is ready for final acceptance, the pipe nipple shall be plugged in an acceptable manner.

If a sewer fails to pass any of the previously described tests, the contractor shall determine the location of the leaks, repair them and retest the sewer. The tests shall be repeated until satisfactory results are obtained.

All visible leaks and cracks shall be repaired regardless of test results.

(2) Storm and Groundwater Control:

- a. Yard drains, patio drains, catch basins, downspouts, weep tile, perimeter and footing drains or any other structure used for the collection and conveyance of stormwater and/or groundwater shall not be permitted to discharge into any sanitary sewer connected directly or indirectly to the county system, except as provided below.
- b. Perimeter and footing drains from buildings existing before July 23, 1981, shall not be required to disconnect from the sanitary sewer system; provided, that federal, state or local law or regulation does not require, or may not require subsequent to the adoption of these standards and regulations, the disconnection of such perimeter and footing drains.
- c. The crock-to-iron joint shall be sealed by approved flexible adaptor fittings, such as those manufactured by Fernco Joint Sealer Company, or as approved by the Oakland County Water Resources Commissioner's Office. The iron pipe inside the building shall be plugged and leaded and remain plugged and watertight until such time as the plumbing is carried on to the first floor, the basement backfilled and the roof is on the building, thereby providing that no water from the excavated basement will enter the sanitary sewer.

(3) Building Sewers: House connection sewer from lateral sewer in the street or easement five (5) feet from house shall be:

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- a. Six-inch diameter extra strength vitrified sewer pipe, manufactured in accordance with current NCPI Designation ER 4-67 Standards, or equal, with drain commissioner-approved premium joint; or
 - b. Six-inch diameter ABS Plastic Solid Wall Sewer Pipe conforming to ASTM designation D-2751 SDR 35 or 23.5; or
 - c. Six-inch diameter PVC Plastic Solid Wall Sewer Pipe conforming to ASTM designation ASTM D-3034 SDR 35 or ASTM D-2665 Schedule 40.
 - d. Other pipes and joints as may be approved by the Oakland County Water Resources Commissioner's Office.

House connection sewers should be six-inch minimum diameter; however, four-inch pipe of comparable strength and joint material may be used if permitted by the local unit of government. All joints shall be tight and when tested for infiltration shall not exceed five hundred (500) U.S. gallons per inch of diameter per mile per twenty-four (24) hours.

The crock-to-iron joint shall be sealed by an approved bituminous filler, enclosed in concrete to provide a watertight seal. The iron pipe inside the building shall be plugged and leaded and remain plugged and watertight until such time as the plumbing is carried on to the first floor, there providing that no water from the excavated basement will enter the sanitary sewer.

The municipality shall issue tap permits for each structure that is connected into the S.O.C.S.D.S. and shall be responsible to see that the above specifications pertinent to materials and installations are followed.

- (4) **Permission to Operate Flow Metering Equipment:** The S.O.C.S.D.S., through their agent, the drain commissioner, shall, at his option, be permitted to set up and operate flow metering equipment to gauge sanitary flow, either on a temporary or permanent basis, in any sanitary sewer lying within such "separated areas."
 - (5) **Submission of Plans for Review and Approval:** Plans and specifications covering the construction of all new sewers, both combined and sanitary (separate), lying within the S.O.C.S.D.S. service area shall be submitted to the Office of the Oakland County Water Resources Commissioner's Office for review and approval prior to construction.
 - (6) **Quality of Waste:** The quality of domestic and industrial waste outletted into the S.O.C.S.D.S. facilities shall conform to the current City of Detroit ordinance pertinent to domestic and industrial wastes. It is the contractual obligation of the municipality (reference Section 16 of contract with county) to use S.O.C.S.D.S. facilities to enforce these standards.
 - (7) **Compliance with Regulations Required:** No requirements of the S.O.C.S.D.S. or permits issued hereunder by said system through their agent, the Oakland County Water Resources Commissioner's Office, shall relieve the property owner of complying with all the rules and regulations of the local unit of government wherein such property is located where such are not in conflict with requirements of the S.O.C.S.D.S.
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- (8) Compliance with Construction Specifications Required: All sewer construction shall comply with the general specifications of the Oakland County Water Resources Commissioner's Office. Copies of said specifications may be obtained from the Water Resources Commissioner's Office.

Sec. 24-115.7. General wastewater disposal regulations.

- (A) *Delegation of authority.* The City of Detroit, through the Detroit Water and Sewerage department, as the state approved control authority, is authorized to administer and enforce the provisions of section 24-115.7 of this Code on behalf of the township. The township has executed and hereby ratifies its delegation agreement with the City of Detroit through the [City of] Detroit Water and Sewerage Department, which sets forth the terms and conditions of such delegated authority, consistent with these sections, and shall allow the [City of] Detroit Water and Sewerage Department to perform the specific responsibilities of control authority pursuant to state and federal law.
- (B) *Discharge prohibitions.*
- (1) *General pollutant prohibitions.* No user shall discharge or cause to be discharged into the POTW, directly or indirectly, any pollutant or wastewater which will cause interference or pass through. These general discharge prohibitions shall apply to all users of the POTW whether or not the user is subject to national categorical pretreatment standards or to any other federal, state, or local pretreatment standards or requirements. In addition, it shall be unlawful for a user to discharge into the POTW:
- (a) Any liquid, solid or gas, which by reason of its nature or quantity, is sufficient either alone or by interaction with other substances to create a fire or explosion hazard or to be injurious in any other way to persons, to the POTW, or to the operations of the POTW. Pollutants, which create a fire or explosion hazard in a POTW, include, but are not limited to, wastestreams with a closed cup flash point of less than 140F or 60C using the test methods specified in 40 C.F.R. 261.21; or
 - (b) Any solid or viscous substance in concentrations or quantities, which are sufficient to cause obstruction to the flow in a sewer or other encumbrances to the operation of the POTW, including, but not limited to, grease, animal guts or tissues, bones, hair, hides or fleshlings, entrails, whole blood, feathers, ashes, cinders, sand, cement, spent lime, stone or marble dust, metal, glass, straw, shavings, grass clippings, rags, strings, fibers, spent grains, spent hops, wastepaper, wood, plastic, tar, asphalt residues, residues from refining or processing of fuel or lubrication oil, mud or glass grinding or polishing wastes, or tumbling and deburring stones; or
 - (c) Any wastewater having a pH of less than 5.0 units or greater than 11.5 units; or
 - (d) Any wastewater containing petroleum oil, nonbiodegradable cutting oil, products of mineral oil origin, or toxic pollutants in sufficient concentration or quantity either singly or by interaction with other pollutants to cause interference, or pass through, or constitute a hazard to humans or animals; or
 - (e) Any liquid, gas, solid or form of energy, which either singly or by interaction with other waste is sufficient to create toxic gas, vapor, or fume within the POTW in quantities that may cause acute worker health and safety problems, or may cause a
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- public nuisance or hazard to life, or are sufficient to prevent entry into the sewers for their maintenance and repair; or
- (f) Any substance which is sufficient to cause the POTW's effluent or any other product of the POTW, such as residue, sludge, or scum to be unsuitable for reclamation processing where the POTW is pursuing a reuse and reclamation program. In no case shall a substance discharged to the POTW cause the POTW to be in noncompliance with sludge use or disposal criteria guidelines or regulations developed under 33 U.S.C. 1345, with any criteria, guidelines, or developed and promulgated regulations affecting sludge use or disposal developed pursuant to the Solid Waste Disposal Act, the Federal Clean Air Act, the Federal Toxic Substances Control Act, or with state criteria applicable to the sludge management method being used; or
 - (g) Any substance which will cause the POTW to violate either the Consent Judgment in U.S. EPA v. City of Detroit et al., Federal District Court for the Eastern District of Michigan Case No. 77-1100, or the City of Detroit's National Pollutant Discharge Elimination System permit; or
 - (h) Any discharge having a color uncharacteristic of the wastewater being discharged; or
 - (i) Any wastewater having a temperature which will inhibit biological activity in the POTW treatment plant resulting in interference, but in no case wastewater with a temperature at the introduction into a public sewer which exceeds 150F or which will cause the influent at the wastewater treatment plant to rise above 104 F (40 C); or
 - (j) Any pollutant discharge which constitutes a slug; or
 - (k) Any wastewater containing any radioactive wastes or isotopes of such half-life or concentration as may exceed limits established in compliance with applicable federal or state regulations; or
 - (l) Any floating fats, oil or grease which are sufficient to cause interference with or pass through the POTW; or
 - (m) Any solid materials having a specific gravity greater than 1.2 or a cross section dimension of one-half inch or greater which are sufficient to cause interference with the POTW.
- (2) *Specific pollutant prohibitions.* No user shall discharge wastewater containing in excess of the following limitations:
- (a) *Compatible pollutants.* See Appendix C.
 - (b) *Non-compatible pollutants.* No user shall discharge wastewater containing in excess of:

mg/l	
Arsenic (As)	1.0
Cadmium (Cd)	See Appendix C
Chromium (Cr)	25.0
Copper (Cu)	2.5
Cyanide (CN) (Available)	1.0
Iron (Fe)	1000.0
Lead (Pb)	1.0
Nickel (Ni)	5.0

Silver (Ag)	1.0
Zinc (Zn)	7.3
Total Phenolic Compounds	1.0 Or See Appendix B

All limitations are based on samples collected over an operating period representative of an industrial user's discharge, and in accordance with 40 C.F.R. part 136.

1. The limitation for Total PCB is non-detect. Total PCB shall not be discharged at detectable levels, based upon U.S. EPA Method 608, and the quantification level shall not exceed 0.2 ugm/l, unless a higher level is appropriate because of demonstrated sample matrix interference. Where one (1) or more samples indicate detectable levels of Total PCB, the user shall be required to demonstrate compliance. For purposes of this section, this demonstration may be made using analytical data showing that the Total PCB concentration is below the detection level, or submission of a BMP in accordance with section 115.7I(3)(c)4.
 2. The limitation of Mercury (Hg) is non-detect. Mercury (Hg) shall not be discharged at detectable levels, based upon U.S. EPA Method 245.1, and the quantification level shall not exceed 0.2 ugm/l, unless a higher level is appropriate because of demonstrated sample matrix interference. Where one (1) or more samples indicate detectable levels of Mercury, the user shall be required to demonstrate compliance. For the purposes of this section, this demonstration may be made using analytical data showing that the mercury concentration is below the detection level, or submission of a BMP in accordance with section 115.7I(3)(c)4. All limitations are based on samples collected over an operating period representative of an industrial user's discharge, and in accordance with 40 CFR Part 136.
- (c) *Compliance period.* Within thirty (30) days of the effective date of Ordinance No. C-233-B (January 19, 2006), the department shall notify all industrial user's operating under an effective wastewater discharge permit of the requirement to submit a compliance report within one hundred eighty (180) days after the effective date of Ordinance No. C-233-B. The compliance report shall demonstrate the user's compliance or noncompliance with these limitations, and, in the event of noncompliance, include the submission of a plan and schedule for achieving compliance with the stated limitation. In no event shall a compliance schedule exceed eighteen (18) months from the effective date of Ordinance No. C-233-B. An industrial user who does not demonstrate compliance may petition the department for a second extension as part of an administrative consent order. The department shall include appropriate monitoring, reporting, and penalties into an administrative consent order that relates to a second extension, and shall enter into such an agreement only upon a good-faith showing by the industrial user of the actions taken to achieve compliance with this provision.

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- (3) *National Categorical Pretreatment Standards.* All users shall comply with the applicable National Categorical Pretreatment Standards and requirements promulgated pursuant to the act as set forth in 40 C.F.R. Subchapter N, Effluent Guidelines and Standards, which are hereby incorporated by reference and with all other applicable standards and requirements, provided, however, that where a more stringent standard or requirement is applicable pursuant to state law or regulation, or to this division, then the more stringent standard or requirement shall be controlling. Affected dischargers shall comply with applicable reporting requirements under 40 C.F.R. part 403 and as established by the department. The National Categorical Pretreatment Standards which have been promulgated as of the effective date of this section are delineated in Appendix A.
- (a) *Intake water adjustment.* Industrial users seeking adjustment of National Categorical Pretreatment Standards to reflect the presence of pollutants in their intake water must comply with the requirements of 40 C.F.R. 403.15. Upon notification of approval by the department, the adjustment shall be applied by modifying the permit accordingly. Intake water adjustments are not effective until incorporated into an industrial user's permit.
- (b) *Modification of National Categorical Pretreatment Standards.* The department may apply to the U.S. Environmental Protection Agency, or to the Michigan Department of Environmental Quality, whichever is appropriate, for authorization to grant removal credits in accordance with the requirements and procedures in 40 C.F.R. 403.7. Such authorization may be granted only when the POTW treatment plant can achieve consistent removal for each pollutant for which a removal credit is being sought, provided, that any limitation of such pollutant(s) in the NPDES permit neither are being exceeded nor pose the prospect of being exceeded as a result of the removal credit being granted. Where such authorization is given to the department, any industrial user desiring to obtain such credit shall make an application to the department, consistent with the provisions of 40 C.F.R. 403.7 and of this division. Any credits which may be granted under this section may be subject to modification or revocation as specified in 40 C.F.R. 403.7, or as determined by the department. A requisite to the granting of any removal credit may be that the industrial user pay a surcharge based upon the amounts of such pollutants removed by the POTW, such surcharge being based upon fees or rates which the board may establish and, when appropriate, revise from time to time. Permits shall reflect, or be modified to reflect, any credit granted pursuant to this section.
- (c) *New sources.* Industrial users who meet the new sources criteria shall install, maintain in operating condition, and "start-up" all pollution control equipment required to meet applicable pretreatment standards before beginning to discharge. Within the shortest feasible time and not to exceed ninety (90) days, new sources must meet all applicable pretreatment standards.
- (d) *Concentration and mass limits.* When limits in a categorical pretreatment standard are expressed only in terms of mass of pollutant per unit of production, the department may convert the limits to equivalent limitations expressed either as mass of pollutant discharged per day or effluent concentration for purposes of calculating effluent limitations applicable to individual industrial users. Equivalent limitations shall be
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- calculated in accordance with Sections 40 C.F.R. 403.6(c)(3) and/or 40 C.F.R. 403.6(c)(4) and shall be deemed pretreatment standards for the purposes of 33 U.S.C. 1317(d) and of this division. Industrial users will be required to comply with the equivalent limitations in lieu of the promulgated categorical standards from which the equivalent limitations were derived.
- (e) *Reporting requirements for industrial users upon effective date of categorical pretreatment standards-baseline report.* Within one hundred eighty (180) days after the effective date of a categorical pretreatment standard, or one hundred eighty (180) days after the final administrative decision made upon a category determination submission under Section 40 C.F.R. 403.6(a)(4), whichever is later, existing industrial users subject to such categorical pretreatment standards and currently discharging into or scheduled to discharge into the [City of] Detroit POTW shall submit to the department a report containing the information listed in 40 C.F.R. 403.12(b)(1-7). Where reports containing this information have already been submitted to the director or regional administrator in compliance with the requirement of 40 C.F.R. 128.140(b), the industrial user will not be required to resubmit this information. At least ninety (90) days before commencement of any discharge, each new source and any existing sources that become industrial users after the promulgation of an applicable categorical pretreatment standard shall submit to the department a report which contains the information listed in 40 C.F.R. 403.12(b)(1-5). In such report, new sources shall include information concerning the method of pretreatment the source intends to use to meet applicable pretreatment standards. New sources shall provide estimates of the information requested in 40 C.F.R. 403.12(b),(4) and (5).
- (4) *Dilution prohibited.* Except where expressly authorized to do so by an applicable pretreatment standard or requirement, no user shall increase the use of process water, or in any way dilute or attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with the limitations contained in the National Categorical Pretreatment Standards, or in any other pollutant specific limitation or requirement imposed by the township, the City of Detroit or by the State of Michigan.
- (5) *Hauled in wastewater.* Any waste material or wastewater which is hauled into or within the service region for discharge to the POTW is subject to the requirements of this division including, but not limited to, permits, inspection, monitoring and enforcement. Unloading liquid or solid waste from hauling vehicles, directly or indirectly, into the POTW, with or without the benefit of pretreatment, is prohibited unless the person proposing to unload such waste has applied for and received a permit from the department for unloading such waste in accordance with the board's rules pertaining thereto. The discharger shall be subject to applicable terms and conditions, surcharges, fees or rates as established by the board. Hauled in wastewater shall only be discharged at points designated by the POTW after authorization or approval issued pursuant to the general permit requirements specified in section 24-115.7(D) of this Code. The department may establish specific limitations for sludge from municipally owned or operated POTW treatment plants which are different than the specific limitations in this division.
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(6) *Centralized waste treatment.* It is unlawful for a centralized waste treatment (CWT) facility to discharge any industrial waste or wastewater into the POTW without a wastewater discharge permit from the department. Any authorization granted, or permit issued, by the department to a centralized waste treatment (CWT) facility shall specify the type of wastewater for which treatment is provided, and discharge approval is sought, from the POTW. Unless such industrial waste or wastewater is determined by the department to require further authorization, a centralized waste treatment (CWT) facility that has ~~submitted an application~~ applied to, and received previous approval from, the department to discharge wastewater is not required to obtain further authorization from the department before discharging such wastewater.

An industrial user, that provides centralized waste treatment services and files an application for the treatment and discharge of such types of wastewater to the POTW, shall provide the following minimum information in support thereof:

- (a) The general nature, source and process(es) generating the type of wastewater. Any wastewater, which is generated from those processes and is subject to National Categorical Pretreatment Standards as delineated in Appendix A, shall be so designated;
- (b) The identity of the toxic pollutants known or suspected to be present in the wastewater;
- (c) At least one (1) sample report showing the results of an analysis for the EPA priority pollutants for each type of wastewater for which application is made in subsection (6)(a) of this section.
- (d) A statement, that is certified by a professional engineer, which addresses the treatability and compatibility of the wastewater, received or collected by the facility's treatment process(es);
- (e) The identity of the materials and/or pollutants whose transport or treatment are regulated by the EPA, by the state, or by any other governmental agency. Upon request, the centralized waste treatment (CWT) facility shall provide a copy of its permit and/or license to the department; and
- (f) Other information requested by the department including, but not limited to, information required by section 24-115.7(D)(3)(a) through (r) of this Code, or by rules adopted by the board. The discharge from a centralized waste treatment (CWT) facility will be deemed approved for those specific types of wastewater delineated in a permit and, upon issuance of such permit in accordance with the procedures contained in section 24-115.7(D) of this Code, will be deemed approved for discharge into the POTW. The centralized waste treatment (CWT) facility shall comply with all applicable provisions contained in section 24-115.7(D) of this Code regarding permits. In furtherance of its obligations as control authority, the department may include in the permit a requirement to report at selected intervals the information mandated in subsections (a) through (f) of this subsection.

All users granted a permit under this section shall maintain records which, at a minimum, identify the source, volume, character, and constituents of the wastewater accepted for treatment and disposal. These records may be reviewed at any time by the department.

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- (7) *Groundwater discharges.* Unless authorization has been granted by the department, the discharge of any groundwater into the POTW is prohibited.

The department may authorize the discharge of groundwater resulting from maintenance and related activities of gas, steam, or electrical utilities through the use of general permits. Subject to appropriate reporting requirements, the general permit shall authorize discharge in accordance with the terms of the permit. Utilities shall comply with this provision within one hundred eighty (180) days after its enactment.

If a person, who proposes to discharge groundwater resulting from purge, response activity, or UST projects, has applied for and received a permit from the department, the department may authorize the discharge of such wastewater. Permits shall be issued in accordance with the procedures contained in section 24.115-7(D) of this Code, or in accordance with any rules adopted by the board.

- (8) *Township right of revision.* The City of Detroit and the township reserve the right to establish rules or regulations adopted by the board, additional or more stringent limitations or requirements on discharges to the POTW. Ninety (90) days after adoption by the board, industrial users shall comply with such rules and regulations.

- (9) *Accidental discharges.*

- (a) Each industrial user, which does not currently have an approved spill prevention plan or slug control plan, shall provide protection from accidental discharge of prohibited materials or other substances regulated by this division, and all significant industrial users shall submit to the department detailed plans which show facilities and operating procedures to be implemented to provide protection against such accidental discharges. Facilities and measures to prevent and abate accidental discharges shall be implemented, provided, and maintained at the owner's or industrial user's cost or expense. Unless the significant industrial user has an approved spill prevention or slug control plan, all existing significant industrial users shall complete and submit such a plan within sixty (60) days of the effective date of this division. New significant industrial users shall submit such a plan prior to the time they commence discharging.

For purposes of this section, the information provided shall include the approximate average and maximum quantities of such prohibited materials or substances kept on the premises in the form of raw materials, chemicals and/or waste therefrom and the containment capacity for each. Only substances that are in a form which could readily be carried into the POTW and constitute a concentration of five percent (5%) or greater in the raw material, chemical solution or waste material, are required to be reported. Volumes of less than fifty-five (55) gallons, or the equivalent thereof, need not be reported unless lesser quantities could cause pass through or cause interference with the POTW.

The industrial user shall promptly notify the department of any significant changes or modifications to the plan including, but not limited to, a change in the contact person, or substance inventory.

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- (b) At least once every two (2) years, the department shall evaluate whether a significant industrial user needs a plan to control slug discharges, as defined by 40 C.F.R. 403.8(f)(2)(v). Unless otherwise provided, all significant users shall complete, implement, and submit such a plan within thirty (30) days of notification by the department.
- (10) *Notification requirements.* Unless a different notice is provided by this division or applicable law, within one (1) hour of becoming aware of a discharge into the POTW which exceeds or does not conform with federal, state or township laws, rules, regulations or permit requirements, or which could cause problems to the POTW, or which has the potential to cause the industrial user to implement its plan prepared in accordance with subsection (9)(a) of this section, the industrial user shall telephone the department at its control center and notify the department of the discharge. The notification shall include the name of the caller, the location and time of discharge, the type of wastewater, the estimated concentration of excessive or prohibited pollutants and estimated volume, and the measures taken, or being taken, to abate the discharge into the POTW. Within five (5) calendar days after the discharge, the industrial user shall submit a detailed written report describing the cause of the discharge and the measures to be taken by the user to prevent similar future occurrences and when required by the department, the industrial user's wastewater discharge permit may be modified to include additional measures to prevent such future occurrences. Such notification shall not relieve the industrial user of any expense, cost of treatment, loss, damages or other liability which may be incurred as a result of damage to the POTW, fish kills, or any other environmental impairment or any other damage to person or property.
- (11) *Notice to employees.* A notice shall be permanently posted on the industrial user's bulletin board, or other prominent place, advising employees whom to contact in the department in the event of an actual or excessive or prohibited discharge.
- (12) *Recovery of costs.* Any user discharging in violation of any of the provisions of this division, which produces a deposit or obstruction, or causes damage to or impairs the department's POTW, or causes the department to violate its NPDES permit, shall be liable to the department for any expense, loss, damage, penalty or fine incurred by the department because of said violation or discharge. Prior to assessing such costs, the department shall notify the user of its determination that the user's discharge was the proximate cause of such damage, obstruction, impairment, or violation of the city's NPDES permit and the department's intent to assess such costs to the user. Any such notice shall include written documentation which substantiates the determination of proximate cause and a breakdown of cost estimates. Failure to pay the assessed costs shall constitute a violation of this division. Such charge shall be in addition to, and not in lieu of, any penalties or remedies provided under this division, or this Code, or other statutes and regulations, or at law or in equity.
- (13) *Hazardous waste notification.* All industrial users, who discharge into the township collection system, shall notify the department in writing of any discharge of a substance which, if otherwise disposed of, would be a hazardous waste as set forth in
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40 C.F.R. Part 261. Such notification must comply with the requirements of 40 C.F.R. 403.12(p).

- (14) *Authorized representative.* The authorized representative, as defined in section 24-115.3(a)(3) of this Code, may designate a duly authorized representative of the individual designated in section 24-115.3(a)(3)(a) or (b) where:
- (a) The authorization is made in writing by the individual defined in section 24-115.3(a)(3)(a) or (b);
 - (b) The authorization specifies either an individual or a position having responsibility for the overall operation of the facility where the industrial discharge originates, such as the position of plant manager, operator of a well or well field superintendent, or a position of equivalent responsibility, or having overall responsibility for environmental matters for the company; and
 - (c) The written authorization is submitted to the department.
- (15) *Pollution prevention.* The department shall encourage and support industrial users to develop and implement pollution prevention programs which eliminate or reduce pollutant contributions beyond the levels required by this division. The department may require an industrial user to implement pollution prevention initiatives or BMP as part of an enforcement response, or as necessary to comply with its NPDES permit.

(C) *Fees.*

- (1) The purpose of this section is to provide for the recovery of costs from users of the POTW. The applicable charges or fees established by the board shall be sufficient to meet the costs of the operation, maintenance, improvement or replacement of the system, or as provided by law or by board action.
- (2) The board shall adopt charges and fees which shall include, but not be limited to:
 - (a) Fees for reimbursement of costs of establishing, operating, maintaining, or improving the department's industrial waste control and pretreatment programs; and
 - (b) User fees based upon volume of waste and concentration or quantity of specific pollutants in the discharge, and treatment costs including sludge handling and disposal; and
 - (c) Reasonable fees for reimbursement of costs for hearings including, but not limited to, expenses regarding hearings officers, court reporters, and transcriptions; and
 - (d) Other fees, which the board may deem necessary, to carry out the requirements contained herein, or as may be required by law.

(D) *Wastewater discharge permits.*

- (1) *Required.* It shall be unlawful for users to discharge into the POTW any wastewater which will cause interference or pass through, or otherwise not comply with the discharge prohibitions of subsection 24-1157(B) of this Code. It shall be unlawful for a significant industrial user to discharge into the POTW without a wastewater discharge permit from the [City of] Detroit Water and Sewerage Department. Unless otherwise expressly authorized by the department through permit, order, rule or regulation, any discharge must be in accordance with the provisions of this division.

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- (a) All significant industrial users, which are in existence on the effective date of this division, shall apply for a wastewater discharge permit within thirty (30) days of the effective date of this division. Significant industrial users who are currently operating with a valid wastewater discharge permit are not subject to this provision. These applications are to include all information specified in subsection 24-115.7(D)(3) of this Code and, where applicable, any additional information which may be needed to satisfy the federal baseline monitoring report requirements of 40 C.F.R. 403.12(b).
 - (b) All new significant users shall apply for a wastewater discharge permit at least ninety (90) days prior to commencement of discharge. The application must include all information specified in section 24-115.7(D)(3) of this Code and, where applicable, any additional information that may be needed to satisfy the federal BMR requirements of 40 C.F.R. 403.12(b). Until a permit is issued and finalized by the department, no discharge shall be made into the POTW.
 - (c) Any user, ~~who~~ that proposes to discharge any wastewater other than sanitary or noncontact cooling water into the POTW, shall request approval from the department for the discharge(s) at least thirty (30) days prior to the commencement of the discharge.
- (2) *Permit application or reapplication.* The department may require any user to complete a questionnaire and/or a permit application and to submit the same to the department for determining whether the industrial user is a significant user, or to determine changes in the wastewater discharges from a user's facility. Within thirty (30) days of being so notified, a user shall comply with the department's request in the manner and form prescribed by the department. Failure of the department to so notify a user shall not relieve the user of the duty to obtain a permit as required by this division.
- (a) A user, which becomes subject to a new or revised National Categorical Pretreatment Standard, shall apply for a wastewater discharge permit within ninety (90) days after the promulgation of the applicable National Categorical Pretreatment Standard, unless an earlier date is specified or required by 40 C.F.R. 403.12(b). The existing user shall provide a permit application which includes all the information specified in section 24-115.7(D)(3) and (7) of this Code.
 - (b) A separate permit application shall be required for each separate facility.
 - (c) Existing permittees shall apply for permit reissuance a minimum of ninety (90) days prior to the expiration of existing permits on a form prescribed by the department.
- (3) *Application or reapplication information.* In support of an application or reapplication for a wastewater discharge permit, the industrial user shall submit, in units and terms appropriate for evaluation, the following information:
- (a) Corporate or individual name, any assumed name(s), federal employer identification number, address, and location of the discharging facility;
 - (b) Name and title of the authorized representative of the industrial user who shall have the authority to bind the industrial user financially and legally;
 - (c) All SIC numbers of all processes at this location according to the Standard Industrial Classification Manual, issued by the Executive Office of the President, Office of Management and Budget, 1987, as amended;
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- (d) Actual or proposed wastewater constituents and characteristics for each parameter listed in the permit application form. Such parameters shall include those applicable pollutants having numeric limitations as enumerated in section 24-115.7(B)(1) and (2) of this Code, those pollutants limited by National Categorical Pretreatment Standards regulations for applicable industries and any toxic pollutants known or suspected to be present in the discharge, regulated in the previous permit, or specifically requested by the [City of] Detroit Water and Sewerage Department. For each parameter, the expected or experienced maximum and average concentrations during a one (1) year period shall be provided. For industries subject to National Categorical Pretreatment Standards or requirements, the data requested herein shall be separately shown for each categorical process waste stream. Combined waste streams proposed to be regulated by the combined waste stream formula shall also be identified. Sampling and analysis shall be performed in accordance with procedures established by the EPA pursuant to 33 U.S.C. 1314(g) and contained in 40 C.F.R. Part 136, as amended. Where 40 C.F.R. Part 136 does not include sampling or analytical techniques for the pollutants in question, sampling and analysis shall be performed using validated analytical methods approved by the administrator.
- (e) A listing and description of activities, facilities and plant processes on the premises. Those processes, which are subject to National Categorical Pretreatment Standards or requirements, shall be so designated. As pertains to subsection (3)(d), of this subsection (D), identify which pollutants are associated with each process;
- (f) Restricted to only those pollutants referred to in subsection (3)(d), of this subsection (D), a listing of raw materials and chemicals which are either used in the manufacturing process or could yield the pollutants referred to in subsection (3)(d), of this subsection (D). Any user claiming immunity from having to provide such information for reasons of national security shall furnish acceptable proof of such immunity;
- (g) A description of typical daily and weekly operating cycles for each process in terms of starting and ending times for each of the seven (7) days of the week;
- (h) Denote: (i) The average and maximum twenty-four (24) hour wastewater flow rates including, if any, daily, monthly and seasonal variations; (ii) each national categorical process waste stream flow rate and the cooling water, sanitary water and stormwater flow rates separately for each connection to the POTW; and (iii) each combined waste stream;
- (i) A drawing showing all sewer connections and sampling manholes by the size, location, elevation and points or places of discharges into the POTW; also a flow schematic showing which connections receive each national categorical process waste stream and which connections receive stormwater, sanitary water or cooling water; also show which lines handle each combined waste stream. This schematic shall be cross-referenced to the information furnished in subsection (3)(h), of this subsection (D);
- (j) Each product produced by type, amount, process or processes and rate of production as pertains to processes subject to production- based limits under the National Categorical Pretreatment Standards or requirements only;
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- (k) A statement regarding whether or not the requirements of this division and of the National Categorical Pretreatment Standards and requirements are being met on a consistent basis and, if not, what additional operation and maintenance work and/or additional construction is required for the industrial user to meet the applicable standards and requirements. This statement shall be reviewed and signed by the authorized representative and, as appropriate, certified by a qualified professional;
 - (l) Basic information on the program for the prevention of accidental discharges in accordance with the requirements of section 24-115.7(B)(9) of this Code;
 - (m) Proposed or actual hours of operation of each pretreatment system for each production process;
 - (n) A schematic and description of each pretreatment facility which identifies whether each pretreatment facility is of the batch type or continuous process type;
 - (o) If other than [City of] Detroit Water and Sewerage Department potable water, the industrial user's source of intake water together with the types of usage and disposal method of each water source, and the estimated wastewater volumes from each source;
 - (p) If additional construction and/or operation and maintenance procedures will be required to meet the requirements of this division and the National Categorical Pretreatment Standards, the shortest schedule by which the user will provide such additional construction and/or implement the required operation and maintenance procedures;
 - (q) Identify whether the user has conducted a waste minimization assessment or audit of its operations in order to identify all feasible source reduction and recycling practices that may be employed to reduce or eliminate the generation of pollutants and other waste at the facility; and
 - (r) Any other information as may reasonably be required to prepare and process a wastewater discharge permit.
- (4) *Permit issuance.* Upon receipt of an application, the department shall review the application, determine, and so notify the industrial user in writing regarding any of the following:
- (a) The industrial user does not meet the definition of a significant industrial user and is not required to have a wastewater discharge permit;
 - (b) The industrial user does meet the definition of a significant industrial user but is found by the department to have no reasonable potential for adversely affecting the POTW operation or for violating any pretreatment standard or requirement, and is not required to have a wastewater discharge permit. The department shall make such determination in accordance with the requirements of 40 C.F.R. 403.8(f)(6);
 - (c) The application is incomplete or the information only partially satisfies the information and data required by 40 C.F.R. 403.12 or by the department, and that additional information and data are required which shall be promptly furnished. Where appropriate, the industrial user is notified regarding specific information that is missing, or that the application is unacceptable;
 - (d) The industrial user is required to have a wastewater discharge permit. The department shall notify the industrial user of its determination and the basis of the determination.
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The department may withhold issuance of a permit to a significant user, which has not submitted an adequate or timely report, or permit application, to the department as the control authority in accordance with the reporting requirements of 40 C.F.R. 403.12, or whose discharge is in violation of this division. If the department determines that an industrial user is required to have a wastewater discharge permit and has evaluated and accepted the data furnished, the industrial user will be notified accordingly by certified mail. The notification shall contain a copy of the draft permit, so marked, for the industrial user's review. An industrial user has thirty (30) days from the date of mailing to file a response to the draft permit and, in accordance with the procedures contained in section 24-115.7(J) of this section, twenty (20) days from the date of mailing to file an appeal regarding a permit issued as final. Upon disposition by the department of any contested terms or conditions, a permit shall be issued as final. Only one (1) facility location shall be included in each permit.

- (5) *Permit conditions.* Wastewater discharge permits shall contain all requirements of 40 C.F.R. 403.8(f)(1)(iii) and shall be deemed to incorporate all provisions of this division, other applicable laws, rules, regulations, and user charges and fees established by the City of Detroit or township without repetition therein. In addition, permits may contain the following:
- (a) Limits on the average and maximum wastewater constituents or characteristics which are equivalent, more restrictive than, or supplemental to the numeric limits enumerated in section 24-115.7(B) of this Code, or the applicable National Categorical Pretreatment Standards;
 - (b) Limits on average, and maximum rate and time of discharge or requirements for flow regulation and equalization;
 - (c) Requirements for installation, operation, and maintenance of discharge sampling manholes and monitoring facilities by the industrial user;
 - (d) Restrictions on which of the user's discharge waste streams are to be allowed to be discharged at each point of connection to the POTW;
 - (e) Specifications for industrial user monitoring programs which may include sampling locations, frequency and type of sampling, number, types and standards for tests and reporting schedules;
 - (f) Requirements for the prevention of accidental discharges and the containment of spills or slug discharges;
 - (g) Restrictions based on the information furnished in the application;
 - (h) Additional reporting requirements:
 - 1. All permittees shall submit a report on the form prescribed by the department, or on an alternative form approved by the department, indicating the status of compliance with all conditions enumerated or referred to in the wastewater discharge permit, or made applicable to the permit by this division. Unless required more frequently, the reports shall be submitted at six (6) month intervals on a schedule to be established by the department. Analytical data generated by the department may not be submitted in lieu of the facility's own monitoring data as required by the wastewater discharge permit.

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2. Permittees not subject to National Categorical Pretreatment Standards or requirements shall submit a report in accordance with the requirements of section 24-115.7(D)(5)(h)(4) and (5) of this Code. The report shall show the concentration of each substance for which there is a specific limitation in the permit, or which may be identified by the department in accordance with section 24-115.7(D)(5)(i) and (k) of this Code.
 3. Permittees subject to National Categorical Pretreatment Standards or requirements shall submit compliance reports at the times and intervals specified by federal regulations and by the department. A compliance report shall be submitted to the department no later than ninety (90) days following the final compliance date for a standard, or in the case of a new source, no later than ninety (90) days, following commencement of the introduction of wastewater into the POTW, and in accordance with 40 C.F.R. 403.12(d). A report on continued compliance shall be submitted at six (6) month intervals thereafter on the schedule established by the department and incorporated into the industrial users discharge permit and in accordance with section 16.5-54(e)(8)(d) and (e) of this Code. The reports shall be either on a form prescribed by the department or on an alternate form approved by the department, and shall indicate the nature and concentration of all pollutants in the discharge from each regulated process which are limited by National Categorical Pretreatment Standards, or which there is a specific limitation in the permit, or which may be identified by the department in accordance with section 24-115.7(D)(5)(i) and (k) of this Code. The report shall include a record of measured or estimated average and maximum daily flows for the reporting period for the discharges regulated by the permit. The combined waste stream formula may be used for reporting purposes after the initial information has been furnished to the department, provided there have been no changes to the elements composing the combined waste stream.
 4. Reports shall contain the results of representative sampling performed during the period covered by the report and of the discharge and analysis of pollutants contained therein, and, for significant industrial users subject to production-based standards, shall be cross-referenced to the related flow or production and mass as required to determine compliance with the applicable pretreatment standards. The frequency of monitoring shall be as prescribed in the applicable general pretreatment regulations, being 40 C.F.R. Part 403, or by the department, but no less than is necessary to assess and assure compliance by the industrial user with the most stringent applicable pretreatment standards and requirements. All sampling and analysis shall be performed in accordance with applicable regulations contained in 40 C.F.R. Part 136 and amendments thereto. Where 40 C.F.R. Part 136 does not include sampling or analytical techniques for the pollutants in question, sampling and analysis shall be performed using validated analytical methods approved by the administrator.

If an industrial user monitors any pollutant more frequently than required by the department using the procedures as prescribed in this section, the results of this monitoring shall be included in such report. The report shall state whether the applicable pretreatment standards are being met on a consistent

basis and, if not, what additional operation and maintenance practices and/or pretreatment system improvements or changes are necessary to bring the industrial user into compliance with the applicable pretreatment standards.

5. This report, and those required under sections 24-115.7(B)(3)(e) and 24-115.7(D)(5)(h)(2) and (3) of this Code, shall include the following certification statement: "I certify under penalty of law that this document and all attachments were prepared under my direction, or supervision, in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and/or imprisonment for knowing violations." Said certification shall be signed by the facility's authorized representative, as defined in section 24-115.3(a)(3) of this Code. If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, or overall responsibility for environmental matters for the company, a new authorization satisfying the requirements of the authorized representative definition must be submitted to the department prior to, or together with, any reports to be signed by an authorized representative.
 6. If sampling performed by a permittee indicates a violation, the user shall notify the department within twenty-four (24) hours of the time said user becomes, or should have become, aware of the violation. In addition, the user shall repeat the sampling and analysis, and submit the results of the repeat analysis to the department within thirty (30) days after said user becomes, or should have become, aware of the violation.
 - (i) In the event the director determines that an industrial user is discharging substances in quality, quantity or at locations which may cause problems to the POTW, or the receiving stream, the department has the authority to develop and enforce effluent limits applicable to the user. To the extent the department seeks to impose restrictions in a permit which are more restrictive than established in this division, the department shall provide written documentation to explain the greater restriction for protection against pass through, interference, or violation of the NPDES permit;
 - (j) Requirement for pollution prevention initiatives; and
 - (k) Other requirements reasonably necessary to ensure compliance with this division.
 - (6) *Permit duration.* Permits shall be issued for a specified time period. Except as deemed necessary by the department, or as otherwise provided for under this division, permits shall be issued for a specified period of not more than five (5) years nor less than one (1) year. The existing permit for significant industrial users, who timely submit an application for permit reissuance to the department, shall be automatically extended until a permit is issued as final.
 - (7) *Permit modification.* The terms and conditions of the permit may be subject to modification by the department during the term of the permit as limitations or
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pretreatment standards and requirements identified in section 24-115.7(B) of this Code are amended, or other just cause exists. Just cause for a permit modification includes, but shall not be limited to, the following:

- (a) Material or substantial changes to an industrial user's facility or operation, or changes in the characteristics of the industrial user's effluent. It shall be the industrial user's duty to request an application form and apply for a modification of the permit within thirty (30) calendar days of the change;
- (b) Change(s) in the department's NPDES permit;
- (c) Embodiment of the provisions of a legal settlement or of a court order;
- (d) Any changes necessary to fulfill the department's role as control authority;
- (e) An industrial user's noncompliance with portions of an existing permit;
- (f) A change of conditions within the POTW;
- (g) A finding of interference or pass through attributable to the industrial user;
- (h) Amendments to, or promulgation of, National Categorical Pretreatment Standards or requirements including 40 C.F.R. Part 403 and those delineated in Appendix A of this division. Permittees shall request an application form and apply to the department for a modified permit within ninety (90) days after the promulgation of a new or revised National Categorical Pretreatment Standard to which the industrial user shall be subject. Information submitted pursuant to this subsection shall be confined to that information related to the newly promulgated or amended National Categorical Pretreatment Standard or requirement. However, information previously submitted need not be duplicated, insofar as the previously submitted information continues to be current and applicable. In addition, the department may initiate this action;
- (i) Changes in the monitoring location. (See section 24-115.7(E) of this Code);
- (j) Typographical errors or omissions in permits;
- (k) The department may modify the permit on its own initiative based on its findings or reasonable belief of the above; or
- (l) The user may request a modification of the permit.

When initiated by the department, the industrial user shall be informed of any proposed change in its permit. The department will issue a draft permit and an industrial user has thirty (30) days to file a response to the draft modified permit. Thereafter, the department will issue a final permit and, unless appealed in accordance with the procedures contained in section 24-115.7(J) of this Code, the permit will become effective twenty (20) days after issuance.

- (8) *Permit custody and transfer.* Wastewater discharge permits are issued to a specific person as defined herein for a specific discharge. A wastewater discharge permit shall not be reassigned or transferred or sold to a different person, new owner, new industrial user, different premises, or a new or changed operation without notice to and written approval of the department, and providing a copy of the existing permit to the new owner or operator. It shall be the permit holder's duty to notify the department of any such change at least thirty (30) days before the date of the change. Wastewater discharge permits, which do not receive the written approval of the department prior to the change, shall be null and void regardless of reassignment, or transfer, or sale. If it has occurred, the department may revoke a permit. If a change takes place, the

department may require the application for a new or modified permit. Any succeeding person shall comply with the terms and conditions of any existing permit which the department allows to be retained.

- (9) *Permit notification requirements.* All industrial users shall promptly notify the department in advance of any substantial change in the volume or character of pollutants in their discharge, including the listed or characteristic hazardous waste for which initial notification under 40 C.F.R. 403.12(p) has been made, request a permit application form, and apply for a modification of the permit at least thirty (30) calendar days prior to the change. Failure of the industrial user to so apply shall be considered a violation of this division.

(E) *Monitoring facilities.*

- (1) Significant industrial users shall provide, operate and maintain at their own expense a sampling manhole or special structure to facilitate monitoring, inspection, sampling, and flow measurement of their discharge by the department and the industrial user, and to enable the department to conduct such other monitoring and sampling as required for determining compliance with discharge requirements, limits and standards as provided for in this division. In the event the department determines that the monitoring facility identified in the permit application is inadequate, a new monitoring facility must be identified, or provided, which shall allow for collection of a representative sample of the wastewater discharged from the facility. Unless otherwise determined at the discretion of the department, said facility shall be provided within ninety (90) days of receipt of notification by the department. The industrial user shall provide the department with:
- (a) A drawing showing all sewer connections and sampling manholes by the size, location, elevation, and points or places of discharges into the POTW;
 - (b) A flow schematic showing: (i) which connections receive each national categorical process waste stream, (ii) which connections receive stormwater, sanitary water or cooling water, and (iii) which lines handle each combined waste stream. This report shall be certified by a professional engineer. If a significant industrial user fails to install the monitoring facilities within the prescribed time limits, then the department may install such structure or device and the significant user shall reimburse the department for any costs incurred therein.
- (2) The sampling manhole should be situated on the industrial user's premises in a location readily accessible to the department. When such a location would be impractical or cause undue hardship to the industrial user, the department may allow the facility to be constructed in the public street or sidewalk area when there is room and the location will not be obstructed by landscaping or parked vehicles. It shall be the responsibility of the industrial user to obtain any necessary approvals which may be required from other government agencies for the location and construction of monitoring facilities. There shall be ample room in or near such sampling or monitoring manhole or facility to allow accurate sampling and preparation of samples for analysis. The facility and any permanently installed sampling and measuring equipment shall be maintained at all times in a safe and proper operating condition at the expense of the industrial user.

Whether constructed upon public or private property, the sampling and monitoring facilities shall be provided in accordance with the department's requirements and all applicable local construction standards and specifications. (See section 24-115.7(D)(7))

(F) *Inspection, sampling and record-keeping.*

- (1) For purposes of administering and enforcing this division, any other applicable provisions of this Code or applicable state or federal laws and regulations, the department may inspect the establishment, facility or other premises of the industrial user. The department's employees or authorized representative shall have access to the industrial user's premises for purposes of inspection, sampling, compliance monitoring and/or metering activities.
- (2) Each such inspection or sampling activity shall be commenced and completed at reasonable times, and in a reasonable manner. Upon arrival at the industrial user's premises, the department shall inform the industrial user, or the industrial user's employees, that sampling and/or inspection is commencing, and that the facility's authorized representative has the right to observe the inspection and/or sampling. The department shall neither refrain from, nor be prevented or delayed from, carrying-out its inspection or sampling duties due to the unavailability of the authorized representative of the facility to observe or participate in the inspection or sampling activity.
- (3) While performing work on private property, employees or authorized representatives of the department shall observe all reasonable safety, security and other reasonable rules applicable to the premises as established by the industrial user. Duly authorized employees or representatives of the department shall bear proper credentials and identification, and at the industrial user's option may be accompanied by a duly authorized representative of the industrial user. Duly authorized department representatives shall not be restricted from viewing any of the facility site. Department employees or representatives may take photographs of facilities subject to this division which shall be maintained by the department as confidential in accordance with section 24-115.7(G) of this Code.
- (4) Where an industrial user has security measures in force, the industrial user shall make prompt and necessary arrangements with the security personnel so that, upon presentation of appropriate credentials, personnel from the department will be permitted to enter for the purposes of performing their specific responsibilities.
- (5) Significant industrial users shall sample and analyze their discharge in accordance with the provisions of their permit. The department may require such samples to be split with the department for the department's independent analysis.
- (6) Industrial users shall maintain records of all information from monitoring activities required by this division, or by 40 C.F.R. 403.12(n). Industrial users shall maintain the records for no less than three (3) years. This period of record retention shall be extended during the course of any unresolved litigation regarding the discharge of

pollutants by the industrial user, or the operation of the City of Detroit's Industrial Waste Program, or when requested by the department, by the state, or by the EPA.

- (7) Upon the request of the department, industrial users shall furnish information and records relating to discharges into the POTW. Industrial users shall make such records readily accessible to the department at all reasonable times, and allow the department to copy such records.
- (8) In the event the department obtains samples, and analyses are made of such samples, a copy of the results of such analyses shall be promptly furnished upon written request by the industrial user's authorized representative. When requested by the industrial user, the department employee or representative shall leave with the user, a portion of any sample of the user's discharge taken from any sampling point on or adjacent to the premises for the user's independent analysis. In cases of disputes arising over shared samples, the portion taken and analyzed by the department shall be controlling unless proven invalid.
- (9) In addition to any other violation caused by the discharge described herein, in the event a single grab sample of the industrial user's discharge is obtained by the department, and then analyzed in accordance with 40 C.F.R. Part 136, and found to contain concentrations of pollutants which are two (2) or more times greater than the numeric limitations as listed in section 24-115.7(B)(2) of this Code, or as contained in the facility's wastewater discharge permit, the industrial user shall implement its slug control plan, and shall provide a written report to the department within fourteen (14) days, which describes the cause of greater concentration and provides a description of the means by which future discharge concentrations will be held to values of less than two (2) times the limitation in the future.

(G) *Confidential information.*

- (1) Information and data on an industrial user obtained from written reports, questionnaires, permit applications, permits and monitoring programs, and from inspections shall be available to the public or other governmental agencies without restriction unless the industrial user specifically requests and is able to demonstrate to the satisfaction of the department that the release of such information would divulge information, processes or methods of production entitled to protection as trade secrets of the industrial user.

When submitted to the department, all information claimed to be confidential must be clearly marked "confidential". When requested by the person furnishing the report, the portions of a report determined by the department to disclose trade secrets or trade secret processes, and which are clearly labeled as confidential, shall not be made available for inspection by the public, but shall be made available upon request to governmental agencies for uses related to this division, to the National Pollutant Discharge Elimination System (NPDES) permit, and to the state disposal system permit and/or the pretreatment programs, provided, however that information shall be treated as confidential by the governmental agency, until such time as the information has been determined to be non-confidential by the governmental agency. Confidential information on industrial users, which the department releases pursuant to a request of another governmental agency, should be

handled by the other governmental agency pursuant to its own confidentiality procedures. The department cannot control how another governmental agency handles such confidential information, and assumes no responsibility for the disposition of the information released to the governmental agency. The department will use sufficient care to inform the other governmental agency of the existence of the industrial user's confidentiality claim.

The department shall determine whether the information requested to be treated as confidential, in fact, satisfies the requirements of confidential information as defined herein. The decision of the department shall be made in writing.

Wastewater constituents and characteristics will not be recognized as confidential information.

- (2) Except as otherwise determined by the department or provided for by applicable law, all information with respect to an industrial user on file with the city shall be made available upon request by such user or the user's authorized representative during normal business hours.
- (H) *Statutes, laws and regulations.* The National Categorical Pretreatment Standards defined in 40 C.F.R. Chapter I, Subchapter N, Parts 405-471, shall be and are incorporated by reference herein and made a part hereof. Unless otherwise provided, any reference in this division to a code, standard, rule, regulation, or law enacted, adopted, established, or promulgated by any private organization, or by any element or organization of government other than the township shall be construed to apply to such code, standard, rule, regulation, or law in effect or as amended or promulgated, from the date of enactment of this division.
- (I) *Enforcement.*
- (1) *Violations.* It shall be a violation of this division for any user to:
 - (a) Fail to completely and/or accurately report the wastewater constituents and/or characteristics of the industrial user's discharge;
 - (b) Fail to report significant changes in the industrial user's operations or wastewater constituents and/or characteristics within the time frames provided in subsection 24-115.7(D)(7)(a) of this Code;
 - (c) Refuse reasonable access to the industrial user's premises, waste discharge, or sample location for the purpose of inspection or monitoring;
 - (d) Restrict, lockout or prevent, directly or indirectly, access to any monitoring facilities constructed on public or private property. The locking or securing of the monitoring facility shall not constitute a violation pursuant to this subsection, provided, that upon request reasonable access to the facility is promptly provided to the department;
 - (e) Restrict, interfere, tamper with, or render inaccurate any of the department's monitoring devices including, but not limited to, samplers;
 - (f) Fail to comply with any condition or requirement of the industrial user's wastewater discharge permit;
 - (g) Fail to comply with any limitation, prohibition, or requirement of this division including any rule, regulation, or order issued hereunder. Industrial users acting in full compliance with wastewater discharge permits issued prior to the effective date of this division shall be deemed to be in compliance with the requirements of this
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- division, and such permits shall remain in effect and be enforceable under this division until a superseding permit is effective. Industrial users shall comply with applicable National Categorical Pretreatment Standards and requirements on the date specified in the federal regulations, regardless of compliance schedules.
- (2) *Upsets*. An upset shall constitute an affirmative defense to an action brought for noncompliance with National Categorical Pretreatment Standards where the requirements of subsection (a) of this section are met.
- (a) An industrial user who wishes to establish the affirmative defense shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence, that:
1. An upset occurred and the industrial user can identify the cause(s) of the upset;
 2. At the time, the facility was being operated in a prudent and workmanlike manner and in compliance with applicable operation and maintenance procedures;
 3. The industrial user has submitted the following information to the department, orally or in writing, within twenty-four (24) hours of becoming aware of the upset and where this information is provided orally, a written submission must be provided within five (5) days:
 - a. A description of the discharge and cause of noncompliance;
 - b. The period of noncompliance including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue; and
 - c. Steps being taken and/or planned to reduce, eliminate and prevent recurrence of the noncompliance.
- (b) In any enforcement proceeding, the industrial user seeking to establish the occurrence of an upset shall have the burden of proof;
- (c) The industrial user shall control production of all discharges to the extent necessary to maintain compliance with this division upon reduction, loss, or failure of its treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement applies in the situation where, among other things, the primary source of power of the treatment facility is reduced, lost or fails.
- (3) *Bypass*. Bypasses are prohibited unless the bypass does not cause a violation of pretreatment standards or requirements, but only if it is for essential maintenance to ensure efficient operation of the treatment system. These bypasses are not subject to the provisions of subsections (a) and (b) of this section.
- (a) *Notice of anticipated bypass*. Industrial users anticipating a bypass shall submit notice to the department at least ten (10) days in advance.
- (b) *Notice of unanticipated bypass*. An industrial user shall submit oral notice of an unanticipated bypass that exceeds applicable pretreatment standards within twenty-four (24) hours from the time the industrial user becomes or should have become aware of the bypass. A written submission shall be provided within five (5) days of the time the industrial user becomes or should have become aware of the bypass. The written submission shall contain a description of the bypass including exact dates and times, and if the bypass has not been corrected, the anticipated time it is expected to continue, and steps taken or planned to reduce, eliminate and prevent reoccurrence of the bypass.
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- (c) *Prohibition of bypass and enforcement.* Bypass is prohibited, and the department may take enforcement action against a user for a bypass, unless:
1. The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated waste, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
 3. The industrial user properly notified the department as described in subsection (3)(b) of this section.
- (d) *Bypass approval.* Where it meets all conditions in subsection (3)(c) of this section, the department may approve an anticipated bypass.
- (4) Where one (1) or more of the measurements taken for any pollutant defined in subsection 24-115.7(B)(2) of this Code during a six-month period exceed by any magnitude the daily maximum non-detect limit for the same parameter, the industrial user may develop and implement pollution prevention initiatives, or a BMP, as part of its response. The department may, as part of an administrative order, also require development of a BMP as a part of the department's enforcement response. Upon approval of the Department, these pollution prevention initiative, or BMPs shall be made an enforceable part of the wastewater discharge permit. Industrial users shall provide, at six-month intervals, analytical results and certifications in support of its implementation of an approved pollution prevention initiative or BMPs. Upon demonstration of compliance, the industrial user may request to be relieved of this implementation requirement.
- (5) *Emergency suspensions and orders.* The department may order suspension of the sewer or wastewater treatment service and/or a wastewater discharge permit where, in the opinion of the department, such suspension is necessary to stop any actual or threatened discharge which presents or may present an imminent or significant hazard to the health or welfare of persons or to the environment, interferes or may interfere with the POTW, or causes or may cause the City of Detroit to violate any condition of its NPDES permit. Any person notified of a suspension of the sewer or wastewater treatment service and/or the wastewater discharge permit shall immediately stop or eliminate the contribution. In the event the department provides informal notification under this section, written confirmation and an order shall be provided within twenty-four (24) hours. In the event of a failure of the person to comply voluntarily with any suspension or revocation order, the department shall take such steps as deemed necessary, including immediate severance of the sewer connection or services, to prevent or minimize damage to the POTW system or danger to any individual or the environment. In the event such steps are taken, the director shall notify the industrial user within twenty-four (24) hours in writing of such action and order, and the specific recourse available. In any event, the department shall provide the industrial user with an opportunity for a hearing before the director, or his designated representative, within ten (10) days of such action. The industrial user shall submit a detailed written
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statement to the department within fifteen (15) days of the occurrence describing the causes of the harmful contribution and the measures taken to prevent any future occurrence. Upon proof of elimination of the noncomplying discharge, the department shall reinstate the wastewater discharge permit and/or the sewer or wastewater treatment service.

- (6) *Notice of violation.* Except in the case of an actual or threatened discharge as specified in paragraph (5) of this subsection, whenever the department has reason to believe that any industrial user has violated or is violating this division, the department shall serve a written notice stating the nature of the violation upon such industrial user. Where applicable, the department shall pursue appropriate escalating enforcement action as defined within its approved enforcement response plan. The failure of the department to issue a notice of violation shall not preclude the department from escalating its enforcement response.
- (7) *Administrative actions.* Whenever the department has reasonable grounds to believe that a user is violating, or has violated, a provision of its wastewater discharge permit, or a pretreatment standard or requirement or any prohibition of this division, the department, except in the case of emergency or flagrant violation, may initiate appropriate administrative enforcement action in order to compel the industrial user to eliminate or to remedy such violation as soon as possible.
- (a) *Conferences.* The department may order any person, who violates this division, to attend a conference wherein the department may endeavor to cause the user to eliminate or remedy the violation by establishing an enforceable compliance schedule. The notice of violation shall be served at least ten (10) days before the scheduled conference and shall set forth the date, time, and place thereof. The conference shall be conducted by a representative of the department. The industrial user shall present a plan and schedule for achieving compliance with this division. Nothing contained herein shall require the department to accept or agree to any proposed plan or schedule, or to prevent the department from proceeding with a show cause hearing as set forth in subsection (b) of this section. If the attendees agree upon a compliance schedule, the user and the department's duly authorized representative may enter, by consent, into a compliance agreement or an administrative order setting forth the terms of such agreement. An industrial user must exhibit good faith and expeditious efforts to comply with this division and any procedures, requirements, and agreements hereunder.
- (b) *Compliance schedules.* The user and the department may agree upon a schedule which sets forth the terms and conditions, and time periods or schedules for completion of actions to remedy or to eliminate the causes of violation. These schedules may be developed as part of a compliance agreement, or an administrative consent order. Schedules developed under this subsection shall adhere to the following conditions:
- a. The schedule shall contain increments of progress in the form of dates for the commencement and completion of major events leading to the construction and operation of upgraded or additional pretreatment facilities, or to the implementation of additional operation and maintenance procedures required for the industrial user to

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- meet the applicable pretreatment requirements and standards including, but not limited to, hiring an engineer, completing preliminary plans, completing final plans, executing contracts for major components, commencing construction, and completing construction;
- b. No single increment referred to in subsection a. of this section shall exceed nine (9) months;
 - c. Not later than fourteen (14) days following each date in the schedule and the final date for compliance, the industrial user shall submit a progress report to the department including, at a minimum, whether it complied with the increment of progress to be met on such date and, if not, the date which it expects to comply with this increment of progress, the reason(s) for delay, and the steps being taken by the industrial user to return to the established schedule; and
 - d. Any deviations from the compliance schedule may result in the industrial user being found in violation of this division.
- (c) *Administrative orders.* The department may order any industrial user, who violates or continues to violate this division or a duly issued permit, to install and to properly operate devices, treatment facilities, or other related appurtenances. In addition, orders may contain such other requirements as might reasonably be necessary and appropriate to address the violation including the installation of pretreatment technology, additional self-monitoring and management practices, implementation of a waste minimization assessment to identify and implement feasible source reduction, and recycling practices to reduce the generation or release of pollutants at the facility. An order may be either an administrative consent order, which is the result of an agreement, or a unilateral administrative order.
- (d) *Show cause hearing.* The department may order any industrial user, who violates this division or allows such violation to occur, to show cause before the department why a proposed enforcement action should not be taken. A notice shall be served upon the industrial user specifying the time and place of a hearing before the department regarding the violation, the reason(s) why the action is to be taken, the proposed enforcement action, and directing the industrial user to show cause before the department why any proposed enforcement action should not be taken. The notice of the hearing shall be served personally, or by registered or certified mail with return receipt requested, at least ten (10) days before the hearing. Service may be made upon any agent or officer of a corporation, or its authorized representative.
1. *Hearing Proceeding.* The hearing shall be conducted in accordance with the procedures adopted by the board. A hearings officer shall conduct the show cause hearing and take the evidence, and may:
 - a. In the name of the board, issue notices of hearing requesting the attendance and testimony of witnesses and the production of evidence relevant to any matter involved in such hearing;
 - b. Transmit a report of the evidence and hearing, including transcripts and other evidence, together with recommendations to the director for action thereon.
 2. *Transcript.* At any show cause hearing held pursuant to this division, testimony shall be recorded by a court reporter.
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- (e) *Actions.* After a show cause hearing has been conducted, the hearings officer shall issue an order to the industrial user directing any of the following actions:
1. Immediate compliance with the industrial user's wastewater discharge permit or with any applicable limitation, condition, restriction or requirement of this division, or applicable local, state or federal law or regulation;
 2. Pretreatment of waste by installation of adequate treatment equipment or proper operation and maintenance of existing treatment equipment be accomplished within a specified time period;
 3. Submission of compliance reports on effluent quality and quantity as determined by self monitoring and analysis during a specified time period;
 4. Submission of periodic reports on effluent quality and quantity determined by self-monitoring analysis throughout the final period set by a compliance date;
 5. Control of discharge quantities;
 6. Payment of costs for reasonable and necessary inspection, monitoring, and administration of the industrial user's activities by the department during compliance efforts; and/or
 7. Any such other orders as are appropriate including, but not limited to, immediate termination of sewer or wastewater treatment services, or revocation of a wastewater discharge permit, or orders directing that following a specified time period sewer or wastewater treatment service will be discontinued unless adequate treatment facilities, devices, or operation and maintenance practices have been employed.
 8. A finding the user has demonstrated by a preponderance of the evidence that a violation either of this division or of a duly issued permit did not occur.
- (f) *Public notification of significant noncompliance.* The department shall publish in the largest daily newspaper published in the City of Detroit and the township a list of all industrial users which were in significant noncompliance with applicable pretreatment requirements at any time during the previous twelve (12) months. All industrial users identified in a proposed publication shall be provided with a copy of the proposed notice at least thirty (30) days before publication and allowed an opportunity to comment as to its accuracy.
- (8) *Legal actions.*
- (a) Criminal action: Any user, who violates any provision of this division including the failure to pay any fees, fines, charges or surcharges imposed hereby, or any condition or limitation of a permit issued pursuant thereto, or who knowingly makes any false statements, representations or certification in any application, record, report, plan or other document filed or required to be maintained pursuant to this division or wastewater discharge permit, or who tampers with or knowingly renders inaccurate any monitoring device required under this division, is guilty of a misdemeanor and, upon conviction, shall be punished by a fine not to exceed five hundred dollars (\$500.00) for each violation per day, or by imprisonment for not more than ninety (90) days, or by both. The department, consistent with the terms and conditions of the delegation agreement entered into with township, is hereby authorized, through its counsel, to seek prosecution of criminal charges against any person violating any provision of this division.
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- (b) Civil action: Whenever the department has reasonable grounds to believe that a user is violating, or has violated, a provision of its wastewater discharge permit, a pretreatment standard or requirement or any requirement of this division, the director may commence a civil action to compel compliance in a court of competent jurisdiction to enjoin the user from discharging, and/or to obtain appropriate relief to remedy the violations. The department or board may also seek additional legal and/or equitable relief. The commencement of suit does not constitute an exclusive election of remedies and does not prohibit the department, director, board, City of Detroit or the township from commencing action in federal court for discharges believed to be in violation of this division, state and federal requirements contained in the Clean Water Act, the City of Detroit's NPDES permit, or other applicable laws or requirements. In addition, the City of Detroit and/or the township may recover the reasonable attorney fees, court costs, court reporters' fees, and other unusual expenses related to enforcement activities or litigation against the person found to have violated this division, or the orders, rules, regulations and permits issued hereunder.
- (c) All fines, costs, and penalties which are imposed by any court of competent jurisdiction shall be payable to the City of Detroit Water and Sewerage Department and the township where applicable.
- (J) *Reconsideration and appeal.* Through the procedures of reconsideration and appeal, a user may contest actions, determinations, or decisions of the department which result from its construction, application and enforcement of this division. The procedures contained within this section govern reconsideration and appeal with respect to construction, application, and enforcement of this division.
- (1) *Selection of reconsideration or of appeal.*
- (a) Except for those actions, determinations, or decisions which are expressly identified as subject only to appeal, reconsideration may be requested by any permit applicant, permittee, authorized industrial wastewater discharger or other discharger, who is adversely affected by any action, determination, or decision that is made by, or on behalf of, the department by the director, or an authorized representative, and that interprets, implements or enforces the provisions of this division.
- (b) An appeal may be requested by any permit applicant, permittee, authorized industrial wastewater discharger or other discharger, who is adversely affected (i) by a permit issued as final by the department, or (ii) by an administrative order entered after a show cause order and hearing, or after a hearing for reconsideration.
- (c) Unless otherwise expressly provided for by this division, a request for reconsideration or appeal must be signed by an authorized representative, and received at the department's general offices within twenty (20) days from the date of the occurrence of the action, determination, or decision in dispute. A request for reconsideration shall contain the requester's name and address, a brief statement of the reason(s), and the factual basis underlying the request.
- (d) A request for reconsideration shall be filed in triplicate either by hand delivery or by certified mail to the general offices of the department. Where a request for reconsideration or appeal either is not filed within the time period provided for in this subsection or is improperly made, the action, determination or decision of the
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- director, or the department's authorized representative, is final and any right to reconsideration or appeal may be deemed waived.
- (2) *Reconsideration.* Within fifteen (15) days after receipt of a timely and proper request for reconsideration, the department shall notify the applicant of the time and place for a hearing.
- (a) A hearing for reconsideration shall be conducted by a hearings officer who is designated by the director and may be an employee of the department. The decision of the hearings officer shall be in the form of a recommendation to the director and embodied in an administrative order. Except for an administrative consent order that was negotiated and agreed to by both parties, an administrative order is appealable in accordance with subsection (c) of this section.
 - (b) Where improperly or untimely submitted, the department may reject a request for reconsideration. The department shall notify the requester in writing that the request has been rejected.
 - (c) Unless the date is mutually extended by both parties, the hearing shall be conducted neither less than ten (10) days nor more than thirty (30) days after mailing of the notice. For cause and at the discretion of the hearings officer, the hearing may be continued for a reasonable time.
 - (d) The hearing for reconsideration shall be an informal consultation and conference where the requester in person, or by counsel, shall present their argument, evidence, data, and proof in connection with the issue(s) being reconsidered. The parties shall not be bound by the [State of] Michigan Rules of Evidence. The hearing shall be transcribed and the requester may obtain a copy of the hearing transcript, as appropriate, from the department or from the court reporter.
 - (e) Within thirty (30) days after the close of the hearing, the hearings officer shall issue a final decision which shall contain a recommendation to the director. The hearings officer shall send such decision to the requester by certified mail.
 - (f) Unless such action is necessary to prevent pass-through, interference or other harm to the POTW, to the public or to the waters of this state, the filing of a request for reconsideration in accordance with this section shall stay the action by the department that is the subject of the hearing for reconsideration.
- (3) *Appeal.* Within thirty (30) days after receipt of a timely and proper request for an appeal, the department shall notify the applicant in writing regarding the time and place for a hearing. The hearing shall be conducted in accordance with procedures set by the board until rules are promulgated pursuant to Section 2-111 of the 1997 Detroit City Charter. In addition:
- (a) Any request for an appeal must be made within twenty (20) days of the department's action, determination or decision regarding the request for reconsideration or any permit issued in accordance with this division.
 - (b) Where a request either is not filed within the time period contained in this subsection or is improperly made, the action, determination or decision of the director, or the department's authorized representative, is final and any right to appeal may be deemed waived. Where untimely or improperly submitted, the department may reject
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- the request for an appeal, and shall notify the requester in writing that such request has been rejected.
- (c) The department shall appoint a hearings officer. The hearings officer shall review the evidence, and within fifteen (15) days after the close of the hearing shall issue a written recommendation to uphold, modify or reverse the action, determination, or decision of the department.
 - (d) The written recommendation of the hearings officer shall be submitted to the board which shall render a final decision within thirty (30) days of its next regularly scheduled meeting.
 - (e) In accordance with applicable law, the user or the department may appeal any final decision of the board to a court of competent jurisdiction.
 - (f) Unless such action is necessary to prevent pass through, interference, or other harm to the POTW, to the public or to the waters of this state, the filing of a request for appeal in accordance with this section shall stay the action by the department that is the subject of the appeal.

*DIVISION 6. INDUSTRIAL PRETREATMENT PROGRAM REGULATIONS FOR
DISCHARGES TO THE CLINTON RIVER WATER RESOURCE RECOVERY FACILITY*

Sec. 24-115.8. Adoption of regulations.

The township hereby adopts the "Industrial Pretreatment Program Regulations for Discharges to The Clinton River Water Resource Recovery Facility" as Appendix A of Chapter 24, Article III, Division 6, of this Code.

Sec. 24-115 Delegation of authority.

The Oakland County Water Resources Commissioner, or the "WRC," is authorized to administer and enforce the provisions of Appendix A of Chapter 24, Article III, Division 6, of this Code, on behalf of the township. The township has executed and hereby ratifies the Clinton River Water Resource Recovery Facility Interjurisdictional Agreement, its delegation agreement with the WRC, which sets forth the terms and conditions of such delegated authority, consistent with these sections, and shall allow the WRC to perform the specific responsibilities of control authority pursuant to state and federal law.

Appendix A
Industrial Pretreatment Program Regulations
for Discharges to
The Clinton River Water Resource Recovery Facility

The Industrial Pretreatment Program Regulations for Discharges to The Clinton River Water Resource Recovery Facility is incorporated herein by reference as if fully set out at length, and a copy is on file and available for inspection in the offices of the township.

Appendix A

Aluminum Forming	40 C.F.R. Part 467
Asbestos Manufacturing	40 C.F.R. Part 427
Battery Manufacturing	40 C.F.R. Part 461
Builder's Paper and Board Mills	40 C.F.R. Part 431
Canned and Preserved Fruits and/Vegetables	40 C.F.R. Part 407
Canned and Preserved Seafood Processing	40 C.F.R. Part 408
Carbon Black Manufacturing	40 C.F.R. Part 458
Cement Manufacturing	40 C.F.R. Part 411
Centralized Waste Treatment	40 C.F.R. Part 437
Coal Mining	40 C.F.R. Part 434
Coil Coating	40 C.F.R. Part 465
Copper Forming	40 C.F.R. Part 465
Dairy Products Processing	40 C.F.R. Part 405
Electrical and Electronic Components I & II	40 C.F.R. Part 469
Electroplating	40 C.F.R. Part 413
Explosives Manufacturing	40 C.F.R. Part 457
Feed Lots	40 C.F.R. Part 412
Ferroalloy Manufacturing	40 C.F.R. Part 424
Fertilizer Manufacturing	40 C.F.R. Part 418
Glass Manufacturing	40 C.F.R. Part 426
Grain Mills	40 C.F.R. Part 406
Gum and Wood Chemicals Manufacturing	40 C.F.R. Part 454
Hospital	40 C.F.R. Part 460
Ink Formulating	40 C.F.R. Part 447
Inorganic Chemicals Manufacturing (I & III)	40 C.F.R. Part 415
Iron and Steel	40 C.F.R. Part 420
Landfills	40 C.F.R. Part 445
Leather Tanning & Finishing	40 C.F.R. Part 425
Meat Products	40 C.F.R. Part 432
Metal Finishing	40 C.F.R. Part 433

- CODE OF ORDINANCES
 Chapter 24 - WATER SUPPLY AND SEWAGE DISPOSAL SYSTEMS
 ARTICLE IV. ACQUISITION AND OPERATION

Metal Molding and Casting	40 C.F.R. Part 464
Metal Products and Machinery	40 C.F.R. Part 438
Mineral Mining and Processing	40 C.F.R. Part 436
Nonferrous Metals Forming	40 C.F.R. Part 471
Nonferrous Metals Manufacturing I	40 C.F.R. Part 421
Nonferrous Metals Manufacturing II	40 C.F.R. Part 421
Ore Mining and Dressing	40 C.F.R. Part 440
Organic Chemicals, Plastics, and Synthetic Fibers	40 C.F.R. Part 414
Paint Formulating	40 C.F.R. Part 446
Paving and Roofing Materials	40 C.F.R. Part 443
Pesticide Chemicals	40 C.F.R. Part 455
Petroleum Refining	40 C.F.R. Part 419
Pharmaceutical	40 C.F.R. Part 439
Phosphate Manufacturing	40 C.F.R. Part 422
Photographic	40 C.F.R. Part 459
Plastics Molding and Forming	40 C.F.R. Part 463
Porcelain Enameling	40 C.F.R. Part 466
Pulp, Paper, and Paperboard	40 C.F.R. Parts 430 and 431
Rubber Manufacturing	40 C.F.R. Part 428
Soap and Detergent Manufacturing	40 C.F.R. Part 417
Steam Electric	40 C.F.R. Part 423
Sugar Processing	40 C.F.R. Part 409
Textile Mills	40 C.F.R. Part 410
Timber Products	40 C.F.R. Part 429
Transportation Equipment Cleaning	40 C.F.R. Part 442
Waste Combustors	40 C.F.R. Part 444

Appendix B

An industrial user may elect, in lieu of the total phenols limitation specified in section 56-3-59.1(b)(2), to substitute specific limitations for each of the eight (8) individual phenolic compounds identified under the total phenols limitation. The following specific limitations, expressed in mg/l, shall be applied in lieu of the total phenols limitation, upon election:

2-Chlorophenol	2.0 mg/l
4-Chlorophenol	2.0 mg/l
4-Chloro-3-methylphenol	1.0 mg/l
2,4-Dichlorophenol	5.5 mg/l
2,4-Dinitrophenol	2.0 mg/l
4-Methylphenol	5.0 mg/l

4-Nitrophenol	15.0 mg/l
Phenol	14.0 mg/l

Following election, the wastewater discharge permit shall be modified to incorporate these substituted parameters and an Industrial User shall be responsible for monitoring and reporting compliance with these parameters.

**Appendix C
 Interim Discharge Limitations**

No user shall discharge wastewater containing any of the following pollutants in excess of the following interim pollutant discharge limitations:

(1) Compatible pollutants:

- a. Any fats, oil or grease (FOG) in concentrations greater than 1,500 mg/l based on an average of all samples collected within a 24-hour period.
- b. Any Total Suspended Solids (TSS) in concentrations greater than 7,500 mg/l.
- c. Any Biochemical Oxygen Demand (BOD) in concentrations greater than 7,500 mg/l.
- d. Any Phosphorus (P) in concentrations greater than 250 mg/l.

Unless otherwise stated, all limitations are based upon samples collected over an operating period representative of a user's discharge, and in accordance with 40 CFR Part 136.

(2) Non-Compatible pollutants:

Cadmium (Cd)	1.0 mg/l
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ARTICLE IV. ACQUISITION AND OPERATION

Sec. 24-116. Policy.

- (a) It is hereby determined to be the policy of the township that the distribution of potable water to the citizens of the township through water systems and the disposal of sanitary sewage therefrom is a function best performed by the township.
- (b) The township hereby determines that it is desirable that the township acquire and operate any water supply or sewage disposal systems now in existence, or hereafter established, which meet all applicable standards and requirements as part of a single public improvement water supply and sewage disposal system, referred to in this chapter unless otherwise indicated, as the system.
- (c) The water supply or sewage disposal systems accepted by the township are under the exclusive control of the water department and all persons other than agents or employees of the water department are forbidden to disturb, tap, change, obstruct access to, or otherwise interfere in any way with the systems.

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- (d) All water and/or sewer taps shall be issued consistent with the authority of the County of Oakland and Michigan Department of Public Health and shall be allocated exclusively by the township and following issuance there shall be no transfer of a tap from the property issued such tap.

Sec. 24-117. Acquisition procedure.

- (a) *Acquired.* For the purposes of this section, the term “acquired” shall be construed to include acquisition by purchase, construction, gift, dedication, or ~~by~~ any other method.
- (b) *Permit required.* No public water supply or sanitary sewer system shall be constructed within the township except under a permit issued by ~~of~~ the Michigan Department of Environment, Great Lakes, and Energy in the name of the township and with title and control thereof to be vested in the township. No connection to the system shall be made until the system has been accepted by the township as a public utility.
- (c) *Construction.* All construction, specifications, plans, engineering and inspection of any water supply or sanitary sewer main improvement shall comply with the provisions of Chapter 24, Article V, Construction Permits. In addition, performance security shall be filed with the township in compliance with Chapter 24, Article I, General Requirements, Performance Security, Maintenance, and Dedication Requirements for Water Supply and Sanitary Sewer Systems.
- (d) *Private requests.* A request may be made to the township board by the owner(s) of any private water supply or private sewage disposal system presently existing within the township for the township to acquire the system. Upon review and recommendation of the Water Utilities Director, the township board may, in its discretion and under such reasonable conditions as it may prescribe, accept the system. In acquiring any private water supply or private sewage disposal system, the township shall not assume any obligation to construct extensions or enlargements thereof to any property not served by such system. Any extensions or enlargements of a system shall be at the discretion of the township with conditions and methods of financing as the township board shall determine.

Sec. 24-118. Functions, supervision of water department.

- (a) There is hereby created the department of water supply and sewage disposal, referred to in this article as the water department, which department shall have full and complete jurisdiction and be responsible for the operation, maintenance, repair, billing and other similar functions necessary to the efficient operation of a water supply and sewage disposal system.
- (b) The township board shall make rules and regulations for the operation of the water department and for the system. Such regulations shall be adopted by ordinance of the board and copies thereof shall be available upon request from the township clerk.

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- (c) The township supervisor shall exercise general supervision and control over the water department and shall administer the affairs of the water department within the budget and in accordance with the rules and regulations established by the township board.
 - (d) There shall be established a position of manager of the water department. The manager of the water department shall be appointed by the supervisor with the approval of the township board. The manager shall be responsible to the supervisor for the actual day-to-day operations of the water department.
 - (e) Any functions of the water department may be delegated by the supervisor to any appropriate township department, officer or employee, or to any other person acting under contract with the township when, in the supervisor's judgment, it would be expedient to do so. Such delegated functions shall continue to be subject to the overall direction of the supervisor and the manager of the water department.

Sec. 24-119. Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings respectively ascribed to them in this section:

Available public sanitary sewer system 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 passing not more than two hundred (200) feet at the nearest point from a structure in which sanitary sewage originates.

BOD (denoting biochemical oxygen demand) means the quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure in five (5) days at twenty (20) degrees Celsius, expressed in parts per million by weight.

Chlorine demand means the difference between the amount of chlorine added to water or wastewater and the amount of residual chlorine remaining at the end of a specified contact period.

COD (denoting chemical oxygen demand) means the quantity of oxygen utilized from a chemical oxidant in a specific test.

Compatible pollutant means a substance amenable to treatment at the Detroit Metro Wastewater Treatment Plant such as BOD, suspended solids, pH and fecal coliform bacteria, plus additional pollutants identified in the NPDES permit for the Detroit Metro Wastewater Treatment Plant which is designed to treat such pollutants, and in fact does remove such pollutants to an acceptable degree.

Contractor means a person who has contracted to perform services regulated in this chapter.

Critical material means the organic or inorganic substances, elements or compounds listed in the register compiled by the state department of natural resources.

Daily average shall be based upon a minimum of eight (8) grab samples taken at one hour intervals.

EGLE means the State Department of Environment, Great Lakes, and Energy.

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

Industrial cost recovery (ICR) means a charge imposed on an industrial user of the treatment works to reflect its share of the amount of grant funds received to construct the wastewater treatment works as provided under United States Public Law 92-500 and the regulations promulgated thereunder.

Industrial user means any nongovernmental or nonresidential user of the wastewater treatment system, identified in the *Standard Industrial Classification Manual* (latest edition) under Divisions A, B, C, E or I.

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

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

Operation and maintenance costs means the expenditures required for operating, maintaining and replacement of the treatment works.

Owner means a person having legal or equitable title to the property at issue.

pH means the logarithm of the reciprocal of the weight of hydrogen ions in grams per liter of solution.

Public sanitary sewer system means a sanitary sewer used or intended for use by the public for the collection and transportation of sanitary sewage for treatment or disposal.

Public sewer means a sewer in which all owners of abutting property have equal rights, and which is controlled by a public authority.

Replacement costs means the expenditures for obtaining and installing equipment, accessories or appurtenances during the useful life of the treatment works necessary to maintain the capacity and performance for which such works are designed and constructed.

Sanitary grinder pump system means an individual building sewer for the sanitary sewage from one (1) structure in which sanitary sewage originates, that consists of a pressurized pumping system that will discharge that sanitary sewage to a low pressure sanitary sewer line that is part of the township's public sanitary sewer system. A sanitary grinder pump system includes but is not limited to the following equipment: A grinder pump unit, wet well, low pressure force main, grinder pump control panel, telephone communication system, redundant alarm systems, air/vacuum relief valves, flushing connections, check valves, a corporation stop and other equipment, fixtures and components necessary to the system functioning in a manner that is efficient, lawful, safe and secure.

Sanitary sewage means any liquid wastes discharged from residences, business buildings and institutions as distinct from industrial wastes and not exceeding the following limitations: three hundred (300) parts per million suspended solids, two hundred forty (240) parts per million BOD and twelve (12) parts per million phosphorus.

Sanitary sewer means a sewer which carries sewage and to which stormwater and surface waters are not intentionally admitted.

Slug means any discharge of water or wastewater, which in concentration of any given constituent or in quantity of flow exceeds for any period of duration longer than fifteen (15) minutes more than five (5) times the average twenty-four-hour concentration or flow during normal operation.

Storm sewer means a sewer which carries stormwater and surface waters and drainage, but which excludes sewage and polluted industrial wastes.

Structure in which sanitary sewage originates means a building in which toilet, kitchen, laundry, bathing or other facilities which generate water-carried sanitary sewage are used or are available for use for household, commercial, industrial or other purposes.

Suspended solids means the solids that either float on the surface of or are suspended in the water, sewage or other liquids and which are removable by laboratory filtering.

Township means the Charter Township of West Bloomfield, Oakland County, Michigan.

Township engineer means the director of the township engineering department.

Twenty-five thousand (25,000) gallons per day of equivalent sanitary sewage means any industry's wastewater discharge that exceeds any one (1) of the following parameters on any day throughout the year: 25,000 gallons per day of flow, 62.6 pounds per day of suspended solids, 50.1 pounds per day of BOD or 2.5 pounds per day of phosphorus.

Watercourse means a channel in which a flow of water occurs, either continuously or intermittently.

Cross reference(s)—Definitions and rules of construction generally, § 1-2.

Sec. 24-120. Determination of measurements, tests, analyses.

All measurements, tests and analyses of the characteristics of waters and wastes to which reference is made in this article shall be determined in accordance with the current edition of *Standard Methods for the Examination of Water and Wastewater*, published by the American Public Health Association, and in accordance with 40 CFR Part 136 entitled "Guidelines Establishing Test Procedures for Analysis of Pollutants," or as otherwise specified in this article.

Sec. 24-121. Waste deposits.

It shall be unlawful for any person to place or deposit or permit to be deposited in an unsanitary manner upon any public or private property within the township any human or animal excrement, garbage or other objectionable waste.

Sec. 24-122. Water pollution.

It shall be unlawful to discharge into any natural watercourse or any storm sewer within the township any sanitary sewage, industrial waste or other polluted waters, except where suitable treatment has been provided in accordance with the standards established by the state department of natural resources.

Sec. 24-123. Unpolluted waters.

No person shall discharge or cause to be discharged any stormwater, surface water, groundwater, roof runoff, subsurface drainage, cooling water or unpolluted industrial process waters into any sanitary sewer. Stormwater and all other unpolluted drainage shall be discharged into such sewers as are specifically designated as storm sewers or to a natural outlet approved by the township board and/or EGLE. Industrial cooling water or unpolluted process waters may be discharged, upon approval of the township board and/or the EGLE, into a storm sewer or natural outlet.

(Ord. No. 31B, § 5.3, 10-2-79)

Sec. 24-124. Prohibited uses.

(a) Except as hereinafter provided, no person shall discharge any industrial or commercial type waste into the township sewer system which is deleterious to the public health and safety of the people of the township. Any waste will be considered deleterious that may cause damaging effects as stated under the general conditions in subsection (1) or does not conform to the limitations stated under the specific conditions in subsection (2).

(1) *General conditions.* Wastes that may cause the following damaging effects shall be considered deleterious:

- a. Chemical reaction, either directly or indirectly, with the materials of construction to impair the strength or durability of sewer structures;
- b. Mechanical action that will destroy or damage the sewer structures;
- c. Restriction of the hydraulic capacity of sewer structures;
- d. Restriction of the normal inspection or maintenance of the sewer structures;
- e. Placing of unusual demands on the sewage equipment;
- f. Limitation of the effectiveness of the normal sewage treatment process or cause the Detroit Treatment Authority to exceed the effluent limitations set forth in their National Pollutant Discharge Elimination System Permit;
- g. Danger to public health and safety;
- h. Obnoxious conditions inimical to the public interest;
- i. Exceed the hydraulic capacity of any downstream conveyance.

(2) *Specific conditions.* Sewage discharges shall conform in all respects to the criteria set forth in this subsection, unless specifically excepted by the township board. Future conditions imposed on the township by federal or state agencies may require subsequent reappraisal and modifications to these criteria by the township board. Where federal or state regulations require limits on parameters not covered in this article or limits more stringent than those specified in this section, the federal or state limits shall take precedence. Wastes that do not conform to the following limitations shall be considered deleterious:

- a. Acidity or alkalinity must be neutralized to a pH of 7.0 as a daily average on a volumetric basis, with a maximum temporary variation of pH from 5.0 to 10.0;
- b. Must not contain more than ten (10) parts per million of the following gases: hydrogen sulphide, sulphur dioxide, oxides of nitrogen, or any of the halogens;

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- c. Must not contain any explosive substance. In case of gas or vapors the concentrations shall not exceed twenty (20) percent of the lower explosive limits;
 - d. Must not contain any flammable substance with a flash point lower than one hundred eighty-seven (187) degrees Fahrenheit;
 - e. Must have a temperature within the range of thirty-two (32) degrees to one hundred fifty (150) degrees Fahrenheit;
 - f. Must not contain grease or oil or other substance that will solidify or become viscous at temperatures between thirty-two (32) degrees and one hundred fifty (150) degrees Fahrenheit;
 - g. Must not contain insoluble substance in excess of ten thousand (10,000) parts per million or exceeding a daily average of five hundred (500) parts per million;
 - h. Must not contain total solids (soluble and insoluble substance) in excess of twenty thousand (20,000) parts per million, or exceeding a daily average of two thousand (2,000) parts per million;
 - i. Must not contain soluble substance in concentrations that would increase the viscosity to greater than 1.1 specific viscosity;
 - j. Must not contain insoluble substance having a specific gravity greater than 2.65;
 - k. Must not contain insoluble substance that will fail to pass a No. 8 standard sieve, or having any dimension greater than one-half inch;
 - l. Must not contain gases or vapors, either free or occluded, in concentrations toxic or dangerous to humans or animals;
 - m. Must not have a chlorine demand greater than fifteen (15) parts per million;
 - n. Must not contain more than one hundred (100) parts per million of any antiseptic substance;
 - o. Must not contain phenols in excess of .005 parts per million;
 - p. Must not contain any toxic or irritating substance which will create conditions hazardous to public health and safety;
 - q. Must not contain in excess of one hundred (100) parts per million or exceed a daily average of twenty-five (25) parts per million of any grease or oil or any oily substance;
 - r. Shall not contain BOD in excess of a daily average of three hundred (300) parts per million;
 - s. Shall not contain COD in excess of a daily average of one thousand (1,000) parts per million;
 - t. Shall not contain suspended solids in excess of a daily average of four hundred fifty (450) parts per million;
 - u. Shall not contain residue (total on evaporation) in excess of a daily average of two thousand (2,000) parts per million;
 - v. Shall contain no soluble substance with a viscosity greater than one hundred ten (110) percent of water.
 - w. Shall contain no material causing coloration or light absorbency, to interfere with plant processes or analytical determinations, such as, but not limited to, dye wastes and vegetable tanning solutions;
 - x. Shall contain no radioactive wastes or isotopes of such half-life or concentration as may exceed limits established by applicable state or federal regulations;
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- y. May contain sludge which results from a treatment process, either potable water, municipal or industrial wastes, but only if it is completely amenable to conventional wastewater treatment without application of unusual means or expense;
 - z. Shall not contain unusual volume of flow or concentration of wastes constituting slugs;
 - aa. Shall not contain concentrations of certain special wastewater constituents in amounts greater than set forth in section 24-154.
- (b) All of the preceding standards and regulations are to apply at the point where industrial or commercial type wastes are discharged into a public sewer and all chemical and mechanical corrective treatment must be accomplished to practical completion before this point is reached.
- (c) Sampling shall be carried out by customarily accepted methods. The township shall determine the method of sampling to be used.

Sec. 24-125. Interceptors.

Grease, oil and sand interceptors shall be provided when, in the opinion of the township engineer and/or the DNR, they are necessary for the proper handling of liquid wastes containing grease in excessive amounts or any inflammable wastes, sand or other harmful ingredients, except that such interceptors shall not be required for private living quarters or dwelling units. All interceptors shall be of a type and capacity approved by the township engineer and/or the DNR and shall be located so as to be readily accessible for cleaning and inspection. Grease and oil interceptors shall be constructed of impervious materials capable of withstanding abrupt and extreme changes in temperature. They shall be substantially constructed, watertight, and equipped with easily removable covers which, when bolted in place, shall be gastight and watertight.

Sec. 24-126. Interceptor maintenance.

Where installed, all grease, oil and sand interceptors shall be maintained by the owner, at his expense, in continuously efficient operation at all times.

Sec. 24-127. Restrictions imposed by township board.

- (a) If any waters or wastes are discharged, or are proposed to be discharged, to the public sewers, which contain the substances, possess the characteristics or exceed the limitations enumerated in section 24-124, or which in the judgment of the township board may have a deleterious effect on the sewer system, the township board may:
- (1) Prohibit the discharge of the wastes to a public sewer;
 - (2) Temporarily permit the discharge of the wastes to a public sewer subject to any conditions that the township board may recommend based on its review of such factors as quantity of the waste in relation to flows and velocities in the sewers, materials of construction of sewers, nature of the sewage treatment process, degree of treatability of the waste and any other pertinent factors;

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- (3) Require pretreatment to an acceptable condition for discharge to a public sewer, including but not limited to the standards set forth in 40 CFR Part 403, entitled "Pretreatment Standards";
 - (4) Require control over the quantities and rates of discharge to public sewers.
- (b) In all cases, the township board shall require payment to cover any additional costs it may incur in connection with the inspecting, sampling, testing and handling of the wastes not covered by existing sewer rates.

Sec. 24-128. Maintenance of preliminary facilities.

- (a) When the pretreatment or equalization of sewage flows is permitted, the design and installation of the plants and equipment shall be subject to the review and approval of the township board and subject to the requirements of all applicable codes, ordinances and laws.
- (b) Where preliminary treatment or flow-equalizing facilities are provided for any waters or wastes, they shall be maintained continuously in satisfactory and effective operation by the owner at his expense.

Sec. 24-129. Control manholes.

When required by the township board or the DNR, the owner of any property served by a building sewer carrying industrial wastes shall install a suitable control manhole in the building sewer to facilitate observation, sampling and measurement of waste. Such manhole, when required, shall be accessible and safely located, and shall be constructed in accordance with plans approved by the township board. The manhole shall be installed by the owner at his expense and shall be maintained by him so as to be safe and accessible at all times.

Sec. 24-130. Measurements and tests.

All measurements, tests, and analyses of the characteristics of waters and wastes to which reference is made in sections 24-124 and 24-127 shall be determined in accordance with *Standard Methods for the Examination of Water and Sewage*, as set forth in section 24-120, and shall be determined at the control manhole provided for in section 24-129 or upon suitable samples taken at the control manhole. If no special manhole has been required, the control manhole shall be considered to be the nearest downstream manhole in the public sewer to the point at which the building sewer is connected.

Sec. 24-131. Agreements.

No statement contained in this article shall be construed as preventing any special agreement or arrangement between the township and any industrial concern whereby an industrial waste of unusual strength or character may be accepted by the township for treatment, subject to the payment by the industrial concern of the estimated cost of such treatment.

Sec. 24-132. Public health requirements.

Public sanitary sewer systems are essential to the health, safety and welfare of the people of the township. Septic tank disposal systems are subject to failure due to soil conditions or other reasons. Failure of septic tank disposal systems poses a threat to the public health, safety and welfare; presents a potential for ill-health, transmission of disease, mortality and economic blight; and constitutes a threat to the quality of surface and subsurface waters of the township. The connection to available public sanitary sewer systems at the earliest reasonable date is a matter for the protection of the public health, safety and welfare, and necessary in the public interests which is hereby declared as a matter of legislative determination.

Sec. 24-133. Connection to public sanitary sewer systems.

- (a) New structures in which sanitary sewage originates and structures that are modified so as to become a structure in which sanitary sewage originates lying within the township shall be connected to an available public sanitary sewer in the township before a certificate of occupancy shall be issued.
- (b) Existing structures in which sanitary sewage originates lying within the limits of the township shall be connected to an available public sanitary sewer:
 - (1) Within ninety (90) days after the date of mailing or posting of written notice that a health hazard exists due to the failure of an existing septic tank disposal system due to soil conditions or other reasons; or,
 - (2) Where new or additional tile fields are necessary; or,
 - (3) Except and as provided in this subsection, within one hundred twenty (120) days from the date of a change in ownership of the property upon which the structure is located. Connection under this subsection shall not be required if the septic tank disposal system has been inspected by a qualified contractor or inspector within one (1) year of the one hundred twenty (120) day connection deadline and a written report based on that inspection, signed by the contractor or inspector, and certifying that the septic tank disposal system has not failed due to soil conditions or other reasons, is functioning properly and does not represent a health hazard, is provided to and accepted as sufficient by the township. The connection obligation under this subsection shall apply to all changes in ownership that occur after publication of a notice by the township in a newspaper of general circulation in the township of the requirements of this subsection, and for properties within areas served by the Clinton-Oakland Sewage Disposal System or West Bloomfield Extensions of that System that were given notice of the connection requirements under Ordinance No. C-621-A, to all changes in ownership after February 14, 2002, which was the effective date of that ordinance.

Sec. 24-134. Injunctive power.

Where a structure in which sanitary sewage originates is not connected to an available public sanitary sewer system as required in section 24-133, in addition to the other penalties provided for the violation of this article, the township may bring an action for a mandatory injunction in the circuit court to compel the owner to connect to the available sanitary sewer

system immediately. The township may join any number of owners of structures situated within the township in the action to compel each owner to connect to an available sanitary sewer system immediately.

Sec. 24-135. Economic hardship.

An owner of property who by reason of economic hardship is unable to comply with the provisions of section 24-133 requiring connection to an available sanitary sewer system, may have the payment of tap-in fees deferred by application to and approval of the township board. The township board shall, by resolution, define hardship and authorize the method of deferment or partial payment of tap-in fees. As a condition to the granting of the deferred or partial payment of tap-in fees, the township shall require lien security on the real property involved to guarantee the full payment of the tap-in fees.

Sec. 24-136. Voluntary connection and mandatory sanitary grinder pump systems.

- (a) Sections 24-132 through 24-135 shall not limit the right of the owner of a structure in which sanitary sewage originates to voluntarily connect the structure to a public sanitary sewer system where the township agrees to the connection. Where the public sanitary sewer system is a low pressure force line, a structure may be connected to it upon application for and receiving approval from the township engineer for the installation of a sanitary grinder pump system as provided in section 24-157, including complying with all conditions and requirements of that section.
- (b) The fact that an available public sanitary sewer system is a low pressure force line shall not modify or relieve an owner from an obligation to connect a structure to it if required by section 24-133. In those situations, the owner shall have seven (7) days to apply for the necessary approval from the township engineer for the installation of a sanitary grinder pump system as provided in section 24-157, including complying with all conditions and requirements of that section.

Sec. 24-137. Connection charges.

- (a) The township board shall establish by resolution, which may be amended from time to time, connection charges which shall be considered to be initial charges for system services. Such charges shall be sufficient, as a minimum, to reimburse the township for all of the actual costs incurred by the township in connection of each property to the water mains or sewers and in addition may include a privilege fee.
- (b) In the event the township constructs an extension to the water system for the purpose of providing public water service to one (1) or more properties, the township board, by resolution, may specify the amount of a capital charge payable by the property owners within the area to be serviced by such extension as a condition to connecting to the system.
- (c) In the event construction of an extension to the water system is financed in whole or part by a special assessment, and if the owners of certain properties which were not included within the special assessment district desire, or may in the future desire, to connect to such extension, the township board, by resolution, which may be amended from time-to-time in order to take into consideration the relationships and effect of the passage of time and/or to

take into consideration additional properties to be served, may specify the amount of a capital charge payable by such property owners in relation to the properties to be served as a condition to connecting to the system. Such resolution may, but need not, be incorporated as a part of a resolution adopted in connection with the special assessment district established to finance the extension in whole or part.

Sec. 24-138. Increase in use or maintenance charges.

The township board shall establish by resolution, which may be amended from time to time, any necessary or appropriate increase in use charges or in maintenance charges, which shall be considered to be charges for the rendition of increased service by the system. Maintenance charges shall include any continuing or periodic charge, as necessary or appropriate, for the purchase, installation and periodic repair or replacement of facilities or equipment which shall assist the water department in the operation, maintenance, repair, billing, including the gathering or dissemination of information concerning the system and other functions of the water department. Such charges shall be used to reimburse the township for costs incurred by the township in supporting the increased use of the system by the users.

Sec. 24-139. Rates for services fixed by resolution to cover certain expenses.

Rates for services shall be fixed by resolution of the township board and shall be sufficient to provide for the payment of expenses of administration and operation, expenses for maintenance of the system as are necessary to preserve the same in good repair and working order, such other expenses as may become due and payable and whatever reasonable amount the township board resolution determines should be set aside to provide a reserve in the bond interest redemption fund.

Sec. 24-140. When bills due and payable; late penalty.

Bills shall be issued for water and/or sewer use on a regular, periodic basis established by resolution of the township board that shall be no more frequent than monthly and no less frequent than quarterly. Bills shall be mailed at least twenty-one (21) days before the due date, which shall be the second to last business day of the month in which the bill is mailed. Any portion of a bill that is not paid by the due date or within twenty-one (21) days of the mailing date, whichever is later, shall be considered delinquent and on the first day following the delinquency, a late payment penalty of seven (7) percent on the delinquent amounts shall be immediately due and payable and be included on the next periodic bill. For an earlier late payment penalty to be subject to a subsequent late payment penalty, written notice of the earlier late payment penalty must have been provided by the township to the customer at least thirty (30) days before the next periodic billing.

Sec. 24-141. Charges constitute a lien; placement on tax roll.

Charges for water or sewer disposal services shall constitute a lien on the property served. On or before September 1 of each year, the water department shall deliver to the township supervisor a certified statement of all water and sewer charges then past due and unpaid for sixty (60) days or more. The township supervisor shall then place such charges on the general tax roll and the same shall be collected as part of the general township taxes.

Sec. 24-142. Discontinuance of service for failure to pay charges.

- (a) *Conditions for termination.* Subject to the procedures, decisions, limitations and deferrals contained in this section 24-142, the township shall shut off and discontinue the supply of water to any premises when charges for water services or other charges in connection with the water supply or sewage disposal system applicable to such premises remain unpaid in excess of sixty (60) days from the date when said charges were due and/or if the total delinquent charges are five hundred dollars (\$500.00) or more.
- (b) *Water service termination procedure.*
- (1) The water department, upon determination that conditions exist justifying the termination of water service, shall mail or personally deliver to the customer, a notice of termination. The notice of termination shall contain the following:
 - a. The amount owed to the township for nonpayment of water and sewer services;
 - b. The date of the notice of termination;
 - c. The date of termination, which shall be at least thirty (30) days from the date of the notice of termination;
 - d. Notice that unless the water department receives complete payment of the amount shown prior to the date of termination or, if applicable, notice that unless the violation is corrected prior to the date of termination, water service shall be terminated; and
 - e. Notice that prior to the date of termination, a customer may notify the water department in writing that the correctness of all or part of the amount shown to be owed is disputed, if the amount in dispute was not the subject of a previous dispute.
 - f. Notice of the ability and requirements to request deferral of termination based on hardship under subsection (f).
 - (2) Subject to subsection (b)(3), on or after the date of termination, the water department shall terminate water service provided to the customer unless, prior to the date of termination:
 - a. The water department has received complete payment of the amount shown on the notice of termination or has determined the violation has ceased to exist; or
 - b. The water department has received a written notice from the customer that disputes correctness of all or part of the amount shown on the notice of termination; or
 - c. The water department has received a written request and documents required for deferral of termination based on hardship under subsection (f).
 - (3) If the notice of termination under subsection (b)(1) was not personally delivered, before terminating water service as otherwise authorized and required in subsection (b)(2), the water department shall provide a final written notice of termination to the customer by first class and registered mail or personal delivery. The final notice of termination shall conform to subsection (b)(1). Five (5) days after providing that notice the water department shall terminate the water service provided to the customer.
 - (4) If the water department receives payment of the entire amount shown on the notice of termination prior to the date of termination, such payment shall be considered a timely and complete payment for purposes of this section.
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(c) *Customer dispute.*

- (1) At any time before the date of termination of water services for nonpayment, a customer may dispute the correctness of all or part of the amount shown in accordance with the provisions of this section. A customer shall not be entitled to dispute the correctness of all or part of the amount owed to the water department if all or part of the amount was the subject of a previous dispute contested under this section.
- (2) The procedure for a customer's dispute shall be as follows:
 - a. Before the date of termination, the customer shall notify the water department in writing, that he or she disputes all or part of the amount shown on a notice of termination, stating as completely as possible the basis for the dispute;
 - b. If the water department determines that the present dispute is untimely or that the customer previously disputed the correctness of all or part of the amount shown to be owed, the department shall mail to the customer a notice stating that the present dispute is untimely or invalid. The department shall then proceed as if the customer had not notified the department of the present dispute;
 - c. If the water department determines that the present dispute is not untimely or invalid, promptly after receipt of the customer's notice the department shall arrange an informal meeting between the customer and the township supervisor or supervisor's designee(s);
 - d. Based on the water department's records, the customer's allegations, and all of the relevant materials available, the supervisor or designee shall resolve and decide the dispute, attempting to do so in a manner satisfactory to both the department and the customer. To that end the supervisor or designee may approve a payment plan to address disputes arising from unique economic hardships and shall mail or deliver a written description of that plan and the requirements for accepting it as a means to avoid water shut-off to the customer. Those requirements shall include but are not limited to all owners of the affected property signing and delivering to the township in recordable form a payment plan promissory note and lien in a form approved by the township attorney and provided by the township and the payment to the township or incorporation in the promissory note of an amount equal to nine (9) percent of the amounts owing and to be repaid to the township under the promissory note by a deadline to be stated in the township's written notice;
 - e. A customer that is not satisfied with the decision may file a written request with the supervisor for a formal hearing before the township board, with any such request to be filed within five (5) days of delivery or seven (7) days of the mailing of the decision;
 - f. The formal hearing before the township board shall be scheduled for hearing within thirty (30) days of the supervisor's receipt of a customer's written request;
 - g. At the hearing, the water department and the customer shall be entitled to present all evidence that is, in the township board's view, relevant and material to the dispute and to examine and cross-examine witnesses. Minutes containing the hearing record shall be maintained;
 - h. Based on the record established at the hearing, the township board, promptly after completion of the hearing, shall issue a written decision formally resolving the

dispute. That decision shall be final and binding on the water department and the customer.

- (3) Utilization of this dispute procedure shall not relieve the customer of his or her obligation to timely and completely pay all other undisputed water and sewer service charges and the undisputed portions of the amounts which are the subject of the present dispute. Notwithstanding any provision of this article to the contrary, failure to timely and completely pay all such undisputed amounts shall subject a customer to termination of water service in accordance with the provisions of this section.
- (4) Until the date of the decision by the supervisor, supervisor's designee or township board, whichever is later, the water department shall not terminate the water service of the customer and shall not issue a notice of termination to him or her solely for nonpayment of the disputed amount. If it is determined that the customer must pay some or all of the disputed amount, the department shall promptly provide a written notice of termination to the customer by first class and registered mail or personal delivery which shall contain the following:
 - a. Amount required to be paid, and if applicable, the violation to be corrected, to avoid termination of water service;
 - b. Date of the notice of termination;
 - c. Date of termination, which shall be at least fifteen (15) days after the date of notice of termination;
 - d. Notice that unless the water department receives a complete payment of the amount shown, and if applicable, a specified violation is not corrected, prior to the date of termination, the water service shall be terminated.

(d) *Termination authority and restrictions.*

- (1) The water department shall terminate water service provided to the customer on or after the date of termination contained in a notice of termination under subsection (c)(4) unless all requirements specified in the notice of termination are satisfied within the time allowed.
- (2) The water department shall terminate water service for nonpayment of water and sewer charges only during the hours of 9:00 a.m. to 3:00 p.m., Monday through Thursday. No terminations shall be permitted on a legal holiday or on the day before a legal holiday.
- (3) No termination shall be permitted on a day when the low temperature within the previous twenty-four (24) hours, as reported by the national weather service at its first order station nearest the structure, was below zero (0) degrees Fahrenheit. If water service to a customer has been terminated and not reinstated by 5:00 p.m. on the day of termination, when the low temperature within the previous twenty-four (24) hours, as reported by the national weather service at its first order station nearest the structure, was below thirty-two (32) degrees Fahrenheit, the department shall notify the public safety department on the day of the termination of the following:
 - a. Name of the customer;
 - b. Address of the structure no longer receiving water service; and

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- c. The possible threat to the health and life of all persons residing at the structure, if residential in nature.
- (e) *Reinstatement of service, charges and escrow deposits.* Water service that is shut off and terminated to a premises shall not be resumed until all sums due and owing shall be paid in full with penalties and interest, and including a turn-off charge and a turn-on charge in an amount established by resolution of the township board. The water department may establish and require water deposit escrow accounts in reasonable amounts for those water and sewer users whose account has an experience of delinquency or for those premises where a lien for unpaid water and sewer bills are precluded pursuant to MCL 123.165. Said escrow deposit may be applied to the payment of any delinquent water and sewer charges for said premises after shut off of services. Failure to pay and/or repay said escrow deposit shall be grounds for immediate shut off of said services.
- (f) *Hardship termination deferral and reinstatement relief.*
- (1) A customer that owns and resides at a residential premises which is subject to or has had water service termination for nonpayment, may request the deferral of termination and/or reinstatement of water service based on hardship as defined and provided in this subsection (f). "Hardship" means the documented present inability of customer and other persons owning or occupying the premises, to pay some or all of the delinquent charges without defaulting on payment of customer's other minimum reasonable and necessary living expenses, that is caused by a substantial decrease in available income and assets attributable to events that were unforeseeable or beyond customer's control, such as, but not limited to, loss of or change in employment or severe health problems rendering them unable to pay their bill.
 - (2) During the time a request for deferral is pending, water service shall not be terminated. During the time a request for reinstatement is pending, the water department may, but shall not be required, to reinstate service. The granting of deferral and/or reinstatement relief does not waive the unpaid charges, interest, penalties or the township's lien and right to certify all unpaid amounts to the tax roll for collection.
 - (3) To be considered, a request for deferral of water service termination or reinstatement of water service based on hardship must be in writing, signed and dated by the customer and received by the township water department. At a minimum, for a request to be complete and entitled to consideration, it must include all of the following:
 - a. A description of the hardship by explanation of the event(s) that have substantially decreased the income and assets available to pay the delinquent charges and an indication of the periods of time the hardship has existed and is expected to continue.
 - b. Names and ages of all persons residing at the premises.
 - c. A listing of the minimum payments required for customer's reasonable and necessary living expenses.
 - d. The net incomes from all sources for customer and all other persons residing at or with an ownership interest in the premises for which relief is requested.
 - e. For each of customer's assets other than the premises and its contents, a description of the asset, its value, location, amounts owed and payments required and restrictions or limitations on customer's ability to sell or dispose of the asset.
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- f. Payments, if any, that the customer is willing and able to make on the delinquent charges.
 - g. Except for amounts being disputed under subsection (c), customer's acknowledgement and agreement:
 - (1) To the amount of the delinquent charges;
 - (2) That deferral or reinstatement relief does not waive the unpaid charges, interest, penalties or the township's lien and right to certify all unpaid amounts to the tax roll for collection;
 - (3) That any deferral relief will automatically terminate if at any time and for any reason, the township's lien or right to collection and payment of those amounts is terminated; and
 - (4) That conditions of any water service termination deferral or reinstatement relief granted by the township will be for customer to sign an affidavit under penalty of perjury as to the truth of all disclosures made, a promissory note and lien and an agreement that contains the terms, conditions and requirements for the relief as provided in this subsection (f) and the township's decision.
 - h. Customer's consent and waiver of confidentiality regarding township reviews and investigation of all disclosures and documents submitted.
- (4) Requests for relief based on hardship shall be reviewed and decided by the director of the water department, who prior to making a decision, may require additional information and documents from the customer and may independently investigate or secure an investigation of any information that is submitted. The director's decision shall be in written form, shall approve or deny the requested relief, and shall include all of the following, as applicable:
- a. If the request is denied, a statement of the reason(s) in the context of the definition of "hardship" in subsection (f)(1), and if water service has not yet been terminated, the notice described in subsection (c)(4).
 - b. If the request is approved, an agreement for the customer to sign that includes:
 - (1) The period of time water service termination will be deferred, which in no event shall be more than one (1) year from the date of the decision;
 - (2) Any conditions established by ordinance or the water department director, that must be satisfied for reinstatement of water services, if applicable, and for deferral of termination to remain in effect during the deferral period established; and
 - (3) Any minimum payments required to be made toward the delinquent charges and future water and sewer charges during the deferral period.
 - c. If the request is approved, an affidavit for the customer to sign under oath and penalty of perjury, as to the truth of the information submitted with the request.
 - d. If the request is approved, a promissory note and lien against the premises, to be signed by all owners of the premises, acknowledging that the unpaid charges at that time and interest and penalties that subsequently accrue, are personal obligations and secured by a lien on the premises that is enforceable by the township beyond any otherwise applicable statutory time limitation.
- (5) From the date of the water department director's approval decision on a hardship request for relief, the customer shall have five (5) days from delivery or seven (7) days
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from mailing of the decision to file all of the following required documents with the water department director:

- a. The customer's signed agreement described in subsection (f)(4)b.
- b. The customer's affidavit under oath described in subsection(f)(4)c.
- c. The promissory note and lien signed and acknowledged by all property owners as described in subsection (f)(4)d.
- d. Any other documents or payments required to satisfy conditions on the effectiveness of an approval decision.

Upon a failure to take the applicable action within the time allowed, the water department may proceed with termination of water service after giving the notice described in subsection (c)(4).

Sec. 24-143. Free service prohibited.

No free service shall be furnished to any person, firm or corporation, public or private, or to any public agency or instrumentality. The township shall pay for all service used by it at the rates established by the township board except that for fire hydrant service the charge shall be five dollars (\$5.00) per year for each hydrant serviced by the water supply systems. Charges against the township shall be payable in quarterly installments from the current funds of the township available for such purposes.

Sec. 24-144. Water meters—Protection from injury or damage.

The owner of any premises where a water meter is installed shall be held responsible for its care and protection from freezing or damage by hot water and from injury or damage by any other means. Any required repair shall be charged to the owner of the premises wherein the water meter is located.

Sec. 24-145. Same—Security deposit required when access not available to check for malfunction.

If a water meter fails to function or to register or if the water department has reason to believe the water meter is not working accurately, and access cannot be had to the premises to inspect the meter, the consumer will be charged at the average quarterly consumption, as shown by the meter when in order, plus a one hundred fifty dollar (\$150.00) security deposit for each quarter that access to the meter is not available. If it is shown by actual inspection that the meter has been tampered with, the deposit shall forfeit to the township. If it is shown by actual inspection that the meter is not functioning properly for a reason not the fault of the consumer, then the one hundred fifty dollar (\$150.00) security deposit shall be returned.

Sec. 24-146. Same—Interfering or tampering with; penalty.

No person shall interfere with or move a water meter from any service connection without first obtaining permission from the water department. No person shall remove or break any seal on meters or bypass valves. If the water department has reason to believe that the meter has in some manner been tampered with, it shall have the right to immediately cut off the water supply

in addition to the other penalties which may be imposed under this article. Service shall not be restored until all assessed charges for past service are paid in full plus a fee of one hundred fifty dollars (\$150.00).

Sec. 24-147. Same—Accuracy tests.

The accuracy of any meter installed in any premises will be tested by the water department upon request of the customer, who shall pay in advance a fee of thirty dollars (\$30.00) to cover the cost of the test. If on such test, the meter shall be found to register over one and one-half (1½) percent more water than actually passes through it, another will be installed and the fee of thirty dollars (\$30.00) will be refunded to the customer.

Sec. 24-148. Disposition of revenues.

The collected revenues of the system shall be set aside and deposited into the operation and maintenance fund and the capital improvement, replacement and financing fund and such other funds that may be established by the township board. The source of each item of revenue collected and deposited in any of the funds shall be documented, allocated and accounted for on books and records to be maintained by the township. Collected revenues of the system shall be deposited and may be transferred among the established funds as necessary for the administration and maintenance of the system consistent with this section.

- (1) *Operation and maintenance fund.* There shall be deposited in the operation and maintenance fund sums sufficient to provide for payment for the next period of all current expenses of administration and operation of the system, together with such current expenses for the established period for maintenance as may be necessary to preserve the system in good repair and working order.
- (2) *Capital improvement, replacement and financing fund.* There shall be deposited into the capital improvement, replacement and financing fund sums sufficient to provide for the timely payment of the township's contractual obligations, which are secured by its full faith and credit, for the funded indebtedness of the system, including contractual payments to the county and the payment of principal and interest on any bonds which may be issued for the system which are payable out of revenues.
- (3) *Additional funds.* Any revenues remaining after deposits to the operation and maintenance fund and the capital improvement, replacement and financing fund may be deemed surplus and may be deposited or transferred to one (1) or more established funds or deposited in a designated surplus fund, which may be used for such purposes relating to the system as the township board may determine to be in the best interest of the township subject to the limitations provided in this chapter.
- (4) *Tax levies.* Any revenues of the system raised by levy of taxes, without limitation as to rate or amount, in fulfillment of the pledge by the township of its full faith and credit, shall be appropriated only to the capital improvement, replacement and financing fund and used only to pay contractual and principal and interest bond payment obligations and other uses allowed for under this chapter and the law.

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- (5) *Accounts and depositories.* The funds of the system may be deposited with one (1) or more banks, savings and loan associations or credit unions in one (1) or more accounts to be held, invested and otherwise handled subject to applicable laws. If money from more than one (1) fund is kept in one (1) account, the money in that account shall be allocated and accounted for on the books and records of the township in relation to the respective funds.

Sec. 24-149. Budget.

The township board shall, prior to the commencement of each operating year, adopt a budget covering the anticipated expenses for the system for the ensuing year.

Sec. 24-150. Surcharges.

All industrial users discharging an extra-strength industrial wastewater into the sewage disposal system shall be monitored and surcharged in accordance with the schedule of charges set forth (or to be set forth) by the Detroit Department of Water and Sewage.

Sec. 24-151. Industrial cost recovery—Additional charge for certain industrial users.

All industrial users discharging industrial wastewater into West Bloomfield Extension No. 2 and meeting the following conditions shall be assessed an annual industrial cost recovery charge in addition to the rates set forth in subsection 24-118(b). In order to qualify for the ICR charge the industrial user must discharge a minimum of twenty-five thousand (25,000) gallons per day of equivalent sanitary sewage, or must discharge a wastewater containing pollutants which (1) interfere with the normal wastewater treatment process, (2) are toxic or incompatible, or (3) contaminate or otherwise reduce the utility of the sludge. The annual industrial cost recovery charge shall be as follows:

Annual ICR Charge =

Where:

A = Maximum day water consumption

B = Number of employees

*Kgal = 1,000 gallons

All industrial users being assessed an industrial cost recovery charge shall annually furnish to the township a factual number of employees employed by the user and the industry's maximum daily water consumption, in Kgal, throughout the year. Industrial users shall also be subject to industrial cost recovery in accordance with the schedule of charges set forth (or to be set forth) by the Detroit Department of Water and Sewage.

Sec. 24-152. Same—Special fund; use of revenue.

- (a) The industrial cost recovery charges shall be annually billed to each qualified industrial user and the proceeds kept in a separate depository account entitled the industrial cost recovery fund. Industrial cost recovery charges shall be in effect for a period beginning with the

completion of the applicable project and extending thirty (30) years thereafter. The fund shall be kept in an interest-bearing account which is fully collateralized by obligations of the United States of America or by obligations fully guaranteed as to the principal and interest by the United States of America or any agency thereof.

- (b) Within one hundred twenty (120) days following the end of each fiscal year that the industrial cost recovery charges are in effect, the township treasurer shall forward a check to the environmental protection agency regional administrator's financial management office. The check shall be an amount equal to fifty (50) percent of all ICR charges received by the township during the preceding fiscal year, together with any interest earned thereon during this period. The check shall be payable to the United States Environmental Protection Agency.
- (c) The remaining funds from the industrial cost recovery charges, together with any interest thereon, shall be used as follows: A minimum of eighty (80) percent shall be used by the township solely for expansion or reconstruction of the sewage system. Prior to committing the funds for such use, the township shall obtain the written approval of the regional administrator of the United States Environmental Protection Agency. The remaining twenty (20) percent shall be used by the township to offset administrative expenses associated with the operation of the industrial cost recovery system.

Sec. 24-153. Fire hydrants.

- (a) Fire hydrants are provided for the use of the water department and fire department of the township or by such persons as may be specially authorized by the water department.
- (b) No person shall open or cause to be opened any fire hydrant without first securing a permit to use a fire hydrant at the water department office. Such person must report to the water department when such use is terminated.
- (c) The township water department must approve the type, size of openings, and types of nozzle thread on all hydrants installed on private property serviced by township water.
- (d) No person shall in any manner obstruct or prevent free access to or place or store temporarily or otherwise any object, material, snow, debris, automobile or structure of any kind within a distance of twenty (20) feet of any hydrant. Any such obstruction when discovered may be removed at once by the water department at the expense of the person responsible for the obstruction.
- (e) Where pipes are provided for fire protection in any premises or where hose connections for fire apparatus are provided on any pipe, each connection or opening on the pipes shall have not less than twenty-five (25) feet of fire hose constantly attached thereto, and no water shall be taken or used through such openings or hose for any purpose other than for extinguishing fires, except for the purpose of testing the fire equipment. In such case, the test must be conducted under a special permit and under the supervision of the water department.
- (f) Each premises to or for which a separate unmetered fire line connection is provided for sprinkler or hydrant service shall pay therefor a quarterly charge as determined by a resolution of the township board.

Sec. 24-154. Special wastewater constituents, restrictions.

All sewage discharges shall be limited to the following concentrations:

Limitations and Standard Methods for Examination

Parameter	Units	Limit (Avg. daily concentration)	Method	*Reference
Cadmium**	mg/l	2.0	Dithizone	
Chromium, Hexavalent**	mg/l	3.0	Diphenylcarbazide	
Chromium, Total**	mg/l	5.0	Diphenylcarbazide	
Copper**	mg/l	2.0	Neocuproine	
Cyanide	mg/l	1.0	Silver Nitrate or Benzidine Pyridine or Chloramine T	
Iron**	mg/l	17	O-Phenanthroline	
Lead**	mg/l	1.0	Dithizone	
Mercury	mg/l	.005	Hatch & Ott	Analytical Chemist, P. 208
Nickel**	mg/l	3.0	Heptoxime	
Phenol	mg/l	0.5	4-Amino-Antipyrine	
Phosphorous	mg/l	13	Ascorbic Acid or Vanadate Molybdate	
Zinc**	mg/l	5.0	Dithizone	

(These parameters are to be expressed or reported as the actual element, radical or ion by atomic or molecular weight.)

**Standard Methods for the Examination of Water & Wastewater*, current edition, unless otherwise specified.

**These elements may be determined by Atomic Absorption Spectrophotometer.

Sec. 24-155. Enforcement; penalties.

- (a) *Inspectors.* The township supervisor and other duly authorized officials or employees of the township and agents of the state water resources commission bearing proper credentials and identification shall be permitted to enter upon all properties for the purpose of inspection, observation, measurement, sampling and testing in accordance with the provisions of this article at any time during reasonable or usual business hours. Any person guilty of refusing or obstructing such entry shall be guilty of a violation of this article.

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- (b) *Notice to cease violation.* Any person found to be violating any provisions of this article shall be served with written notice stating the nature of such violation and providing a reasonable time limit for the satisfactory correction thereof in compliance herewith. The offender shall, within the period of time stated in such notice, take corrective action to comply with this article. Failure to take such action shall be deemed a violation of this article.
 - (c) *Civil liability.* Any person violating any of the provisions of this article shall be liable to the township for any expense, loss or damage occasioned to the township by reason of such violation, and recovery therefor may be in an appropriate action in any court of competent jurisdiction.
 - (d) *Abatement.* Any continued violation, after due notice as provided in subsection (b), shall be deemed a public nuisance, and may be abated by the township upon complaint in any court of competent jurisdiction. This remedy shall be in addition to those heretofore provided for.

Sec. 24-156. Lawn and landscape watering limitations.

- (a) *Temporary emergency effect.* This section is intended to apply as a temporary emergency measure to reduce the demand on the water supplied by the Detroit Water and Sewerage Department through the West Bloomfield Water Supply System until such time as a 72-inch transmission watermain currently under construction has been completed and is operational. Accordingly, this section shall be applicable from the effective date of the amendatory ordinance establishing this section until this section is repealed or otherwise amended.
- (b) *Emergency restriction:*
 - (1) Twenty-four (24) hours following notification to West Bloomfield Township from the Michigan Department of Public Health & Human Services (MDHHS)-that the supply or pressure demand for water in the area cannot be accommodated, it shall be a violation of this article for any person to utilize water supplied by the Detroit Water and Sewerage Department through the West Bloomfield Water Supply System for watering of lawns of landscaping except as follows:
 - a. Watering of lawns and landscaping shall be permitted only between the hours of 8:00 a.m. to 3:00 p.m. and 8:00 p.m. to 11:00 p.m.; and
 - b. Watering of lawns and landscaping shall be permitted only on an alternate-day basis: Watering of lawns and landscaping shall be permitted on even-numbered days of the month for property owned or used in conjunction with a residence or other building having an even-numbered street address and watering of lawns and landscaping shall be permitted on odd-numbered days of the month for property owned and used in conjunction with a residence or other building having an odd-numbered street address.
 - (2) Twenty-four (24) hours following written notification to West Bloomfield township from the Michigan Department of Public Health & Human Services that the provisions in subparagraph (b)(1), above do not sufficiently reduce demand on the public water system, the following additional emergency regulations shall apply to all persons who utilize water supplied by the Detroit Water and Sewerage Department through the

West Bloomfield Water Supply System and failure to comply with these provisions shall be a violation of this article:

- a. Watering of lawns and landscaping shall not be permitted.
 - b. The Charter Township of West Bloomfield shall not permit any additional extensions to the water supply system if the source of the water is the Detroit Water and Sewerage Department.
- (3) The township shall, within twenty-four (24) hours of notification by the MDHHS, cause notice of the effectiveness of the regulations in subsections (b)(1) or (2) above to be publicly announced by means of broadcasts or telecasts by the stations with a normal operating range covering the township and may cause such announcement to be further declared in newspapers of general circulation when feasible. The regulations shall become effect immediately after announcement between 7:00 a.m. and 11:30 p.m. in accordance with this section. Upon notification from the MDHHS the emergency regulations are no longer necessary, the township shall cause a public announcement in the manner provided above.
- (c) *Exception.* The emergency provisions contained in this section shall not apply to hand-held attended hose watering.

Sec. 24-157. Sanitary grinder pump systems.

- (a) *General.* When allowed or required, sanitary grinder pump systems shall be applied for, reviewed, approved, constructed and maintained in accordance with the procedures, requirements and standards in this section and with any additional standards or precautions that are warranted and deemed necessary by the township engineer to attain greater functional efficiency, security, and protection against additional pollution to meet the requirements of EGLE and MDHHS.
- (b) *Permit application and initial determination.* For voluntary and mandatory connections to the public sewer system using a sanitary grinder pump system under section 24-136, the owner of the structure to be served must make written application for a permit to the township engineer. Where the application is for a voluntary connection, it constitutes agreement to the terms and conditions described in this section 24-157. Upon receiving a permit application and determining that the sanitary grinder pump system will best serve the property and the township, the township engineer shall accept and process the application. If it will not, the township engineer shall not approve the sanitary grinder pump system and shall advise the property owner of other sanitary sewer service options.
- (c) *Fees.* Non-refundable permit application, review, preparation, recording and processing fees shall be paid by or on behalf of the property owner at times and in amounts as established by resolution of the township board. Fees authorized by this ordinance are intended to include all costs and expenses involved or incurred in or regarding the necessary reviews, plans, approvals and legal documents.
- (d) *Permit processing, approval, terms and conditions.* The township engineer's review and processing of an accepted application shall include and result in an identification of the costs that must be paid by the property owner for the purchase and construction of the

sanitary grinder pump system, preparation and recording of required easements and agreements including confirmation of ownership, connection and permit charges or fees and any other documents or payments that will be required for the township to permit the sanitary grinder pump system to be constructed and connected to the public sanitary sewer system. That information shall be provided in a written notice of permit approval by the township engineer to the property owner. Upon the owner satisfying all of the payment and document requirements identified in the notice, a permit to construct the sanitary grinder pump system will be issued by the township engineer. For mandatory systems and connections to an available public sanitary sewer system, those requirements shall be satisfied within thirty (30) days of the notice. The summary of the system costs to be included with the written notice of permit approval shall include, but is not limited to; the grinder pump assembly, its equipment and related appurtenances, collection and discharge piping to and from the grinder pump system, the electrical control panel/telephone dialing system, the abandonment of existing septic tank, all labor and installation costs, inspection fees, administrative costs and notice of the then applicable quarterly surcharge for operation and maintenance provided for in subsection (j).

- (e) *Township ownership, construction, operation and maintenance.* Notwithstanding section 24-66, which excepts individual building sewers from township ownership, operation and maintenance, because of the direct relationship of a sanitary grinder pump system to the proper functioning of the public low pressure sewer force line it connects to, the township will be the owner and must have the permanent right to enter the private property the system is located on for purposes of assuring that the system is properly constructed, operated, maintained, repaired and replaced as necessary. Consistent with this requirement, an easement in recordable form and signed by all owners must be provided to the township for recording with the Oakland County Register of Deeds for every sanitary grinder pump system that is required or allowed to be constructed.
- (f) *Township purchase and installation.* To provide adequate and reliable operation and maintenance for the sanitary grinder pump systems located throughout the township and considering the relationship of said systems to the public low pressure sewer force lines they are connected to and to provide for uniformity and compatibility of equipment and construction methods, which should result in lower costs for initial installations due to the economies of scale and lower operation, maintenance, repair and replacement costs, the township shall have the right to purchase and contract for the installation of a sanitary grinder pump system that has been applied for and approved. If the township does not exercise this right, the sanitary grinder pump system and contractor for the owner must be approved by the township as consistent with the purposes and objectives stated above.
- (g) *Permit issuance and construction.* Upon the requirements for permit issuance in subsection (d) above being satisfied, the township engineer shall issue the permit by written notice to the property owner and the authorized contractor. The permit shall require the contractor to immediately schedule the construction and notify the township engineer of the commencement date. Absent an extension approved by the township engineer for reasons beyond the contractor's control, no more than forty-five (45) days are allowed from the notice of permit issuance for completion of construction, testing and start-up of the sanitary grinder pump system.

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- (h) *Construction requirements.* The contractor work shall include all electrical and low voltage power (telephone) related work necessary to connect electrical power supply from the meter location exterior to the property to the exterior location of auto-dialer and control panel. Power supply to panel shall be a minimum 30-amp circuit, 240-volt, 12-gauge, 4-wire service (neutral, ground, two (2) hot leads), installed per electrical code. Auto-dialer, telephone line and its power supply, along with the grinder pump station shall be connected, tested by the contractor prior to acceptance by the township, and putting in to service. All low-pressure force-mains shall be directionally drilled, tested and put into service prior to connecting to the grinder pump system(s). The force-mains shall be constructed with high density polyethylene pipe (HDPE): ASTM D 3035, SDR 11 pressure rating 160 PSI and service lines with HDPE pipe: SDR - 9, pressure rating of 200 PSI. All joints shall be heat fusion bonding that meets ASTM D 2657 standards. All flange adapters and stub ends shall be butt heat fusion bonded. All leak tests shall be conducted in accordance with Oakland County Drain Commissioner's adopted requirements. All materials and equipment used in the system shall be new. No sanitary wastewater shall be discharged to the storm drains, lakes, ditches or any tributary connected to the waters of the state due to construction activity associated with these projects. Sanitary sewers shall not be used for clean-out or de-watering outlets.
- (i) *Township acceptance.* Upon the township engineer confirming that the sanitary grinder pump system has been properly installed and connected to the public sanitary sewer system, a written notice of that determination shall be issued to the property owner and sanitary sewage from the structure may thereafter be discharged to the public sanitary sewer system.
- (j) *Operation and maintenance charges.* The township's costs in operating, maintaining, repairing and replacing all or part of a sanitary grinder pump system shall be payable by the property owner according to a schedule of costs to apply for actual services required and/or as a quarterly surcharge, with the amounts and items covered to be established by resolution of the township board of trustees, to be billed, paid, collected and enforceable, including as a lien on the property, in the same manner as provided for other water and sewer charges.
- (k) *Owner agreements and responsibilities.* The owners and occupants of a structure serviced by a sanitary grinder pump system shall immediately notify the township according to instructions it provides, of any problems or possible defects with the system and its performance and of any power outages at the structure or audible alarms for the system that may be activated. Regardless of whether it was given, in the above situations where notice was to be given to the township, the use of water in the structure in a manner that discharges to the sanitary grinder pump system shall be discontinued until such time as the township confirms that the system may be used, with the owners and occupants assuming all risk and responsibility for any damages to the structure and its contents from the back-up of continued discharges to the system in violation of this provision, indemnifying and holding the township harmless therefrom.
- (l) *Enforcement and penalties.* Compliance with the terms and conditions of this section and any easement, agreement or obligation under it shall be enforceable by and subject a violator to the following procedures, penalties and liabilities, as provided for in sections 24-134 and 24-155.
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- (1) Where a structure is not connected to an available public sanitary sewer system, including a low pressure force line, as required in section 24-133, the township may bring an action for a mandatory injunction in the circuit court to compel the connection.
 - (2) The township shall be permitted to enter upon all properties for the purposes of inspection, observation, measurement, sampling and testing of the sanitary grinder pump system at any time during reasonable or usual business hours, with persons refusing or obstructing such entry guilty of a violation of this article.
 - (3) A person found in violation shall be served with written notice stating the nature of the violation and providing a reasonable time for correction. Failure to take the corrective action within the time stated shall be a violation of this article.
 - (4) Violators shall be liable to the township for any expense, loss or damage occasioned to the township by reason of the violation, which may be recovered by appropriate action in a court of competent jurisdiction.
 - (5) Any continued violation, after due notice as provided in subsection (3), shall be deemed a public nuisance, and may be abated by the township upon complaint in any court of competent jurisdiction.

In addition, violations are also punishable as a misdemeanor, subjecting the violator to the penalties and actions provided in section 1-10 of the Code. The township may pursue more than one (1) of these enforcement procedures for a violation at the same time.

(Ord. No. C-660, § 1, 11-17-03)

Secs. 24-158—24-170. Reserved.

ARTICLE V. CONSTRUCTION PERMITS

Sec. 24-171. Definitions.

For the purpose of the article, the following definitions shall apply:

Private street means all vehicular traffic routes other than public streets which serve more than one (1) building or which service a fire hydrant and shall be constructed to county road commission standards.

Public sanitary sewer means any enclosed, reasonably watertight conduit for transporting sewage, which is operated under the control of any public body for the transporting of sewage into any intercepting sewer or sewers of the county, or which is designated for carrying such sewage treatment plant also operated by any public body.

Public storm sewer means a drainage system serving more than one (1) premises designed and constructed to be operated and maintained by the county drain commission.

Public street means those thoroughfares intended to be maintained by the county road commission and shall meet the design and construction standards of and be acceptable to the county road commission.

Storm sewer means any enclosed or unenclosed conduit or system for the collection and removal of stormwater or surface water of any kind from any property. Storm sewers shall include existing streams, rivers, creeks, brooks, ponds, lakes or other natural watercourses if such natural water courses are to be included as part of such.

Water supply system means any well or other system for bringing water from any source onto any premises.

Cross reference(s)—Definitions and rules of construction generally, § 1-2.

Sec. 24-172. Permit required.

No water supply system designed to serve more than one (1) premises and no public sanitary sewer or other sanitary sewers or storm sewers which shall serve or be designed to serve more than one (1) premises shall be constructed, reconstructed or altered in the township unless a request for such construction, reconstruction or alteration is approved by the township engineer and appropriate permits are obtained from the township, county, state and other governmental agency that may be involved.

Sec. 24-173. Application.

- (a) Application for a permit under this article shall be accompanied by complete plans and specifications which shall be submitted to the township engineer for review and approval before such permit is issued.

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- (b) Plans, specifications and detailed estimates for the proposed system shall be submitted by the owner to the township in duplicate for approval. Necessary corrections, if any, will be marked on all sets and one (1) set returned to the design engineer. Sufficient sets of final water, storm sewer and sanitary sewer plans and specifications shall be submitted to the township. The township will, after approval by its engineer, forward the plans to the appropriate agency for ultimate approval and construction permit by the state department of health. No construction shall be started until such permit is received and inspection fees have been provided for.

Sec. 24-174. Issuance upon approval of plans, specifications; appeal from denial.

If the plans and specifications are approved by the township engineer, construction permits shall be applied for upon payment of the fees as hereinafter provided. If the township engineer does not approve the plans and specifications, he shall give his recommendations in writing to the township board with a copy to the applicant. The applicant may amend the plans and specifications in accordance with the recommendations or may appeal the decision of the engineer to the township board in writing, in which event he shall be given a hearing before the board at a regular meeting within thirty (30) days after notice of appeal is received by the township clerk.

Sec. 24-175. Inspections.

The township engineer shall make or cause to be made all inspections of the project as the work progresses as he shall deem necessary to ensure that water, sewer or street systems will be built in accordance with the approved plans and specifications and in accordance with all ordinances and regulations of the township or the county. The township engineer shall have the right to authorize departures from the approved plans and specifications where necessary because of unforeseen circumstances, but no departures from the approved plans and specifications shall be made without the authorization of the township engineer. If the township engineer shall find that the improvements are not being installed or constructed in accordance with the aforementioned standards, he shall order such construction to be stopped immediately and issue a written notice of violation requiring the improper installation to be so corrected. In the notice, the engineer shall specify a time limit for the correction of the violations. If the violations are not corrected within the specified time, the township may take any other legal steps necessary to obtain compliance.

Sec. 24-176. Fees.

Review and estimated inspection fees pursuant to this article shall be paid to the township treasurer in such amounts and at such times as established by resolution of the township board.

Sec. 24-177. Engineering and construction standards—Generally.

The following minimum standards as provided in this section and in sections 24-178, 24-179, 24-180, 24-181 and 24-182 are intended to provide consistently good public facilities by establishing minimum standards for design, construction, testing and materials for certain improvements under the ultimate jurisdiction of the township. Conditions may arise which are

not covered by these specifications. In such cases, the consulting engineer must prescribe the course of action to be followed and submit same to the township engineer. These standards are minimum standards and more desirable requirements may be employed by the consulting engineer to attain greater functional efficiency, security and protection. These standards are not intended to violate or jeopardize any of the requirements of the state department of health or the county department of public works.

- (1) Plans shall be submitted on sheets not greater than twenty-four (24) inches by thirty-six (36) inches white prints and shall be neatly and accurately prepared by a registered professional engineer.
- (2) For projects having more than one (1) sheet of plans, a general plan having a scale of 1" = 100' shall be provided showing the overall project and indicating the location of all improvements shown in detailed plans. Show all street names, dimensioned lot lines and lot numbers on the plans. Easements shall be twelve (12) feet minimum width. On this general plan show two-foot contours of the area at least one hundred (100) feet outside of the project.
- (3) All sewers shall be shown in plan and profile. Profiles shall indicate size, invert, slope of sewer, existing ground and proposed finished grades.
- (4) Elevation shall be on U.S.G.S. datum with bench marks listed and indicated at least every one thousand two hundred (1,200) feet.
- (5) Finished grades of structures shall be shown on the plan or profile of all structures.
- (6) In case of subdivisions, a copy of the completed plat shall be referenced with "as-built" construction plans.
- (7) In new land developments, sewers and water mains may be required to be installed from boundary to boundary as ultimate use dictates.
- (8) There shall be a note on the plans requiring that all construction is to be done in accordance with the township and county department of public works construction specifications.
- (9) "As-built" plans shall be prepared by the consulting engineer from his field measurements taken during construction before the project is accepted by the township.
- (10) All water and sewer mains shall be installed in accordance with grade stakes set by the consulting engineer.
- (11) Any and all regulations, specifications and/or materials required in this article that are approved or not approved by county, state, federal or governing agencies shall be honored and permitted or not permitted as the case may be.

Sec. 24-178. Same—Water mains.

Engineering and construction standards for water mains are as follows:

- (1) *Design standards:*

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- a. The distribution system in all developments requiring more than six hundred (600) feet of water main shall have a minimum of two (2) connections to a source and shall be a looped system. Water mains are to be looped whenever possible. Water mains must be sized to serve at least two thousand (2,000) gpm for single-family detached residential; three thousand (3,000) gpm in apartment or multiple residential, institutional and school areas; and at least four thousand (4,000) gpm in office, industrial and shopping centers. Water mains shall be extended along all road frontages abutting the proposed development. In new developments, water mains shall be installed from boundary to boundary in abutting roads and interior streets, and at other locations as may be deemed necessary by the township engineer for future extensions.
 - b. In general, the minimum size of mains shall be eight (8) inches in diameter. Gate valves shall be located so that not more than three (3) must be turned off to isolate any section of water main. In addition, not more than twenty (20) lots or living unit or eight hundred (800) feet of mains will be in any one (1) section for isolation. Where possible, gate valves shall be located at street intersections five (5) feet from intersections of street right-of-way lines.
 - c. Depth of cover shall be minimum of five and one-half (5½) feet, including those under ditches and watercourses.
 - d. Minimum design shall be such that during normal operating conditions thirty-five (35) psi at any point in the distributing system shall be maintained, with not less than twenty (20) psi during peak demand. Maximum safe operating pressure shall be eighty-five (85) psi unless special provisions are made. Generally, operating pressures shall be between forty (40) and sixty (60) psi.
 - e. All hydrant installations must include a valve between the hydrant and the main, with an adjustable cast-iron box to protrude above the proposed finished grade.
 - f. Gate wells shall be used at all main line valve installations.
 - g. All service installations shall be made by employees or agents of the township water department according to charges established by the then-current resolution adopted by the township board. However, on public infrastructure projects being constructed by the township or its contractors, service installations may be made as part of the construction of the project if it is deemed by the township engineer to be necessary and in the best interest of the township, taking into consideration the location of the public utility, the condition of the road, and the restoration required, as well as other relevant circumstances.
 - h. "As-built" drawings shall show exact location of valves, hydrants, main locations, house leads and services from lot or street corners and stationing from grade wells or hydrants.
 - i. Hydrant water mains not exceeding twenty-five (25) feet in length shall be a minimum diameter of six (6) inches.
 - j. A profile view is required for water mains of sixteen-inch diameter and larger, and for other sizes when deemed necessary under the circumstances by the township engineer.
 - k. In no case shall any sewer be connected to a gate well, for any purpose.

(2) *Hydrants:*

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- a. In general, hydrants should be installed with a maximum spacing of five hundred (500) feet for platted single-family, and two hundred fifty (250) feet for clusters, condominiums and multiple-family, with no house more than four hundred (400) feet from a hydrant, as measured in the street. In commercial or industrial districts, all points on the building shall be within two hundred fifty (250) feet of a hydrant.
 - b. Hydrants shall be installed at all dead-ends of water mains as blow-offs.
 - c. Grades, on U.S.G.S. datum, shall be established by the consulting engineer for all mains, structures and hydrants.
 - d. Steamer or pumper openings shall face the street.

(3) *Testing and disinfection:*

- a. Upon completion of mains, system shall be treated by one hundred fifty (150) pounds pressure for four (4) hours by the contractor and in no case shall there be any visible leakage or leakage exceeding one hundred (100) gallons per twenty-four (24) hours per inch diameter of pipe per mile of length in a two-hour period or in accordance with the requirements of the governing body.
- b. After testing is completed and approved, all water systems shall be flushed and disinfected in accordance with the requirements of American Water Works Association Specifications AWWA 7DA-1947 before being put in service. Three-quarter-inch sampling cocks shall be installed for this purpose.
- c. The contractor shall be responsible for the cost and furnishing of all water necessary for flushing and disinfecting the water main.

(4) *Materials required:*

- a. Pipe of sixteen-inch diameter or smaller shall be Class 54 ductile iron or better. Pipe sizes sixteen-inch to twenty-inch diameter shall be prestressed concrete cylinder pipe with rubber and steel joints. Pipe sizes twenty-four-inch and larger shall be prestressed concrete embedded cylinder pipe with rubber and steel joints. All design shall conform to AWWA Standard 301, Section 1.5 Ductile iron Class 54 may be used. Joints shall be bell-and-spigot rubber joint or approved mechanical joint. In general, all pipe and joints shall meet the standards of the Oakland County Department of Public Works and the Detroit Water Board.
 - b. Concrete thrust blocks shall be placed at twenty-two and one-half (22½) degree bends or greater, dead-ends, T's, hydrants, some crosses, etc. Thrust blocks shall be constructed of three thousand (3,000) psi wet mix concrete.
 - c. Valves shall be iron body, fully bronze mounted, double disc: parallel or wedge, set valves, nonrising stems, opening counterclockwise, conforming to federal specifications WW-V-58, Type II, Class A as manufactured by Mueller, East Jordan, or approved equal.
 - d. Gate wells shall be precast concrete four-foot minimum diameter for six-inch and eight-inch valves, five-foot diameter for ten-inch to twelve-inch valves, and six-foot diameter for twelve-inch valves. Gate wells shall have six-inch floors of three thousand (3,000) psi concrete, four hundred (400) pounds cover and frame, and covers shall be marked "Water Supply Gate."
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- e. Hydrants shall be Mueller No. A-24015, East Jordon Model 6-BR, or approved equal. Hydrants shall not be self-draining. Check with the township fire department for thread sizes and placement.
- f. Water services—Type K. Soft copper pipe or an approved equal from one-inch to two-inch diameter shall be used. Over two (2) inches, Class 150 cast-iron pipe shall be used. Adjustable curb boxes only shall be installed similar to Mueller or approved equal.

Sec. 24-179. Same—For sanitary sewers.

Engineering and construction standards for sanitary sewers are as follows:

- (1) Show size of pipe on cover sheet.
- (2) Sewer profiles shall indicate length of run between manholes, size, slope and class of pipe, special bedding and special backfill of all lines.
- (3) Generally, no sewer will be less than nine (9) feet in depth below centerline of road.
- (4) Laterals shall be a minimum of eight (8) inches in diameter. Lines should be designed for obvious future and ultimate use.
- (5) To assure minimum velocities of two (2) feet per second flowing full, minimum slopes for sanitary sewer shall be:

8" @ 0.40%	18" @ 0.12%
10" @ 0.28%	21" @ 0.10%
12" @ 0.22%	24" @ 0.08%
15" @ 0.15%	

Maximum velocities flowing full shall be twelve (12) feet per second.

- (6) Maximum allowable infiltration shall be two hundred (200) gallons per one-inch of diameter of sewer per twenty-four (24) hours. An acceptable exfiltration testing method may be required in dry weather or when sewer is above groundwater table.
- (7) In general, manholes should be placed at each change in grade, alignment and change in pipe size, and be at three hundred fifty (350) feet maximum spacing, and shall be in street right-of-way.
- (8) External drop manholes shall be used whenever a disparity of more than eighteen (18) inches between inlets and outlets of sewers will exist.
- (9) The same energy gradient shall be maintained through a manhole when pipe sizes change.
- (10) When change of direction of greater than forty-five (45) degrees occurs through a manhole, an allowance of two-tenths (0.2) feet in grade shall be made for loss of head.

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- (11) Minimum inside diameter of a manhole shall be forty-eight (48) inches.
 - (12) Bolted covers shall be used on all manholes located in other than public thoroughfares and easements adjacent thereto.
 - (13) A note or detail shall indicate type of bedding to be used.
 - (14) Inverted siphons shall have a minimum of two (2) pipes, with minimum velocities of three (3) feet per second and be of cast iron or cement asbestos pressure pipe.
 - (15) Pumping stations shall be of duplex design (two (2) or more pumps) and will be considered individually.
 - (16) Compacted selected granular backfill is required under and within the influence of all existing and proposed pavements and structures and existing driveways.
 - (17) Each wye or end-of-house connection shall have a plug with the same type of joint as the main sewer.
 - (18) Allowable types of sewer pipe, joints and manholes shall be current township and county department of public works standards and shall be noted on plans.
 - (19) House leads—Sewer running from lateral to property line shall be six (6) inches minimum diameter with maximum depth of ten (10) feet at property line, except for special cases.
 - (20) Lead or stub shall be marked at property with a 2 by 4, four (4) feet long, buried on end or in another approved manner.
 - (21) Notes on plans: In addition to above conditions appropriately noted on plans, the following notes shall appear:
 - a. At all connections to Farmington Interceptor Systems, the following shall be shown: "Oakland County D.P.W. Permit required \$50.00 fee";
 - b. Downspouts, weep tile footing drains, or any groundwater or stormwater shall not be permitted into sanitary sewer;
 - c. Note on infiltration;
 - d. Wherever existing manholes or sewer pipe are to be tapped, drill holes at four-inch centers around periphery of opening to create plane of weakness before breaking section out;
 - e. For infiltration test, a temporary twelve-inch deep sump shall be provided in the first manhole above connection and will be filled in and channeled after successful completion of test. Provide watertight bulkhead with a capped one-inch diameter pipe through bulkhead for measurement of infiltration. Air testing according to county department of public works standards may be allowed and televising of lines may be required by the township;
 - f. For new manholes to be constructed over existing Farmington System Sewers or extension, use the county department of public works wet ground manhole according to details obtained from the county department of public works;
 - g. Include notes relative to pipe classes, joints, stoppers and all pertinent information for methods of construction, permit, etc.
 - (22) Materials required:

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- a. Sewer pipe shall conform to the following specifications:
 1. Clay pipe: ASTM C-200 and NCPI-ER 4-67 ES;
 2. Concrete pipe: ASTM C-14 extra strength C-76 Class 1-5;
 3. Asbestos cement: Federal Specifications SS-P-331;
 4. Plastic pipe: ABS Truss pipe. Plastic leads shall be SDR 23.5 six-inch diameter minimum as approved by the county department of public works;
 5. All pipe material and joints shall be equal to the county department of public works requirements and standards or better as approved by the township engineer.
 - b. Joints shall be Tylox cast-in-bell or approved similar premium joint.
 - c. Manholes shall be precast with eccentric cone type and have steel reinforcement conforming to ASTM specifications for C-75 pipe. Bottoms shall be eight (8) inches thick and extend six (6) inches beyond outside diameter of structure.
 - d. Concrete for manholes and structures shall be three thousand (3,000) psi wet concrete.
 - e. Manhole steps shall be of one-inch approved aluminum or wrought iron.
 - f. Manhole frames and covers shall be of "Detroit Standards" East Jordon #1040, or approved equal, four hundred (400) pounds minimum weight, twenty-four-inch opening bolt down covers per county department of public works standard details.
- (23) Sewers shall be extended to the property boundary within a twenty-foot easement, to provide for future extension, as and in such locations determined appropriate by the township engineer, taking into consideration all facts and circumstances.

(24) Force mains:

- a. All force mains shall be Ductile Iron Pipe Class 54.
- b. The minimum depth of force mains shall be five (5) feet.
- c. Force mains shall be provided with automatic and release valves in wells at all main high points as approved by the township engineer.
- d. The owner shall be responsible for furnishing and for the cost of all water required for pressure testing. Such person shall test by filling the main with clean water under a minimum hydrostatic pressure of one hundred (100) pounds per square inch.

In no case shall the leakage in any stretch of pipe being tested exceed the following amounts in a two-hour period:

- 2" pipe—0.06 gallons per 100 linear feet
- 3" pipe—0.12 gallons per 100 linear feet
- 4" pipe—0.16 gallons per 100 linear feet
- 6" pipe—0.24 gallons per 100 linear feet
- 8" pipe—0.32 gallons per 100 linear feet
- 12" pipe—0.48 gallons per 100 linear feet

The owner shall pressure test sections of force main as directed by the engineer. Pressure testing shall be made in increments of two thousand (2,000) feet or less unless otherwise authorized by the engineer, and then only the allowable leakage for two thousand (2,000) feet will be permitted.

Sec. 24-180. Same—For storm sewers.

- (a) *Generally.* Hydraulic design calculations and a copy of the drainage area layout used for the hydraulic design shall accompany construction plans submitted for review. The drainage area layout shall be superimposed on the proposed grading plan for the development.
- (b) *Engineering and construction standards.* Engineering and construction standards for storm sewers are as follows:
 - (1) Show size of pipe on cover sheet.
 - (2) Sewer profiles shall indicate length of run between manholes, size, slope and class of pipe, special bedding and special backfill of all lines.
 - (3) Notes on plans:
 - a. Note all pertinent information necessary for contractor; information such as pipe classes, joints, manholes, etc.;
 - b. State that all construction backfill, bedding, etc., shall be in accordance with township and county drain commission specifications.
 - (4) Storm drainage:
 - a. Systems shall be of minimum design according to the rational formula using the Detroit ten-year curve for one (1) hour rainfall.
 - b. The consulting engineer shall submit a drainage map outlining the various areas contributing surface water runoff to the storm sewers involved, drainage along with design computations and runoff coefficients for review and approval and shall place his professional engineering seal on the map.
 - c. In general, sufficient capacity shall be provided in storm system to adequately serve fully developed upstream drainage.
 - d. Minimum velocity with pipe flowing full shall be two and five-tenths (2.5) feet per second and maximum velocity shall be ten (10) feet per second.
 - e. Where hydraulic gradient is above top of pipe, show design elevation on plans.
 - f. The following minimum slopes shall be used:

12" @ 0.36%	30" @ 0.10%
15" @ 0.24%	36" @ 0.08%
18" @ 0.20%	42" @ 0.06%
21" @ 0.16%	48" @ 0.05%
24" @ 0.14%	54" @ 0.04%
27" @ 0.12%	60" @ 0.04%

Note: Storm sewers shall be of twelve (12) inches minimum diameter.

- g. All inlets shall be laid at one (1) percent minimum grade.
- (5) When concentrated stormwater is outletted on downstream property, the rate and nature of discharge shall be designed to assure than no damage results.

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- (6) Where possible, provide three (3) feet minimum cover over sewers to top of pipe. Storm sewer shall be C76-IV premium joint or better. Catch basin leads within a street shall be C-76-IV pipe.
- (7) A note or detail shall show the type of bedding to be used.
- (8) Manholes:
- a. Manholes shall be placed at each point of change in grade, alignment or pipe size, and shall be a minimum of forty-eight (48) inches in diameter.
 - b. Maximum manhole spacing should be three hundred fifty (350) feet for twelve-inch to thirty-inch sewers; four hundred (400) feet for thirty-three-inch to forty-two-inch sewers; four hundred fifty (450) feet for forty-eight-inch sewers; five hundred fifty (550) feet for fifty-four-inch to sixty-inch sewers; six hundred (600) feet for sewer larger than sixty (60) inches in diameter.
 - c. When a change in pipe sizes occurs, grades of each size sewer shall be set so as to match energy gradients.
 - d. When a change in direction occurs through a manhole, one-tenth-foot allowance for loss of head shall be made.
 - e. Catch basins shall not be substituted for manholes.
- (9) Catch basins shall generally be located at:
- a. Low points in streets.
 - b. Low points in easements with maximum of six (6) acres of drainage per catch basin, the maximum being the amount carried by a twelve-inch pipe.
- (10) Catch basins leads shall connect to a manhole.
- (11) Finished easement grades shall be shown on plans.
- (12) Improved open drains may be permitted.
- (13) Headwalls and inlet structures shall be placed as required.
- (14) Materials required:
- a. Sewer pipe shall conform to the following specifications:
 1. Concrete pipe: ASTM, C-14 extra strength, or C-76 Class 1-5;
 2. Corrugated metal pipe: AASHTO, M-36-47 and Bureau of Public Roads specifications 5G3 or 5S1;
 3. State of the art materials as approved by the county drain commission.
 - b. Joint material shall be premium class.
 - c. Manholes shall be precast, as specified with eight-inch-thick floors extending six (6) inches beyond outside diameter.
 - d. Concrete for manholes, catch basins and structures shall be three thousand (3,000) psi wet concrete.
 - e. Manhole steps shall be of approved aluminum or wrought iron.
 - f. Manhole frames and covers shall be equal to East Jordon Iron Works 1040 of four hundred (400) pounds in weight.
 - g. Inlet frame and covers shall be in accordance with county road commission specifications.
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- (15) Retention basin design shall be in accordance with section 24-185 of this Code.
 - (16) Wetlands: any construction within twenty-five (25) feet of designated wetlands must receive approval by the governing wetlands authority.
 - (17) Rear yard catch basins may be used to drain local areas where complete drainage toward the front yard is impossible. In general, lots should slope from rear to front and drain toward the street. Side swales shall be used to prevent drainage onto adjacent property.
 - (18) Storm sewers used to collect water from sump pump discharges shall be minimum eight-inch diameter.
 - (19) All storm sewers shall be centered within a twenty-foot permanent drainage easement minimum.
 - (20) Surcharging under approved design conditions is allowed; however, the hydraulic gradient should not exceed any structure cover elevations.
 - (21) Eccentric cones shall be provided on all access structures, regardless of the material used.
 - (22) Service leads provided for footing drain discharge shall consist of schedule 40 P.V.C. or cast-iron pipe. Minimum pipe diameter shall be four (4) inches. Minimum slope shall be one (1) percent.
 - (23) Oil and grease separators shall be provided, unless specifically waived by the township engineer, under the circumstances.

Sec. 24-181. Same—For water supply.

Engineering and construction standards for water supply are as follows:

- (1) Well sites:
 - a. Sites shall be selected with approval of the state health department as to drainage isolation and desirability being dependent on well locations.
 - b. Before acceptance, each site shall be properly graded, seeded and mulched, or sodded, and shall have a paved access drive twelve (12) feet wide installed.
- (2) Wells:
 - a. In general, a twelve-inch minimum diameter production well of two and one-half (2½) gallons per minute per residence capacity and a six-inch minimum standby well of one (1) gallon per minute per residence capacity shall be required for a municipal water supply as approved by the state department of health. Such wells shall be a minimum of twenty (20) feet apart. All wells, pressure tanks and appurtenances shall be housed.
 1. In a system contemplating adequate overhead storage, one and one-fourth (1¼) gallons per minute per residence may be permitted.
 2. Such wells having a minimum of fifteen (15) feet continuous horizontal impervious layer of soil through which the well is drilled shall have one hundred (100) feet of isolation area.

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3. Wells having less than fifteen (15) feet of impervious material over them shall have two hundred (200) feet of isolation.
 - b. Before a test well is started, approval of the site should be obtained from the state department of health. After approval by the state department of health of the test well, application for permit to dig production well shall be made by and in the name of the township. No production well shall be drilled without such permit.
 - c. Production wells shall be pump tested, using a step-draw-down procedure. A professional consultant's report of the test and recommended well rating shall be submitted to the township engineer. The township shall apply for a production well permit on behalf of the owner. The permit shall be made out in the name of the township.
 - d. After a permit is issued, the well system shall be turned over to the township as a public utility, to be owned and operated by the township.
 - e. No building permits shall be made available prior to the successful installation, and testing of the production well, and a permit is obtained from the state health department.
 - f. All discontinued wells shall be abandoned in accordance with A.W.W.A.-A-100-66, or most recent addition, entitled *Standard Specifications for Deep Wells*.
- (3) Tests:
- a. Pumping tests shall be a minimum of eight (8) hours' duration, more if required by the state health department or the state water resources geological division.
 - b. Pumping rate for each well shall be at the maximum rate to determine ultimate capacity.
 - c. Pumping log shall show following data:
 1. Total depth of well;
 2. Static water level;
 3. Length and size of column and tailpipe;
 4. Length of air line;
 5. Size of discharge pipe;
 6. Size of orifice;
 7. Length and description of screen, including openings.
 - d. Reading of amount of draw-down and pumping rate shall be taken according to the state department of health specifications: every minute for the first ten (10) minutes; every two (2) minutes for the next ten (10) minutes; every five (5) minutes for the next twenty (20) minutes; every ten minutes for the next twenty (20) minutes; every thirty (30) minutes thereafter for the duration of the test.
 - e. For the test well, readings on rate and recovery shall follow the same schedule for the first hour after pumping; then the overnight recovery shall be shown if not fully recovered in the first hour.
 - f. For the production well, in addition to the above requirements, the draw-down and recovery on the test well shall be taken on the same schedule and shown on the log. Recovery schedule for this test shall be altered to provide for readings every thirty (30) seconds for the first three (3) minutes of recovery. Recovery readings shall be continued for three (3) hours unless full recovery has been made before that time.
 - g. If required by the state department of health for the determination of the safe maximum capacity of the production well, a six-hour step-draw-down test shall be

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- made. Pumping rate shall be two (2) hours at fifty (50) percent of the continued pumping rate; two (2) hours at seventy-five (75) percent thereof; and two (2) hours at one hundred (100) percent thereof. Simultaneous observation shall be made on the test well; recovery measurements will not be required.
- h. Quadruplicate copies of driller's log of well, partial chemical analysis, bacteriological analysis, and topographic map of well site shall be sent to the township for forwarding to the state department of health requesting approval of proposed pump installations and issuance of construction permit.
- (4) Piping shall be steel with flanged couplings, and:
- a. Shall be so arranged that either one of the wells or the pressure tank can be blown off without shutting off pressure in the mains. Blow-offs shall be four-inch minimum valved lines extending through the exterior walls and capped. Provide soil erosion protection from discharge end of blow-offs.
 - b. Use dresser couplings in discharge line of both pumps and from tank.
 - c. Propeller-type meter manufactured by Sparling or approved equal shall be installed on discharge line to mains.
 - d. A check valve with outside weighted lever shall be installed at each pump.
 - e. One-half-inch test cock with gate valve shall be provided at each pump and at tank discharge, discharging downward.
 - f. All piping and appurtenances to be painted with approved rust-inhibiting paint after installations.
- (5) Pumps:
- a. Shall be deep well vertical turbines, maximum one thousand seven hundred fifty (1,750) rpm, water lubricated, with semiopen impellers. Manufacturer's certified test curves shall be furnished. Pumps shall be subject to field testing to assure performance before acceptance. Motors shall be G.E., Westinghouse or approved equal.
 - b. Altitude lines and direct reading gages shall be installed for each well, and one (1) hand air pump shall be furnished with the installation.
 - c. Provisions should be made in well mounting for present or future installation of electric well level determination by installation of a two-inch stub pipe and cap in the pump base at a thirty-degree angle to the vertical.
 - d. A five-foot tail piece shall be attached to bottom of pump bowls. In no case shall the tail piece be figured to act as part of the pump column to put the pump on a suction lift; the pump installation should be such that the water level in the well is not drawn below the elevation of five (5) feet above the top of the screen.
 - e. Adequate pump column should be furnished to allow for a drop in the water table.
 - f. Water-lubricated pump bearings shall derive their water from the main side of the check valve. Open primer tanks will not be allowed.
 - g. Pump sizing calculations shall be submitted to the township engineer for review and acceptance.
 - h. Selection of type of starter shall conform to the recommendation of the company furnishing power. Starter shall be provided with built-in switch to provide hand-off and automatic control.

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- i. Automatic alternating control of starting of pumps shall be provided by the use of B/W controls or other approved equipment. These controls shall be installed on front of tank in such a manner that the electrodes can be removed for cleaning while the tank is under pressure.
 - j. Electrical equipment shall be Square D, or approved equal.
 - k. All electrical work shall be in accordance with correct rules and regulations of the National Board of Fire Underwriters and state and local regulations.
- (6) Materials required:
- a. Well casting shall be new and uniform to ASTM Specifications A-53 A-72.
 - b. Screens shall be Johnson Everdur or approved equal, and slot openings shall be determined by manufacturer from a sieve analysis of a sample of aquifer. Copies of same shall be furnished to the township.
 - c. Pressure tanks shall be in accordance with ASME code entitled *ASME Boiler and Pressure Vessel Code*, Section 8, "Unfired Pressure Vessels," 1956 Edition, and shall be clearly stamped when delivered to site. Pressure tanks shall be of adequate size, one hundred twenty-five (125) psi test, be of circulating type, with manhole; a two-inch bottom drain with valve piped to outside of building, sufficient taps for sight glass, controls, relief valve, compressor, etc., and flanged stubs of sufficient size to feed and discharge line.
 - d. All pressure tanks should be housed.
 - e. Tanks shall be painted of approved rust-inhibiting material.
 - f. Generally, operating pressure shall be forty (40) to sixty (60) psi, depending on ground elevations throughout system.
 - g. The air pressure relief valve on tank shall be set at high operating pressure. In addition, an adequate pressure relief valve shall be set on the feed line to the mains. This shall be set at ten (10) psi above the high operating pressure. The relief blow-off shall be piped outside of building, generally being six (6) feet above ground at outlet.
 - h. Water glass on tank should serve the full range of water variations and be valved at both ends.
 - i. Pressure gage should be a minimum of four (4) inches in diameter.
- (7) Pump well house:
- a. Pump houses should conform architecturally to surrounding design and the township building code.
 - b. Pump house walls shall be of masonry construction, eight (8) inches thick, or approved equal. Insulation shall be one-inch styrofoam.
 - c. Concrete floors shall be four-inch thick reinforced. Floors shall pitch two (2) inches in ten (10) feet and drain through approved screen scuppers at base of walls.
 - d. No glass-paned windows should be installed.
 - e. Roofs may be of frame construction with three (3) inches of blanket insulation and one-half-inch celotex, or approved equal.
 - 1. Concrete roof shall have two-inch styrofoam insulation.
 - 2. Roof insulation shall be removable underneath hatches.
 - f. Ventilation shall be provided by screened louvres for eaves above ceilings as well as interior of pump house. Minimum of two (2) ventilators should be provided. Doors

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- should be metal hinged to open out, locks to fit master key systems of the township.
All sash shall be metal.
- g. Footings shall be insulated on inside by two (2) inches of styrofoam.
 - h. Electrical heat shall be provided to maintain temperature of forty (40) degrees Fahrenheit when outside temperature is zero (0) degrees Fahrenheit and shall be controlled by a low-range thermostat.
 - i. Adequate lighting shall be provided, including a protected outside light over entrance. A duplex electrical outlet should be provided at each pump.
 - j. Hatches shall be five (5) feet minimum width opening, including door frame below.

Sec. 24-182. Same—For street systems.

All public and private streets shall be constructed to county road commission standards. Engineering and construction standards for public and private street systems are as follows:

- (1) Show pavement details on the plans including curbs.
- (2) Show pavement grades on the plans (six (6) percent maximum, one-half percent minimum) and horizontal control.
- (3) Gravel roads shall have a twenty-foot-wide surface with minimum five-foot-wide graded shoulders.
- (4) Street widths:
 - a. Collector street: twenty-four-foot surface or twenty-seven-foot back-to-back of curb;
 - b. Fire access street: twenty-four-foot-wide surface.
 - c. Parking access street: twenty-four-foot-wide surface.
- (5) Construction of private streets and roads will be inspected by the township's consulting engineers. The cost of this inspection will be borne by the developer/owner.
- (6) Parking lots and driveways are to be considered incidental to paving systems and are to meet state-of-the-art design and construction standards for hard-surfaced systems. The source of the standard is to be referenced on the plan.
- (7) The developer's engineer shall submit cost estimates of all paving and the township plan review fee will be based on this estimate.
- (8) Bike paths are considered incidental to street systems and shall meet the standards, review and construction procedures set forth by the township engineering department.
- (9) Cul-de-sacs shall have a minimum paved diameter of sixty (60) feet and a minimum turning clearance diameter of one hundred (100) feet.
- (10) Completed select granular backfill is required under and within the influence of all existing and proposed pavements, structures and driveways. On-site material may be used if authorized by the township engineer, based upon a review to determine whether such material has satisfactory qualities for backfill purposes. Maximum Standard Proctor 95% density shall be substantiated by a professional soils testing lab. The cost of testing shall be borne by the owner/developer.

Sec. 24-183. County permits.

Sanitary sewer system shall be connected directly or indirectly into the intercepting sewer or sewers of the county. In addition to all of the other requirements of this chapter, no sanitary sewer systems or public sanitary sewer shall be connected directly or indirectly into the intercepting sewer or sewers to the county unless a permit therefor is obtained from the county department of public works and such connection is completed in accordance with the current regulations of that department applicable thereto.

Sec. 24-184. Ditches.

- (a) Ditch design shall include maximum side slopes of one vertical to three horizontal (1:3), unless a variance is given by the engineering department subject to existing soil conditions. Minimum ditch slope shall be one (1) percent. All ditches shall be topsoiled, seeded and mulched.
- (b) Open ditch shall not exceed two (2) feet in depth.
- (c) Open ditches shall not be permitted on subdivision lots. Where concentrated surface drainage in subdivision lots is necessary, the use of swales with one on three (1:3) side slopes and a maximum depth of one (1) foot shall be permitted.
- (d) Rip-rap erosion control shall be required at all drainage pipe outlet points that discharge to open ditches.
- (e) At all drainage pipe outlet points of eighteen (18) inches diameter or larger, a prefabricated bar screen shall be installed. Bar screens shall have clear openings of not more than eight (8) inches.

Sec. 24-185. Stormwater holding facilities.

- (a) All new developments shall be required to provide stormwater holding facilities to retain runoff and limit peak discharge to that of the existing hydrology. Peak discharge shall not exceed the capacity of the downstream channel, receiving area or body of water. Peak discharge for the 2-year, 24-hour event may not exceed the existing rate and volume. Calculations identifying the existing peak discharge shall be submitted to the township engineer for review and acceptance.
- (b) Stormwater filtering basins may be required by the township engineer prior to discharge to the receiving water body, designed to improve the quality of the stormwater effluent by removing sediment and dissolved nutrients.
- (c) All detention ponds must be capable of complete dewatering by gravity. Pump discharges must be approved by the township engineer where gravity drainage is not feasible and will be considered on an individual basis.
- (d) Detention volume must be provided for all on-site acreage. Off-site drainage originally draining across the proposed development where the drainage path remains unaltered may be allowed to pass unrestricted or else shall be required to be detained or controlled by the

stormwater distribution system. Individual cases will be considered by the engineering department, considering the available downstream flow capacity.

- (e) All detention basins must have a one-foot freeboard above the design 100-year high water elevation. All basins must have an overflow provision draining to a location which can reasonably accept such overflow without damage to any property and without the creation of a health or safety problem. All spillway overflow must discharge into a recognized natural drainage course or drain. All spillways must have a hard surface consisting of concrete, asphalt or grouted rip-rap, or as otherwise approved by the township engineer, under the circumstances.
- (f) Detention basin side slopes shall be no steeper than one vertical to six horizontal (1:6). Slope protection shall be provided as required. Two (2) inches of topsoil with sod or with seed and mulch shall be installed over the entire basin.
- (g) A twelve-foot-wide access easement and gate and a ten-foot-wide paved access road shall be provided for all detention basins. Pavement shall be as specified in the engineering department.
- (h) A ten-foot-wide maintenance easement around the perimeter of the basin shall be provided. The inside border of this easement shall be at the top of the bank of the basin. Where fences are to be installed, it shall be located a minimum of eight (8) feet from the top of the bank of the basin.
- (i) An agreement for operation and maintenance of all detention basin systems must be executed by the developer/owner and submitted to the township prior to the issuance of a building permit or final approval of platted developments. The agreement both as to form and content shall be subject to the approval of the township's legal counsel.
- (j) Design criteria:
 - (1) The volume of stormwater detention shall be computed by the Oakland County Water Resources Office's "Variable Release Rate," for a 100-year peak runoff rate for developed sites.
 - (2) If the design engineer has the knowledge and capability of performing a hydrologic mass balance for a 100-year intensity design storm to size the retention basin, this will be encouraged and reviewed independently by the engineering department.
- (k) Parking lot detention of stormwater is not encouraged. It will only be permitted when it would not adversely affect the functioning of the facility. Maximum storage depths shall not exceed six (6) inches (time and maximum area).
- (l) If there is no outlet available, the volume of the retention pond shall be that of two (2) consecutive 100-year storms, as computed based upon standards established by the Oakland County Water Resources Commissioner's Office.
- (m) Sizing of retention basin volumes shall not utilize volume below the existing groundwater table. A comprehensive soil investigation shall be furnished to the engineering department for review, including, but not limited to, the following:
 - (1) Soil boring logs with blow counts and descriptions.
 - (2) Location of water table during and after drilling.

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- (3) Grain size analysis of soil at base elevation of proposed basin (if requested by engineering).
 - (4) Hydraulic conductivity (permeability) test of soil sample taken at proposed base elevation of retention basin.
- (n) All subdivision stormwater holding facilities shall be located in parks or out lots and not on one or more subdivision lots.

Secs. 24-186—24-188. Reserved.

Sec. 24-189. Connection to main water transmission line; limitation.

In the event an owner of property has had the option of tapping into an existing main water transmission line, and does not do so prior to the date of a hearing to determine necessity for a project in connection with the establishment of a special assessment district for improvement of a lateral water line designed to serve such property, such property may be included in the special assessment district, and, if the special assessment district is ultimately approved and the lateral water line constructed, the property owner shall not thereafter be tapped into the main transmission line unless it is determined by the township board to be in the public interest to permit such a tap.

Secs. 24-190—24-200. Reserved.

ARTICLE VI. STORMWATER MANAGEMENT³

DIVISION 1. GENERALLY

Sec. 24-201. Purposes.

The purposes of this article shall be:

- (a) To protect public health, safety and welfare by requiring stormwater management whenever new, expanded or modified developments are proposed.
- (b) To assure that stormwater runoff from development is controlled so that the water quality in watercourses, groundwater recharged by stormwater and habitat situated in areas impacted by stormwater, including, without limitation, watercourses and wetlands, are protected, and that siltation and pollution are minimized.
- (c) To provide for cost-effective and functionally-effective stormwater management, and to reduce the need for future remedial projects.
- (d) To prevent soil erosion and sedimentation.

³Editor's note(s)—The appendix referenced throughout Art. VI is set out in its entirety immediately following § 24-229

Cross reference(s)—Floodplain, floodway, watercourse and wetland protection, Ch. 12.

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- (e) To ensure that, if wetlands are to be used for stormwater detention, the natural functions and quality of wetlands throughout the township are protected to the maximum extent particularly with regard to the effects of stormwater elevation increases on existing woodlands. (*Also, see the West Bloomfield Township Wetlands Ordinance [chapter 12].*)
 - (f) To recognize private responsibility to incorporate stormwater management systems into the early stages of site planning and design.
 - (g) To ensure that all stormwater conveyance and detention facilities will be properly designed and maintained.
 - (h) To promote the avoidance of degradation of water resources by reducing and/or avoiding impacts on the hydrology of stormwater runoff.
 - (i) To establish regulations to prevent harmful effects of changes in the quantity and quality of surface water discharge into wetlands and water bodies that are in the Township of West Bloomfield, in whole or part.
 - (j) Recognizing that significant adverse surface and/or groundwater impacts may result from development, it is the intent of this article to require development design and control mechanisms to ensure that stormwater runoff does not result in a short-term and/or long-term threat to the public health, safety and welfare in the Township of West Bloomfield, and in downstream areas.
 - (k) To achieve compliance with state and federal law and regulations relating to water quality.

Sec. 24-202. Construction of language.

The following rules of construction apply to the text of this article:

- (a) Particulars provided by way of illustration or enumeration shall not control general language.
 - (b) Ambiguities, if any, shall be construed liberally in favor of protecting natural land and water resources.
 - (c) Words used in the present tense shall include the future, and words used in the singular number shall include the plural, and the plural the singular, unless the context clearly indicates the contrary.
 - (d) Terms not specifically defined in this article shall have the meaning customarily assigned to them.
 - (e) Considering that stormwater management in many cases requires sophisticated engineering design and improvements, some of the terms of this article are complex in nature. Effort has been made to simplify terms to the extent the subject matter permits. In addition, assistance and examples will be provided by or on behalf of the township as needed for the interpretation and understanding of this article.
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Sec. 24-203. Abrogation and conflict of authority.

Nothing in this article shall be interpreted to conflict with present or future state statutes in the same subject matter. Conflicting provisions of this article shall be abrogated to the extent of the conflict. The provisions of this article shall be construed, if possible, to be consistent with and in addition to relevant state regulations and statutes.

In their interpretation and application, the provisions of this article shall be held to be minimum requirements and shall be liberally construed in favor of achieving the objectives of this article, and shall not be deemed a limitation or repeal of any other powers granted by state statutes.

This article is not intended to repeal, abrogate or impair any existing ordinances, easements, covenants, or deed restrictions. However, where this article imposes greater restrictions, the provisions of this article shall prevail. If there is another ordinance that is inconsistent, the terms of the article that promotes the protection of natural resources to the greatest extent shall apply, including water quality, wetlands, woodlands, watercourses, environmental feature setbacks and other natural areas and habitat.

Sec. 24-204. Definition of terms.

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

Accelerated soil erosion. The increased movement of soils that occurs as a result of the impact of development upon the flow of stormwater.

BMP or Best Management Practice. BMPs are any structural, vegetative or managerial practice used to treat, prevent or reduce water pollution. Such practices include temporary seeding on exposed soils, detention and retention basins for stormwater control, and scheduling the implementation of all BMPs to ensure their effectiveness.

Channel Protection Volume (Vcp-p). Channel Protection Volume is intended to control runoff volume under post-development conditions for a 1.3-inch rainfall event.

Channel Protection Rate Control. Channel Protection Rate Control is a part of extended detention requirements which controls the release rate based on a 2-year / 24-hour storm event.

Conveyance facility. A storm drain, as defined in this article.

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

Development. Any change in land, buildings, structures and/or vegetative cover that tends to alter stormwater impact. This term shall not include customary lawn maintenance or gardening, but shall include redevelopment. "Redevelopment" shall be deemed to be included within the definition of "development" for purposes of this article if the amount of square footage of proposed building or structure improvement and/or the creation of new impervious surface area is (are) significant in terms of stormwater management, as determined in the discretion of the township engineer in consultation with the township environmental director; provided, however,

application of this article to redevelopment shall not have the result of entirely prohibiting reasonable use of property, and any dispute on this issue shall be resolved by the township board upon petition by an aggrieved property owner as an appeal, as provided in sections 24-223—24-226 of this article.

Discharge. Any addition or introduction of any pollutant, stormwater, or any other substance into the stormwater system or into groundwater.

Disturbed area. An area of land subjected to development.

Drainage system. All natural and human made facilities, measures, areas, and structures which serve to convey, catch, hold, filter, store, and/or receive stormwater, either on a temporary or permanent basis.

Earth change. A human-made change in the natural cover or topography of land, including but not limited to cut and fill activities, which may result in or contribute to soil erosion or sedimentation of watercourses or wetlands.

Engineered site grading. A sealed drawing or plan and accompanying text prepared by a registered engineer or landscape architect which shows alterations of topography, alterations of watercourses, flow directions of stormwater runoff, and proposed stormwater management and measures, having as its purpose to ensure that the objectives of this article are met.

Flood. A temporary rise in the level of any waterbody, watercourse or wetland which inundates areas not ordinarily covered by water.

Floodplain. For a given flood event, that area of land adjoining a continuous watercourse that has been covered temporarily by water.

French drain. A below-ground drain consisting of a trench filled with gravel to permit movement of water through the gravel and into the ground. Perforated pipe may be used to enhance the efficiency of the system.

Infiltration. The percolation of water into the ground, expressed in inches per hour.

Infiltration facility. A structure or designated area which allows runoff to seep gradually into the ground, e.g., French drains, seepage pits, infiltration trenches, dry well, or perforated pipe.

Maintenance agreement. A binding agreement that sets forth the terms, measures and conditions for the maintenance of stormwater systems and facilities.

Nonerosive velocity. Stormwater flow that does not cause accelerated soil erosion.

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

Peak rate of discharge. The maximum rate of stormwater flow at a particular location following a storm event, as measured at a given point and time in cubic feet per second (CFS).

Person. Any individual, firm, partnership, association, corporation, company, or organization of any kind including school districts and government agencies conducting operations within the township.

Planning commission. West Bloomfield Township Planning Commission.

Private storm system. A drainage system serving a platted subdivision or other development which has been designed and constructed and conveyed to be operated and maintained by a homeowners association or the Township of West Bloomfield.

Public storm system. A drainage system serving a platted subdivision or other development which has been designed and constructed and accepted to be operated and maintained by a governmental entity having authority and jurisdiction.

Receiving body of water. Any watercourse or wetland into which stormwaters are directed, either naturally or artificially.

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

Runoff. That part of precipitation which flows over the land.

Sediment. Mineral or organic particulate matter that has been removed from its site of origin by the processes of soil erosion, is in suspension in water, or is being transported.

Soil erosion. The wearing away of land by the action of wind, water, gravity or a combination thereof.

Soil erosion control measures. A structure, facility, barrier, berm, process, vegetative cover, basin, and/or other installations designed to control accelerated soil erosion. Temporary measures are installed to control soil erosion during construction or until soils in the contributing drainage area are stabilized. Permanent measures remain after the project is completed.

Storage facility. A basin, structure, or area, either natural or human made, which is capable of holding stormwater for the purpose of controlling or eliminating discharge from the site.

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

Stormwater discharge. The volume of water passing a given point at a given time expressed in cubic feet per second. Also referred to as rate of flow.

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

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

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

Swale. Defined contour of land with gradual slopes that transports and directs the flow of stormwater.

Township. Township of West Bloomfield.

Township board. West Bloomfield Township Board.

Watercourse. Any natural or manmade waterway or other body of water having reasonably well defined banks. Rivers, streams, creeks and brooks and channels, whether continually or intermittently flowing, as well as lakes and ponds are watercourses for purposes of stormwater management.

Watershed. An area in which there is a common receiving body of water into which stormwater ultimately flows, otherwise known as a drainage area.

Wetlands. 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, as defined by state law.

Sec. 24-205. Applicability.

Except for those activities expressly exempted by section 24-206, every new development (as defined in this article), or redevelopment in the Township of West Bloomfield shall have either a stormwater management plan or an engineered site grading plan, depending on the type of activity, as listed below. No development or preparation for development on a site shall occur unless and until an application has been submitted and approved for a stormwater management plan or engineering site grading plan.

- (a) *Requirement for a stormwater management plan.* A stormwater management plan shall be submitted and reviewed in accordance with requirements of sections 24-207—24-215. Approval of final development plans, site plans, and final preliminary subdivision and condominium plans shall not be granted prior to approval of the stormwater management plan. The following types of developments and earth changes require a stormwater management plan:
- (1) Land development proposals subject to site plan review requirements in the Township of West Bloomfield Zoning article.
 - (2) Subdivision plat proposals.
 - (3) Site condominium developments pursuant to the Condominium Act, P.A. 59 of 1978 as amended; MCLA 559.101 et seq.
 - (4) Any development on property divided by land division in connection with which one or more public or private roads are created or extended, and/or in connection with which more than three (3) parcels of less than one (1) acre are created. A private road shall include: an existing drive which, following the land division, serves more than one (1) home; and a new private road approved by the township meeting ordinance design standards.
 - (5) Any proposal to mine, excavate, or clear and grade or other-wise develop one (1) acre or more of land for purposes other than routine single-family residential landscaping and gardening, or any proposal within five hundred (500) feet of the top of the bank of an inland lake or stream.
 - (6) Development projects of federal, state and local agencies and school districts.

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- (7) Maintenance of a stormwater basin constructed prior to the effective date of the regulations of which this subsection is a part.
 - (b) *Requirement for an engineered site grading plan.* An engineered site grading plan shall be submitted and reviewed in accordance with requirements of sections 24-216—24-217. The engineered site grading plan shall be approved by the township engineer prior to the issuance of any building permit. The following types of new construction of single-family housing units require an engineered site grading plan:
 - (1) Development on acreage parcels (lot splits) for which a stormwater management plan is not required.
 - (2) Development on platted subdivision lots.
 - (3) Development on site condominium units.

Sec. 24-206. Exempt activities.

- (a) Notwithstanding the requirements of section 24-205, neither a stormwater management plan nor an engineered site grading plan shall be required for activities commonly associated with farming, horticulture and silviculture including plowing, irrigation, irrigation ditching, seeding, cultivating, minor drainage, harvesting for the production of food, fiber, and forest products, provided, however, such activities must be bona fide commercial enterprises, being undertaken without the expectation of being converted to some other use within the foreseeable future.
- (b) Routine single-family residential landscaping and/or gardening which conforms with the stormwater management plan or site grading plan approved by the township, and which does not otherwise materially alter stormwater flow from the property in terms of rate and/or volume.
- (c) Development on one single-family lot, parcel or condominium unit where the township engineer and township environmental director determine that, due to the size of the site, or due to other circumstances, the quantity, quality and/or rate of stormwater leaving the site will not be meaningfully altered.
- (d) Any discharges subject to Sec. 24-206.1 shall not be an exempt activity.

Sec. 24-206.1. Discharges into Township Municipal Separate Storm Sewer System (MS4)

- (a) Any discharges into Township owned MS4 from projects over one (1) acre in size or part of a larger plan of development will be reviewed and required to meet channel protection and water quality standards of the Township's MS4 permit.
- (b) All Township properties shall meet the requirements of the Township's current MS4 permit.

DIVISION 2. PLAN REQUIREMENTS AND FACILITY

Sec. 24-207. Preapplication conference.

A preapplication conference shall be held with the township planning director, engineering director and environmental management director prior to the submittal of a stormwater management plan. The purpose of the preapplication conference is to provide information about plan submittal requirements, and township and county regulations.

(Ord. No. C-644, § 4.01, 10-25-04)

Sec. 24-208. Contents of stormwater management plan.

(a) *Plan presentation.*

- (1) Through plans, illustrations, reports, and calculations, the stormwater management plan shall display the required information specified in part one of the appendix.
- (2) The stormwater management plan must be sufficiently detailed to specify the type, location, and size of stormwater management facilities, using preliminary calculations. Detailed construction drawings are not required at the stormwater management plan review stage.
- (3) If it is proposed to develop a parcel in two (2) or more phases, the stormwater management plan shall be prepared and submitted for the total project.

(b) *Plan preparation.* The stormwater management plan shall be prepared by a registered civil engineer, and shall meet the requirements specified in part one of the appendix. Other persons and professionals may assist in the preparation of the plan.

(c) *Scale for mapping.* The stormwater management plan shall be drawn to a scale as specified in part one of the appendix.

(d) *Required information.*

- (1) *Identification and description.* The following information is required for all stormwater management plans:
 - a. Information specified in part one of appendix.
 - b. Zoning classification of petitioner's parcel and all abutting parcels.
- (2) *Existing conditions.* The information describing existing site conditions for all stormwater management plans as specified in part one of the appendix.
- (3) *Proposed conditions.* A description of the site after the proposed development as specified in part one of the appendix.

Sec. 24-209. Plan submission.

- (a) Four (4) copies of the stormwater management plan required under section 24-205 shall be submitted to the planning department.
- (b) For developments subject to site plan review, the proprietor shall submit a stormwater management plan to the planning department at the time that the preliminary site plan is submitted.
- (c) For developments subject to subdivision plan review, the proprietor shall submit a stormwater management plan to the planning department at the time that the tentative preliminary plan is submitted.
- (d) For other earth changes or activities subject to stormwater management plan requirements, the plan shall be submitted to the planning department before construction drawings are submitted.
- (e) Compliance with the requirements of this article does not eliminate the need for the proprietor to obtain required permits and approvals from county and state agencies. Such permits and approvals include, but are not limited to, soil erosion permits from the Township of West Bloomfield engineering department, drainage approvals from the Oakland County Water Resources Commissioner's Office, road drainage approvals from the Oakland County Road Commission, wetlands, and dam construction permits from the township and EGLE.
- (f) Compliance with the requirements of this article does not eliminate the need for the proprietor to comply with other applicable township ordinances and regulations.
- (g) Upon submission of a stormwater management plan, as provided above, such plan shall be forwarded to the engineering and environmental departments for review and recommendation to the planning commission; provided, however, if the site plan, subdivision plat or other earth change plan is revised, then, the stormwater management plan shall be rereviewed and a new recommendation made by the engineering and environmental departments to ensure continued compliance with all other applicable ordinances administered by such departments.

Sec. 24-210. Revision of plan.

If it becomes necessary to alter a development or earth change proposal after the stormwater management plan has been approved, a revised stormwater management plan must be submitted, reviewed and approved in accordance with the procedure set forth above. All requirements and standards for stormwater management plans (section 24-215) shall apply.

Sec. 24-211. Review procedures.

- (a) *Planning commission review.*
 - (1) The planning commission shall, following recommendation by the township engineer, review appropriate stormwater management plans to assure compliance with the approval standards listed in section 24-213 of this article.

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- (2) Engineered site grading plans do not require planning commission review.
 - (3) When the stormwater management plan appears on the planning commission's agenda for the first time, it shall be distributed to township staff as applicable.
 - (4) If the planning commission determines that all of the required information has not been received, the proprietor may request that the matter be tabled to allow for the submittal of the required information.
 - (5) The planning commission shall either approve, approve with conditions, or deny approval of the stormwater management plan.
- (b) *Wetland board review.* Wetland board review shall be as specified in this article, including the appendices. In addition, for purposes of carrying out the intent of section 12-31 of chapter 12 of the West Bloomfield Township Code of Ordinances, for the development, re-development and maintenance of all stormwater basins or other storage facilities that directly or indirectly outlet into a wetland, watercourse or flood plain, a use permit under chapter 12 shall be required if either or both of the following standards apply:
- (1) There will be any physical disturbance of, or if there will be an outlet into, a wetland, water course, floodplain or environmental feature setback area having an allowable discharge greater than five (5) cubic feet per second; and/or
 - (2) The township environmental management planner and the township environmental consultant, working in consultation with the township engineer, determine in the reasonable exercise of their discretion that such outlet of stormwater could potentially have an adverse impact upon such wetland, environmental feature setback area, watercourse and/or floodplain.

Sec. 24-212. Review fees.

The township board shall establish application fees and escrow requirements by resolution. Fees and escrow account payments shall be sufficient to cover administrative and technical review costs anticipated to be incurred by the township including the costs of on-site inspections.

Sec. 24-213. Standards for stormwater management plan approval.

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

(a) *General standards for on-site and off-site stormwater management.*

- (1) Stormwater management conveyance, storage and infiltration measures and facilities shall be designed to prevent flood hazards and water pollution related to stormwater runoff, to prevent accelerated soil erosion from the proposed development, and shall conform with the requirements as specified in part two of the appendix.

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- (2) Natural topography and site drainage shall be preserved and site grading shall be minimized to the maximum extent reasonably achievable considering the nature of the development.
 - (3) Unless otherwise approved, stormwater runoff shall be conveyed, e.g., to a stormwater storage facility, through swales and vegetated buffer strips, rather than through enclosed pipes, so as to decrease runoff velocity, allow for natural infiltration, allow suspended sediment particles to settle, and to remove pollutants.
 - (4) Runoff rates from detention basins shall conform with the requirements specified in part two of the appendix for the first flush, bankful, and 100-year storm.
 - (5) Watercourses shall not be deepened, widened, dredged, cleared of vegetation, straightened, stabilized or otherwise altered without applicable permits or approvals from the township, relevant county agencies and the applicable State of Michigan Department(s).
 - (6) Drainage systems shall be designed to protect public health and safety, and the environmental integrity of the township, and to facilitate efficient and effective maintenance.
 - (7) The stormwater management plan shall demonstrate a zero percent increase over the discharge or runoff permitted by applicable law and ordinances in relation to the predevelopment and post-development stormwater runoff.
 - (8) Stormwater storage facilities shall be designed in accordance with the specifications set forth in the appendix, part two.
- (b) *Soil erosion control.*
- (1) Cutting, filling and grading shall conform with the requirements specified in part two of the appendix.
 - (2) All development and other earth changes shall be designed, constructed and completed in such a manner that the exposed area of any disturbed land is limited to the shortest practical period of time. Proposed erosion control measures shall be submitted to the Township of West Bloomfield engineering department and environmental department for determination that such measures comply with the Township of West Bloomfield Grading and Soil Erosion Control Ordinance [section 8-305 et seq.].
 - (3) Approved soil erosion control measures shall be properly installed and maintained between the disturbed area and any down gradient watercourses (including rivers, streams, creeks, lakes, ponds and other watercourses), wetlands, environmental feature setback areas, roadways and property lines.
 - (4) Sediment resulting from accelerated soil erosion shall be removed from runoff water before it leaves the site of the development.
 - (5) Temporary and permanent soil measures designed and constructed for the conveyance of water around, through or away from the development or earth change area shall be designed to limit the water flow to a nonerosive velocity.
 - (6) Temporary soil measures shall be removed after permanent soil measures have been implemented and stabilized. All developments and earth change areas shall be stabilized with permanent soil measures.
 - (7) If inland lakes, ponds, rivers, creeks, streams or other watercourses and wetlands are located on or near the site, measures which trap sediment shall be provided. Straw
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- bale berms may be used as temporary stormwater diversion structures but will not be considered sufficient by themselves for trapping sediment on-site. Temporary sediment basins, sediment traps, silt fencing, filter fabric, and rock filters in lieu of straw bale berms shall be used as required as part of a permit. Other measures may be required if reasonably determined to be necessary to protect a watercourse or wetland.
- (8) When it is not possible to permanently stabilize a disturbed area after an earth change has been completed or where significant earth change activity ceases, temporary soil erosion control measures shall be implemented within the time provided by state law.
 - (9) Permanent soil measures for all slopes, channels, ditches, or any disturbed land area shall be completed within five (5) calendar days after final grading or the final earth change has been completed. All temporary soil measures shall be maintained until permanent soil measures are implemented and stabilized.
 - (10) The township engineer and/or environmental director shall have the authority to issue or authorize the issuance of stop-work orders for failure to comply with the requirements of this section, provided a proprietor shall be entitled to an expeditious hearing before the township supervisor, or his or her designee, to determine whether the stop-work order shall continue. If a stop work order is issued under this paragraph and also under one or more other article provisions of the township, the continued effect of the stop work order issued under such other article provisions shall abide the determinations made as contemplated under such other article provisions.
- (c) *Stormwater storage and infiltration facilities.* Stormwater storage and/or infiltration facilities required pursuant to this article shall comply with the requirements specified in part two of the appendix.

Sec. 24-214. Off-site stormwater management.

(a) *Requirements.*

- (1) In lieu of on-site stormwater detention, the use of off-site stormwater conveyance, infiltration, and/or detention areas may be proposed. Off-site stormwater management facilities shall be designed to comply with the requirements specified in part two of the appendix and all other standards provided by this article that are applicable to on-site facilities.
 - (2) Off-site stormwater management areas may be shared with other landowners, provided that the terms of the proposal are approved by the township board and township attorney. If applicable, approval shall also be required by the wetlands board. Approval hereunder shall not be granted for off-site stormwater management unless the applicant demonstrates to the township board, following recommendation by the township engineer, environmental director and applicable board or commission, that the use of off-site stormwater management areas shall protect water quality and natural resources to an equal or greater extent than would be achieved by the use of on-site stormwater management areas.
 - (3) Adequate provision and agreements providing for maintenance and inspection of stormwater management facilities shall be made, and the documents recorded instrument, including an access easement, approved by the township.
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- (4) Accelerated soil erosion shall be managed off-site as well as on-site.
 - (b) *Performance guarantees, inspections, maintenance, and enforcement.* All provisions for performance guarantees shall apply to off-site stormwater conveyance and detention.
 - (c) *Exclusions*
 - (1) Development within a Township MS4 facility shall be prohibited from off-site stormwater management.

Sec. 24-215. Submittal, review and approval procedures requirements.

- (a) Four (4) copies of construction drawings and engineering specifications shall be submitted to the engineering department and environmental department following stormwater management plan approval but prior to the issuance of any construction or building permits.
- (b) Construction drawings and engineering specifications shall be subject to review and approval by the township engineer and environmental director, and a copy shall be transmitted to the Oakland County Water Resources Commissioner's Office and to the wetlands board if applicable.
- (c) A construction permit shall not be issued unless the detailed engineering drawings and specifications meet the standards of this article, applicable township ordinances, engineering standards and practices, and any applicable requirements of other government agencies.

DIVISION 3. ENGINEERED SITE GRADING PLANS

Sec. 24-216. Contents of engineered site grading plans.

- (a) Four (4) copies of engineered site grading plans for single-family homes and private road developments shall be submitted by the proprietor to the engineering department and environmental department; provided, however, if and to the extent the same information has been previously submitted as required under a separate ordinance requirement, then, the applicant shall provide copies of the previous submission, together with new information required hereunder which has not been previously submitted.
- (b) The engineered site grading plan shall include the following site information, subject to the exception specified in subparagraph (a), above:
 - (1) The legal property description and a north indicator.
 - (2) Existing grades on a fifty-foot grid to a minimum of fifty (50) feet beyond the site property line and sufficient intermediate grades to determine such things as ditches, swales, adjacent pavement, buildings and other pertinent features.
 - (3) Location of any watercourses, wetlands, woodlands, environmental feature setback areas (as specified in the Zoning Ordinance), lakes and ponds on the site.
 - (4) Existing easements.
 - (5) Existing utilities, manholes and culverts.
 - (6) Road rights-of-way, existing and proposed.

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- (7) Proposed topography of the site.
 - (8) Location and description of any existing and proposed stormwater management and soil erosion control measures.
 - (9) Flow direction(s) of stormwater runoff onto and from the site before and after development, including the direction of overland flow.
 - (10) Proposed elevations shall be underlined or boxed in to differentiate from existing elevations. It is expected that all elevations shall be in hundredths of a foot.
 - (11) A location map.
 - (12) The information required in part one, section II.B. of the appendix.

Sec. 24-217. Review procedures and standards.

- (a) Engineered site grading plans shall be subject to review and approval by the township engineer and environmental director to assure compliance with this article and the township grading and soil erosion and sedimentation control article.
- (b) Engineered site grading plans shall be reviewed and approved by the township engineer and environmental director prior to the issuance of a building permit.

DIVISION 4. PERFORMANCE GUARANTEES, EASEMENTS, AND MAINTENANCE

Sec. 24-218. Applicability of requirements.

Requirements of this article concerning performance guarantees, easements, and maintenance agreements shall apply to proprietors required to submit a stormwater management plan to the township for review and approval.

Sec. 24-219. – Performance—security for construction of stormwater management improvements.

- (a) *Required.* The property owner, agent, or developer, referred to as the proprietor, shall provide performance security in the form of an irrevocable standby letter of credit or a cash bond that guarantees the completion of the stormwater management in compliance with (1) all approved plans; (2) all conditions of approval; (3) all permits; and (4) applicable township ordinances, state statutes, and federal laws. Required performance guarantees shall be provided to the township after approval of the Stormwater Management Plan or engineered site grading plan, as applicable, but prior to the initiation of any earth work together with reasonable administrative expenses.
- (b) *Amount.* The performance security shall be in an amount equal to one and one-half (1½) times the construction cost estimated to complete the stormwater management improvements as specified in the Stormwater Management Plan or engineered site grading plan, as applicable. The performance security shall comply with the requirements of Chapter 2, Article VI, Division 1 of the Code of Ordinances, and shall be in a form approved by the township attorney. The estimated amount of the construction costs shall be submitted by the proprietor and verified by the township engineer.
- (c) *Release of security.* The performance security shall continue until the proprietor demonstrates that the completed construction complies with (1) all approved plans; (2) all conditions of approval; (3) all permits; and (4) all applicable township ordinances, state statutes, and federal laws. The performance security, minus costs incurred by the township such as actual administrative, legal, engineering, and enforcement expenses shall be released upon:
- (1) *Chapter 18 Drainage Districts.* Issuance of a letter of final acceptance of the stormwater improvements as a Chapter 18 Drain by the Oakland County Water Resources Commissioner. Performance security released shall be returned pursuant to chapter 2, section 2-206.

(2) *Private Systems.* Upon the issuance of final inspection approval by the township engineer.

(d) *Forfeiture of security.* In the event the requirements of this chapter have not been met or the proprietor has failed to comply with approved plans, all conditions of approval, all permits, and applicable township ordinances, state statutes, or federal laws, the township shall issue a Notice of Default to the proprietor; and to the issuing bank if the performance security is in the form of an irrevocable standby letter of credit. The Notice of Default shall identify the deficiencies to be cured and provide notice that if all deficiencies are not cured within the time specified in the notice, then the performance security shall be forfeited upon issuance of a Notice of Forfeiture to the proprietor. The township shall have the right to enter onto the property and to utilize the forfeited funds to complete the improvements in accordance with the approved plans, all conditions of approval, all permits, and applicable township ordinances, state statutes, and federal laws. The forfeited funds shall also be applied to costs incurred by the township such as actual administrative, legal, engineering, and enforcement expenses. The township shall refund any balance remaining to the proprietor in accordance with chapter 2, section 2-206.

Sec. 24-220. Stormwater management easements.

(a) *Necessity of easements.* Stormwater management easements shall be provided in a form required by the applicable approving body of the township and the township attorney, and recorded as directed as part of the approval of the applicable township body to assure:

- (1) Access for inspections;
- (2) Access to stormwater management facilities for maintenance purposes; and
- (3) Preservation of primary and secondary drainageways which are needed to serve stormwater management needs of other properties.

(b) *Easements for off-site stormwater management.* The proprietor shall obtain easements assuring access to all areas used for off-site stormwater management, including wetlands.

(c) *Recording of easements.* Easements shall be recorded with the Oakland County register of deeds according to Oakland County requirements.

(d) *Recording prior to building permit issuance.* The proprietor must provide the township clerk with evidence of the recording of the easement prior to final subdivision plat or condominium approval or other applicable final construction approval.

Sec. 24-221. – Stormwater management maintenance required.

(a) *Maintenance.* Perpetual preventative, corrective, and emergency maintenance of the stormwater management improvements is required to ensure the stormwater management

improvements will be maintained in accordance with the approved Stormwater Management Plan or engineered site grading plan requirements, as applicable, the conditions of approval, and the maintenance schedule.

- (b) *Declaration of covenants and easements required.* Prior to initiating earth work on a proposed development, the proprietor shall execute and submit to the township a Stormwater Management Maintenance Declaration of Covenants and Easements in recordable form and approved by the township attorney.
- (c) *Covenants.* The maintenance covenants shall include all of the following:
- (1) *Maintenance.* A declaration that the proprietor shall perpetually maintain the stormwater management improvements in accordance with the Stormwater Management Plan or engineered site grading plan requirements, as applicable, the conditions of approval, and the maintenance schedule.
 - (2) *Schedule of maintenance.* A detailed schedule for maintenance of the stormwater management improvements.
 - (3) *Initial budget.* A detailed annual estimated budget for the initial three (3) years of maintenance of the stormwater management improvements.
 - (4) *Binding.* The Declaration of Covenants and Easements shall run with the land and shall be binding upon the property owner, its heirs, successors, assigns, agents, and transferees, including any subdivision or condominium associations. In the event of any transfer, the property owner shall promptly provide written notice to the township of the transfer, and the name and address of the transferee, successor, assign, or agent responsible for maintenance. The Declaration of Covenants and Easements shall be incorporated by reference into any Master Deed and any other conveyance of an interest in the property, and the proprietor shall provide notice that the conveyance is subject to the covenants and easements.
 - (5) *Recorded.* The Declaration of Covenants and Easements shall be permanently recorded in the office of the Oakland County Register of Deeds prior to initiating earth work on a proposed development.
 - (6) *Maintenance approval required for private systems.* For private systems, the proprietor shall file an application for review and approval of the proposed maintenance of the stormwater management improvements at least fourteen (14) days prior to commencing work on a private system. Depending on the maintenance proposed, the proprietor may be required to obtain prior approval, and apply for any required permits before starting the proposed work.

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- (7) *Written log.* A requirement that the property owner maintain a written log of all inspection, maintenance, and corrective measures taken and make the log available to the township upon request.
- (8) *Specific performance.* That as an additional remedy, the township shall be entitled to specific performance by the property owner of the requirements of the Declaration of Covenants and Easements; and the property owner shall pay all court costs and attorney fees incurred by the township in connection with any court action required to enforce the Declaration of Covenants and Easements.
- (9) *Hold harmless.* That the property owner shall fully indemnify, defend, and hold the township, its elected and appointed officials, officers, and employees harmless from all claims for damages or injuries to persons or property arising from or related to the acts or omissions of property owner, its servants, agents, or employees in the construction, repair, maintenance, inspection and preservation of the stormwater management improvements.
- (10) *Easements.* The Declaration of Covenants and Easements shall include the following easements:
- (i) *Inspection easement.* An inspection easement shall be granted to the township and its authorized agents, employees, and consultants to enter onto and over such portions of the property as reasonably necessary to conduct inspections of the stormwater management improvements for compliance with the approved Stormwater Management Plan or engineered site grading plan, as applicable. The township shall provide property owner with notice twenty-four (24) hours prior to entering onto the property.
 - (ii) *Maintenance easement.* In the event the property owner fails to maintain the stormwater management improvements, the township shall be authorized, but not required, to enter onto the property and perform the maintenance, repair, preservation and other actions necessary to correct the deficiencies and comply with the approved Stormwater Management Plan or engineered site grading plan, as applicable. The township shall provide property owner with notice twenty-four (24) hours prior to entering onto the property. The township shall be reimbursed for all costs incurred to maintain the stormwater management improvements, and for all actual administrative, legal, engineering, and enforcement expenses.
- (d) *Performance security required.* Following the determination by the township engineer that the improvements were completed in compliance with the approved Stormwater Management Plan or engineered site grading plan, as applicable, the proprietor shall

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provide a cash bond or irrevocable standby letter of credit that guarantees the maintenance of the stormwater management improvements.

(1) *Amount.* The performance security for maintenance shall be in the following amount:

- (i) Stormwater management improvements that cost less than \$100,000.00. Performance security shall be required in an amount equal to ten percent (10%) of the cost of the stormwater management improvements.
- (ii) Stormwater management improvements that cost between \$100,000.00 and \$200,000.00. Performance security shall be required in the amount of \$10,000.00.
- (iii) Stormwater management improvements that cost more than \$200,000.00. Performance security shall be required in an amount equal to five percent (5%) of the cost of the stormwater management improvements.

(2) *Release of security.* The maintenance security is required for the initial two-year period following the determination by the township engineer that the stormwater management improvements were completed in compliance with the approved Stormwater Management Plan or engineered site grading plan, as applicable. After the initial two-year period expires, the performance security minus costs incurred by the township such as actual administrative, legal, engineering, and enforcement expenses may be released upon the issuance of final inspection approval by the township engineer. Performance security released shall be returned pursuant to chapter 2, section 2-206.

(e) *Default.* In the event the stormwater management improvements and all wetlands which are part of the Stormwater Management Plan are not perpetually maintained (1) in good working order and functioning as designed and intended; or (2) in compliance with the approved Stormwater Management Plan or engineered site grading plan, as applicable; or (3) in compliance with the conditions of approval; or (4) in compliance with the maintenance schedule, the township shall issue a Notice of Default to the property owner and to the issuing bank if the performance security is in the form of an irrevocable standby letter of credit. The Notice of Default shall identify the deficiencies to be cured and provide notice that if all deficiencies are not cured within the time specified in the notice, then the township shall be authorized, but not required, to enter onto the property and maintain the stormwater management improvements as required. The township shall be reimbursed for all costs incurred to maintain the stormwater management improvements, and for all actual administrative, legal, engineering, and enforcement expenses. In the event the property owner fails to reimburse the township within seven (7) business days of the invoice, the charges shall be considered delinquent and collected pursuant to the tax billing procedures authorized by Chapter 2, Article VI, Division 3 of the Code of Ordinances.

- (f) *Enforcement; redevelopment.* The Declaration of Covenants and Easements shall be perpetually enforceable by the township and its successors, assigns, and transferees, unless the site is redeveloped and a new Stormwater Management Plan or engineered site grading plan is approved for stormwater management on the site. In the event a new Stormwater Management Plan or engineered site grading plan is approved for stormwater management on the site, the previously recorded Declaration of Covenants and Easements will be vacated and replaced.

Sec. 24-222. Procedure for review and approval of maintenance of pre-existing facilities.

The procedure for reviewing and approving the restorative maintenance of storage and/or sedimentation basin facilities in existence on the effective date of this article (November 4, 2004) shall be in accordance with this section 24-222.

(a) *Qualification and process for administrative review and approval.*

- (1) Administrative review and approval for proposed restorative maintenance of pre-existing storage and/or sedimentation basin facilities shall be authorized where all of the following criteria are met:
 - a. There are detailed plans and specifications for the facility approved by and on file with the township.
 - b. The proposed restorative maintenance involves the removal of materials for the reestablishment of contours in the approved plans and specifications on file with the township and/or the repair or replacement of pipes, inlets and/or outlet structures, and shall not involve an alteration of the facility from the previously approved plans and specifications except to allow an improvement of pipe size or inlet/outlet structure intended to enhance performance of the facility.
 - c. Any and all materials to be removed as part of such maintenance shall be removed from the site.
 - d. The township engineer has no reason to believe that the proposed restorative maintenance will result in a facility that will not function as intended, i.e., no reason to believe that alterations of the facility (other than as authorized in subparagraph b., above) shall be required in order to achieve a facility that will function in the intended manner.
 - e. No part of the proposed restoration and/or maintenance is requested to be performed in a natural wetland (i.e., this criterion shall not apply to a wetland created as a result of the establishment of a constructed facility).
- (2) An application for such maintenance shall be filed with the township engineer and township environmental director, and shall include a certified survey prepared by a land surveyor or civil engineer registered with the state of Michigan showing and describing all of the following:
 - a. The existing conditions of the facility;

- b. A restoration plan, including the scope and specifications of work to be performed, demonstrating the requirements of this section 24-222 and also demonstrating that there shall be a minimum disturbance of the area.
 - c. A restoration and revegetation plan.
 - d. A proposed bond securing the completion of the restoration and revegetation plan.
- (3) The maintenance shall be performed using best management practices.
- (4) The application shall be accompanied by the fee in the amount established by resolution of the township board.
- (5) An application meeting the requirements of this subsection (a) may be reviewed and approved by the township engineer and township environmental director.
- (b) *Authorization for emergency work.* The township engineer, in conjunction with the township environmental director, shall be authorized to permit emergency maintenance of a storage and/or sedimentation basin structure to the minimum extent found to be required in order to prevent imminent harm or damage to persons or property due to the malfunctioning of such facility. Such work shall be performed only in the manner and to the extent approved by the township engineer and environmental director.
- (1) Within thirty (30) days of the completion of such emergency work, the township engineer shall submit a report to the township board, with copy to the wetland board, describing the circumstances giving rise to the work authorization and the work undertaken.
- (2) Within sixty (60) days following such emergency work, the property owner shall caused to be filed with the township any application for permanent work required, if any, to avoid an additional emergency situation, with such application to be submitted, reviewed and approved in the manner otherwise required under this article and/or in the applicable maintenance agreement.
- (c) *All other review and approval.* All maintenance not subject to review and approval under this section 24-222, above, shall be undertaken as otherwise required under this article.

DIVISION 5. VARIANCES AND APPEALS

Sec. 24-223. Township board authority.

The township board shall have the authority to grant variances from the strict terms of this article, and to hear and decide appeals of decisions made by township administrative officials and bodies under this article, all in accordance with the terms specified below.

For Township MS4 facilities, the township board shall not have the authority to grant a variance that does not comply with the Township's current MS4 permit.

Sec. 24-224. Written application requirements.

A written application by an applicant or other aggrieved party shall be submitted to the township clerk, with one (1) copy each to the engineering, planning and environmental departments. For variance applications, the written application must demonstrate that:

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

For appeals, the application shall be submitted within fourteen (14) calendar days of the decision being appealed, and shall specify all grounds on the basis of which the appeal is being sought.

Sec. 24-225. Hearing required.

Variations from the terms of this article shall not be granted unless and until a hearing shall be held by township board determines that the applicant has demonstrated all of the requirements of section 24-224. Appeals shall be determined based upon the records and files of the township, and, an appeal shall be granted, following a hearing, only if the applicant has demonstrated that the administrative decision being appealed represented an abuse of discretion, or was otherwise unlawful; provided, however, if the township board determines that the files and records of the township are not adequate for determining the appeal, the township board shall then specify the limited procedure to be utilized to supplement the record for appeal purposes.

Sec. 24-226. Conditions for approval.

The township board may prescribe appropriate conditions and safeguards consistent with the purposes and standards of this article in connection with the grant of a variance or appeal.

DIVISION 6. ENFORCEMENT; EFFECT; AND APPLICABILITY

Sec. 24-227. Enforcement.

- (a) Any person found to be in violation of any of the provisions of this article shall be responsible for a municipal civil infraction.
- (b) Penalties for municipal civil infraction.

The following civil fines shall apply in the event of a determination of responsibility for a municipal civil infraction under this article.

- (1) First offense. A civil fine for a first offense violation shall be in an amount of one thousand dollars (\$1,000.00), plus costs and other sanctions, for each offense.
- (2) Repeat offense. A civil fine shall be in an amount of two thousand dollars (\$2,000.00), plus costs and other sanctions, for a second or subsequent determination that a person is responsible for violation of this article within any three (3) year period.
- (c) In addition to ordering the person determined to be responsible for a municipal civil infraction to pay a civil fine, costs, damages, and expenses, the judge or magistrate shall be authorized to issue any judgment, writ or order necessary to enforce, or enjoin violation of, this article, and require restoration or other appropriate action under the circumstances.
- (d) Continuing offense. Each act of violation, and on each day upon which any such violation shall occur, shall constitute a separate offense.
- (e) Remedies not exclusive. In addition to any remedies provided for by township article, any equitable or other remedies available may be sought.
- (f) The judge or magistrate shall also be authorized to impose costs, damages and expenses as provided by law.

Sec. 24-228. Effect of approval in remedies.

The approval or disapproval of any stormwater management plan shall not have any effect on any remedy of any person at law or in equity.

Sec. 24-229. Applicability to pending projects.

There are a number of developments in the township at various stages of approval and/or at various stages of phased construction/completion. For purposes of this provision, the phrase "site plan" shall be deemed to include subdivision plat plans and condominium plans. During the period of time that such developments are in progress, there is a need for guidance for property owners and developers with regard to the application of this article. Therefore, the stormwater management regulations contained in the article shall be interpreted as follows with respect to developments at various stages of approval and/or at various stages of phased construction and completion on the effective date of this article [November 4, 2004]:

- (1) In the event a development has received final site plan approval prior to the effective date of the article, then the newly adopted article standards and regulations shall not apply (except to amendments and future maintenance) unless site plan approval expires prior to the commencement of construction.

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- (2) In the case of a phased development in which one (1) or more phases have been constructed prior to the effective date of the article, then the article shall apply to those phases for which stormwater facilities have not been constructed and approved, provided, the developer may petition the township board for relief on the ground that such interpretation would create an unreasonable hardship, and the board shall determine, in its discretion, whether, and the extent to which, relief shall be granted on such basis.

APPENDIX

PART ONE

PROCEDURES FOR SUBMISSION AND REVIEW OF DEVELOPMENT PLANS

The following procedures and standards shall apply in the administration of the Stormwater Management Ordinance, of which this appendix is a part. However, if and to the extent there are procedures, requirements and/or standards that are more rigorous or strict which are specified elsewhere in the Township's Ordinance Code, or in other applicable law, rule or regulation, the more rigorous or strict standards shall apply. In the event there is an ambiguity with regard to the particular standard that is applicable, such ambiguity shall be resolved by the Township Board.

I. PURPOSE AND APPLICATION

A. PURPOSE

1. To ensure that drainage or stormwater management systems are adequate to address stormwater management needs within a proposed development, and for protecting downstream landowners from flooding and degradation of water quality. The procedures, standards and recommendations set forth in these procedures and standards are designed for these purposes.
2. To ensure that all stormwater facilities necessary for a proposed development will have an appropriate governmental unit responsible in perpetuity for performing maintenance or for overseeing the performance of maintenance by a private entity, such as a property owner's association.

B. APPLICATION

1. These procedures and standards provide minimum standards to be complied with by developers, and in no way limit the authority of the Township to adopt or publish and/or enforce higher standards as a condition of approval of developments.
2. Stormwater management technologies are rapidly developing and improving; these procedures and standards will be revised as necessary by the Township Board after recommendation by the Planning Commission and Wetland Board, with the most recently dated sheets being applicable.

II. SUBMISSION OF PRELIMINARY PLAN

A. SUBMISSION AND GENERAL INFORMATION REQUIREMENTS FOR APPROVAL OF STORMWATER MANAGEMENT PLANS

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1. A preliminary plan showing the layout of the area intended to be developed will be submitted by the developer. This plan will be prepared under the direction of, and sealed by, a registered professional engineer or a registered land surveyor, and shall fit on a sheet of paper that does not exceed 24" by 36", drawn to a standard engineering scale.
 2. Three prints prepared in accordance with the procedures and standards set forth in this section, will be submitted together with a letter of transmittal requesting that the plan be reviewed and, if found satisfactory, approved. The names of the owner and engineering or surveying firm, with mailing addresses, fax and telephone numbers for each, will be included with the transmittal.
 3. The plan will include:
 - a. The location by means of a small location map;
 - b. The township, city or village in which the parcel is situated;
 - c. The section and part of section in which the parcel is situated;
 - d. The proposed drainage system for the development;
 - e. The proposed street, alley and lot layouts and approximate dimensions;
 - f. The location and description of all on-site features and all adjacent off-site features within 50 feet, and all other off-site features that may be impacted in determining the overall requirements for the development. For example:
 - (1) Adjoining roads and developments;
 - (2) Railroads;
 - (3) High tension power lines or underground transmission lines;
 - (4) Cemeteries;
 - (5) Parks;
 - (6) Natural and artificial watercourses, wetlands and wetland boundaries, environmental feature boundaries, floodplains, lakes, bays, existing stormwater storage facilities, conveyance swales (natural or artificial), approximate location of woodlands, natural beauty roads, lagoons, and trees with a caliper at breast height of greater than eighteen (18) inches (and Arborvitae (white cedar), Crabapple, Flowering Dogwood, Hawthorn, Hophornbeam, Hornbeam, Juniper, Magnolia, Maple, amur, Redbud and Witch Hazel trees with a caliper at breast height greater than twelve (12) inches);
 - (7) Designated natural areas;
 - (8) Any proposed environmental mitigation features;
 - (9) Drains, sewers and water mains;
 - (10) Existing and proposed easements;
 - g. The number of acres.
 - h. Contours, at two-foot intervals or less, with U.S.G.S. datum.
 - i. A map, at the U.S.G.S. scale, showing the drainage boundary of the proposed development and its relationship with existing drainage patterns.
 - j. Any water course passing through the development, along with the following:
 - (1) Area of upstream watershed and current zoning.
 - (2) Preliminary calculations of runoff from the upstream area for both the 100-year and 2-year 24-hour design storm, for fully-developed conditions according to the current land use plan for the area.

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- k. Soil borings may be required at various locations including the sites of proposed retention/detention facilities, and as needed in areas where high ground water tables exist.
 4. All calculations used in designing all components of stormwater management systems must be submitted along with plans.
 5. Easement information will be shown, consistent with Part Two, Section XIII of these procedures and standards.
 6. A description of the mechanism to be established to provide for long-term maintenance of the development's stormwater management system, and the government agency responsible for maintenance oversight if maintenance is to be performed by a private entity. A County drainage district may be required to be established for future maintenance.
 7. Should the applicant propose to begin with only a portion of the total area, the original plan will include the proposed master stormwater management layout for the entire area based upon preliminary engineering. The first phase will be clearly superimposed upon the overall plan in order to illustrate clearly the method of development that the applicant intends to follow. Each subsequent plan will follow the same procedure until the entire area controlled by the applicant is developing.

Final approval of only one portion or phase does not ensure final acceptance of any subsequent phases or the master stormwater management layout for the entire area. Deviations or modifications, if any, shall be reviewed for approval by the township.

B. *DRAINAGE INFORMATION REQUIREMENTS FOR STORMWATER MANAGEMENT PLANS AND ENGINEERED GRADING PLANS*

1. REQUIRED STORMWATER MANAGEMENT INFORMATION

The plan will include:

- a. The general stormwater management scheme for the proposed development- indicating how stormwater management will be provided and where drainage will outlet.
- b. A description of the offsite outlet and evidence of its adequacy. If no adequate watercourse exists to effectively handle a concentrated flow of water from the proposed development, discharge will be reduced to sheet flow prior to exiting the site, and cannot exceed 0.15 cfs/acre. Additional volume controls may be required in such cases and/or acquisition of rights-of-way from downstream property owners receiving the stormwater flow. For storm water management systems to be designated as Chapter 18 Drains to Oakland County Water Resources Commissioner, applicants may utilize the variable release rate within the OCWRC Stormwater Engineering Design Standards. Each drainage district may have a reduced allowable release rate based on OCWRC's drainage maps.
- c. Any on-site and/or off-site stormwater management facilities and appropriate easements, dedicated to the entity that will be responsible for future maintenance.
- d. Any drainage originating outside of the development limits that flows onto or across the development. (In general, drainage from off-site shall not be passed through on-site stormwater storage facilities.)
- e. Any natural watercourses and County Drains that traverse or abut the property.

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2. Proposed drainage for the development will conform to any established County drainage districts.
 3. The proposed drainage plan will, in every way feasible, respect and conform to the natural drainage patterns within the site and the watershed in which it is located.
 4. Proposed drainage shall complement any local stormwater management plans that may exist and/or comply with any article in effect.
 5. The increased volume of water discharged from a development shall not create adverse impacts to downstream property owners, wetlands and water courses (e.g. flooding; excessive soil saturation; crop damage; erosion; degradation in water quality or habitat destruction).

C. *DEVELOPMENT APPROVAL*

1. The Township Planning Commission, Wetland Board (or Township Board on Appeal), Township Engineer and Township Environmental Director, as applicable, shall review a proposed plan. If the proposed plan is not approved as originally submitted, the Township Engineer will notify the applicant in writing, setting forth the reasons for withholding approval, and will state the changes necessary to obtain approval. If the proposed plan as submitted meets all requirements, one approved copy of the plan will be returned to the applicant. Approval of the plan is required before the Township will proceed with review of final construction plans.
2. Payment of all fees is prerequisite to approval.

III. FINAL STORMWATER MANAGEMENT APPROVAL

- A. Final plan review will be completed by the Township within a reasonable time following submission by the applicant. If the plan is not acceptable, written notice of rejection and the reasons therefor by way of minutes of the reviewing body and/or statement of the revision will be given to the applicant. If the Township approves the plan, it will affix a signature to it and the plan will be executed.
- B. As a condition of final plan approval, the Township will require the following:
 1. Before approval of the final plan, copies of all necessary Wetland, Floodplain, Inland Lakes and Streams, Erosion Control or other needed state, federal or local permits relating to stormwater management have been provided by the applicant for the Township file.
 2. A satisfactory agreement that assures long-term maintenance of all drainage improvements will be in place before submission of the final plan. Documentation of maintenance agreement will be supplied to the Township and approved by the Township Board.
 3. The applicant will post cash or a letter of credit in an amount not less than 10% of the cost of the stormwater facilities for projects of less than \$100,000 or 5% of the cost for projects over \$100,000 (See Sections C and D below). This deposit will be held for one year after the date of completion of construction and final inspection of the stormwater facilities, or until construction on all phases in the development are completed, whichever time period is longer.

This deposit will be returned to the applicant (in the case of cash) or allowed to expire (in the case of a letter of credit), as provided above, provided all

stormwater facilities are clean, unobstructed and in good working order, as determined by the Township Engineer.

4. Reproducible mylars of the as-built stormwater management system(s) will be submitted by the applicant or his/her engineer to the commissioner along with the final plan, or upon completion of system construction. The mylars are to be of quality material and 3 mils in thickness.
5. Complete development agreements (including deed restrictions) must be submitted for the Township's review and approval prior to recording.

IV. FINAL CONSTRUCTION APPROVAL

- A. The applicant will submit final stormwater management facility construction plans with a letter of transmittal. Plans will be prepared under the direction of, and sealed by, a registered professional engineer and will be in accordance with Part Two of this Appendix.

The Township Engineer and Environmental Management Director will review final construction plans to assure that the construction plan conforms with the approved Final Stormwater Management Plan, and that adequate storm drainage will be provided and that the proposed stormwater management system provides adequately for water quantity and quality management to ensure protection of property owners and watercourses both within the proposed development and downstream. Submission requirements shall include, but will not be limited to the following:

1. Two complete sets of construction plans are required, or more as required by the Township Engineer, drawn to a scale no smaller than 1" = 50', and on sheets no larger than 24" × 36". The scales used shall be standard engineering scales and shall be consistent throughout the plans. When plans have been completed with computer aided design technology, a copy of the electronic file shall also be provided. Construction plans shall include the following:
 - a. Development layout of lots, roads and utility and drainage easements.
 - b. Plans, profiles and details of all roads and storm sewers. The storm sewer details will include type and class of pipe, length of run, percent of slope, invert elevations, rim elevations, and profile of the hydraulic gradient, as specified in Part Two of these procedures and standards.
 - c. A storm sewer computation sheet indicating the number of acres, calculated to the nearest tenth of an acre, contributing to each specific inlet/outlet, the calculated hydraulic gradient elevation, maximum flow in cfs and the flow velocities for enclosed systems.
 - d. Plans, profiles and details of all open ditch drains, drainage swales and drainage structures.
 - e. Plans and details of the proposed soil erosion and sedimentation control measures, both temporary (during construction) and permanent.
 - f. Plans and details of retention detention facilities.
 - g. A drainage area map, overlaid onto a copy of the site grading plan, which clearly shows the areas tributary to each inlet an/or storage basin.
 - h. Topographic maps, at two foot contour intervals or less on U.S.G.S. datum, showing existing and proposed grades of the entire area to be subdivided, as well as off-site topography over at least 100' of the adjoining property. Maps will also

show all existing water courses, lakes and wetlands, and the extent of all off-site drainage areas contributing flow to the development.

- i. The number of acres proposed to be developed and, for phased developments, the number of acres in each phase.
 - j. Locations of all drain fields as approved by the Oakland County Environmental Services Division and of all expansion areas. Drain fields shall not be located within drainage easements.
- 2. Specifications governing construction of stormwater management facilities.
 - 3. Design data and criteria used for sizing all drainage structures, channels and retention basins, including weighted runoff coefficient calculations.
 - 4. A stormwater facility maintenance plan, schedule, and budget estimating the costs that will be associated with system maintenance (See Part Two, Section X. D.)
 - 5. In addition to the foregoing, a single sheet including the entire site plan along with all proposed storm drainage facilities and drainage easements shall be submitted.
- B. A soil erosion permit under "The Michigan Soil Erosion and Sedimentation Control Act", P.A. 451, Part 91 Public Acts of 1994 as amended, will be obtained from the appropriate agency prior to any construction.
 - C. The applicant will make arrangements acceptable to the Township for inspection during construction and for final verification of the construction by a registered professional engineer prior to the approval of the final construction plans.
 - D. Review of construction plans by the Township will not proceed until plan approval has been granted. The Land Division Act of 1996 gives no time limit in which final construction plans must be reviewed.
 - E. Approval of construction plans by the Township is valid for one calendar year. If an extension beyond this period is needed, the applicant will submit a written request to the Township for an extension. The Township may grant one year extensions of the approval, and may require updated or additional information if needed. Township action under this provision may be taken administratively provided that no changes to the plans and/or standards have occurred. In the event one or more such changes have occurred, Township action under this provision shall be taken by the final reviewing body.
 - F. For site condominiums, complete Master Deed documents (including "Exhibits" drawings) must be submitted for the Township's review and approval prior to recording.

V. DRAINS UNDER THE JURISDICTION OF THE WATER RESOURCES COMMISSIONER

- A. Drainage districts will not be altered when designing development drainage, except as provided under Section 433 of Act 40, Public Act 1956 as amended.
- B. Existing county or Township drain easements will be indicated on the plans as well as the final plan and will be designated as "Oakland County Drain" or "Township of West Bloomfield Drain", as applicable. County drain easements prior to 1956 were not required by statute to be recorded immediately; therefore, it may be necessary to check

the permanent records of the Drain Office to see if a drain easement is in existence on the subject property.

- C. A permit will be obtained from the Water Resources Commissioner's Office prior to tapping or crossing any county drain. The permit must be obtained prior to final plan approval.
- D. Proposed relocations of county drains will be processed through the office of the Water Resources Commissioner's Office.
- E. If a development is being developed in an area where special drainage problems are anticipated at the site, on adjacent properties or downstream, more stringent design requirements than are contained within Part Two of these procedures and standards may be required.

PART TWO
DESIGN CRITERIA FOR STORMWATER MANAGEMENT SYSTEMS

This Part II sets forth specific design and construction standards that will be used by the Township in review of proposed stormwater management systems in accordance with the objectives of managing both the quantity and quality of stormwater runoff.

It is difficult or impossible to develop one set of uniform standards that is capable of accommodating all variables and unique site circumstances. In particular, it is recognized that these standards may be difficult to realize on small sites. Waivers or variances from specific provisions of these standards may be requested, and alternatives consistent with the overall intent of stormwater quantity and quality management may be proposed, subject to the approval of the appropriate Township body responsible for final decision making on the application in accordance with the procedure and standards in the Stormwater Management Article.

I. DEVELOPMENT DRAINAGE — GENERAL REQUIREMENTS

A. STORMWATER DISCHARGE

1. In no event will the maximum design rate or volume of discharge exceed the maximum capacity of the downstream land, channel, pipe or watercourse to accommodate the flow. It is the applicant's obligation to meet this standard. Should a stormwater system, as built, fail to comply, it is the applicant's responsibility to design and construct, or to have constructed at his/her expense, any necessary additional and/or alternative stormwater management facilities. Such additional facilities will be subject to the Township's review and approval.
2. If no adequate watercourse exists to effectively handle a concentrated flow of water from the proposed development, discharge will be reduced to the equivalent of the pre-existing sheet flow prior to exiting the site, and cannot exceed 0.15 cfs/acre. Additional volume controls may be required in such cases and/or acquisition of rights-of-way from downstream property owners receiving the stormwater flow.
3. Discharge shall outlet within the watershed where flows originate, and shall not be diverted to another watershed without approval of the appropriate Township body administering the application.

B. DETERMINATION OF SURFACE RUNOFF

1. The "rational method" of calculating stormwater runoff is generally acceptable for sites less than 150 acres in size; however, it may not be considered an adequate design tool for sizing large drainage systems. More precise methodologies for predicting runoff such as runoff hydrographs are widely available, and may be required by the Township for sizing the drainage systems on large sites and/or smaller sites that are deemed potentially problematic. Acceptable alternative methods will include (See Appendices I and J for more information):
 - a. Corps of Engineers HEC-1.
 - b. Soil Conservation Service UD-21, TR-20 and TR-55.
 - c. U.S. EPA's SWMM.
 - d. Continuous simulation (e.g. HSPF).
2. Unless a continuous simulation approach to drainage system hydrology is used, all design rainfall events will be based on the SCS Type II distribution.

3. Computations of runoff hydrographs that do not rely on a continuous accounting of antecedent moisture conditions will assume a conservative wet antecedent moisture condition.

II. DESIGN STANDARDS FOR CONSTRUCTED STORMWATER MANAGEMENT FACILITIES

A. *RETENTION AND DETENTION SYSTEMS*

1. Background.

- a. Whereas basin design for flood control is concerned with capturing and detaining/retaining relatively infrequent, severe runoff events, such as the 10-, 25-, or 100-year Storm, designs for water quality control require that the more frequent storm events (e.g. 2-year storm or less) must be addressed as well. The need for managing smaller storms is directly related to urbanization within Oakland County and the accompanying increase in impervious area, which affects surface water quality in two important ways.
- b. Eroded soil and other pollutants that accumulate on impervious surfaces, such as metals, fertilizers, pesticides, oils and grease, are flushed off by the early stages of runoff, which then carries a shock loading of these pollutants into receiving waterways. By capturing and treating the first 1.0 inch of runoff, a high percentage of pollutants that are washed off of the land can be removed from stormwater before it enters into the drainage system.
- c. As recent studies by the EGLE have shown, development has caused stream flow fluctuations to rise dramatically. As impervious surface area increases and opportunities for infiltration are reduced, the frequency and duration of bankfull flow conditions, typically represented by the 2- year storm event, have intensified. As a result, streams adjust their capacities to convey the increased flows, which can then lead to channel and bank erosion and the destruction of aquatic habitat.
- d. To manage both water quantity and quality, basins must be designed to capture and treat three different storm events:
 - (1) The 100-year storm event.
 - (2) The bankfull flood: The 2--year/24 hour storm event.
 - (3) The "first flush": The first 1.0 inch of runoff from the entire site or treat the runoff generated from 90 percent of all runoff-producing storms. BMPs shall be designed on a site-specific basis to achieve a minimum of 80 percent removal of total suspended solids (TSS) as compared with uncontrolled runoff or a discharge concentration of TSS not to exceed 80 milligrams per liter (mg/l).
- e. Controlling both extremely large events, to prevent flooding, and more frequent events, to mitigate water quality impacts and channel erosion, can be achieved through the proper design of detention/retention basins. Among alternatives, wet ponds and constructed marsh systems are the most effective for achieving control of both stormwater volume and quality. Extended detention ponds providing two-stage pond designs (containing an upper, dry stage and a lower stage with a permanent pool) are also acceptable.
- f. If all of the property in the proposed development is five (5) acres or less, including all past, present and future phases, an applicant may apply for authority

to design a basin system for less than the 100 year storm standard. The application for such authority shall specify the standard proposed, and shall include all calculations and other supporting information demonstrating the legitimate reasons why such authority should be granted. In reviewing the application, the reviewing personnel and bodies shall determine whether the grant of authority for the standard proposed, or some other standard less than the 100 year storm standard, would be in the public interest, which would require meeting all of the following standards: natural resource and feature preservation; safety; potential problems that may result; engineering advantages and disadvantages, and any other relevant factor. If authority to design a basin system for less than the 100 year storm standard is granted under this paragraph f, an open space as large as, and contiguous to, the area to be utilized for the approved basin shall be set aside and preserved by a conservation easement or other mechanism approved by the Township Attorney as adequate, with the view of ensuring the availability of an area to construct a system meeting the 100 year storm standard in the event that smaller storage facility fails to fully function as intended.

1. GENERAL REQUIREMENTS

The following criteria will apply to the design of all stormwater retention and detention facilities.

- a. In general, wet ponds and stormwater marsh systems will be preferred to dry ponds. Dry ponds providing extended storage will be accepted when the development site's physical characteristics or other local circumstances make the use of a wet pond infeasible.
- b. When discharge is within a watershed where thermal impacts are a primary concern, dry ponds will be preferred to wet ponds, and extended detention (first flush and bankfull) requirements may be reduced to twelve (12) hours. Shade plantings on the west and south sides of facilities are encouraged unless such plantings would not thrive or are not otherwise in the public interest.
- c. Public safety will be a paramount consideration in stormwater system and pond design. Providing safe retention is the applicant's responsibility. Pond designs will incorporate gradual side slopes, vegetative and barrier plantings, and safety shelves. Where further safety measures are required, the applicant is expected to include them within the proposed development plans.
- d. Stormwater management systems incorporating pumps are not permitted, absent a variance under Article VIII of the Stormwater Management Article, which shall require a showing that there is no feasible and prudent alternative, and that it is in the public interest.
- e. Storage volumes and release rates.
 - On-site management of storm drainage will be designed for control of flooding, downstream erosion and water quality. Submission of flow calculations, cross sections and other pertinent data will be required.
 - (1) The volume of storage provided for flood control will be equal to or in excess of that required for a 100-year frequency storm.

The allowable release rate from the flood control storage volume will normally be between 0.1 and 0.15 cfs per acre of the property being drained, or as determined by the Township body responsible for final decision making on the application after recommendation by the Township Engineer and/or other applicable Township Engineer. If discharge does not outlet to a clearly defined downstream channel, the allowable release rate shall not exceed 0.10 cfs per acre. For storm water management systems to be designated as Chapter 18 Drains to Oakland County Water Resources Commissioner, applicants may utilize the variable release rate within the OCWRC Stormwater Engineering Design Standards. Each drainage district may have a reduced allowable release rate based on OCWRC's drainage maps.

- (2) The volume and storage provided for controlling the "bankfull" flood, will be equal to or in excess of the total rain from a 2-year storm, which can be determined by:

$$8,640 \times \text{acreage} \times \text{the relative imperviousness factor } C$$

The release rate from the "bankfull" storage volume will be such that this volume will be stored not less than 24 nor more than 40 hours.

- (3) The "first flush" of runoff will be captured and detained for at least 24 hours or within a permanent pool. The first flush is defined as the first -1.0 inch of runoff over the entire site, which can be determined by:

$$3,630 \times \text{acreage} \times \text{the relative imperviousness factor } C$$

(4) Implementation of land use practices that limit the increase of runoff volume is encouraged. To incentivize and encourage stormwater infiltration on all sites, the provided Channel Protection Volume (V_{cp-p}) can be subtracted from the required 100-year detention volume. The required Channel Protection Volume can be determined by:

$$V_{cp-r} = 4,719 \times \text{acreage} \times \text{the relative imperviousness factor } C$$

Development must provide adequate infiltration and/or storage/reuse BMPs to provide the calculated CPVC volume of use in reduction of detention/retention requirements. Adequate in-situ infiltration rates are required for consideration as determined by the Township Engineer.

- f. A sediment forebay will be provided at the inlet of all stormwater management facilities, to provide energy dissipation and to trap and localize incoming sediments.

The volume of the forebay may be credited towards the total stormwater detention volume for the site. The volume can be calculated as follows:

$$V_f = 545 \times C \times A$$

- (1) The forebay will be a separate cell, which can be formed by gabions or an earthen berm.
- (2) Capacity of the forebay shall account for 15 years of sediment accumulation, and will not be included in calculating overall basin stormwater storage capacity.

- (3) Direct maintenance access to the forebay for heavy equipment will be provided.
 - (4) An adequate disposal area shall be provided for accumulated sediment.
 - (5) The required forebay volume (VF) is based on the 0.15-inch rainfall using the Modified Rational Method. Please note that the design criteria above is for the permanent forebay and not for a sediment forebay used for soil erosion control during construction.
- g. Basin inlet/outlet design.
- (1) Velocity dissipation measures will be incorporated into basin designs to minimize erosion at inlets and outlets, and to minimize the resuspension of pollutants.
 - (2) To the extent feasible, the distance between inlets and outlets will be maximized. The length and depth of the flow path across basins and marsh systems can be maximized by:
 - [i. Reserved.]
 - ii. Increasing the length to width ratio of the entire design.
 - iii. Increasing the dry weather flow path within the system to attain maximum sinuosity.

If possible, inlets and outlets shall be offset at opposite longitudinal ends of the basin.

- (3) The use of V-notched weirs, dual outlets, or other designs to assure an appropriate detention time for all storm events is required.
- (4) The outlet will be well protected from clogging. A reverse-slope submerged orifice or a hooded, broad crested weir are recommended options. If a reverse-slope pipe is used, an adjustable valve may be necessary to regulate flows.
- (5) Where a pipe outlet or orifice plate is to be used to control discharge, it will have a minimum diameter of 3 inches. If this minimum orifice size permits release rates greater than those specified in these procedures and standards, alternative outlet designs will be utilized that incorporate self-cleaning flow restrictors, such as perforated risers and "V" notch orifice plates that provide the required release rate. Calculations verifying this rate are to be submitted to the Township for approval.
- (6) Backwater on the outlet structure from the downstream drainage system will be evaluated when designing the outlet.
- (7) Riser design.
 - (i) Orifices used to maintain a permanent pool level shall be designed to withdraw water at least one foot below the surface of the water.
 - (ii) Hoods or trash racks shall be installed on the riser to prevent clogging.
 - (iii) The riser shall be placed near or within the embankment, to provide for ready maintenance access.

- (iv) Inlet and outlet barrels and risers will be constructed of materials that will reduce future maintenance requirements. The riser pipe shall be a minimum of four feet in diameter.
- (v) Where feasible, a drain for completely de-watering the pond shall be installed for maintenance purposes.

(8) All outlets will be designed to be easily accessible for heavy equipment required for maintenance purposes.

- h. Vegetative plantings associated with retention/detention facilities.
 - (1) Basin designs will be accompanied by a landscaping plan that uses native plant species.
 - (2) A permanent buffer strip of natural vegetation at least 25 feet in width will be maintained or restored around the perimeter of all wet basins and ponds. No lawn care chemical applications shall be applied to the buffer area.
 - (3) Viability of plantings will be monitored by the Township for two years after plantings are installed by the applicant, and reinforcement and replacement plantings provided by the applicant as needed.
 - i. For safety purposes and to minimize erosion, basin side slopes will generally not be flatter than 20:1 nor steeper than 6:1. Steeper slopes may be allowed if fencing at least 5 feet in height is provided.
 - j. Anti-seep collars shall be installed on any piping passing through the sides or bottom of the basin to prevent leakage through the embankment.
 - k. A minimum of one foot of freeboard will be required above the 100-year stormwater elevation on all detention/retention facilities.
 - l. All basins will have provisions for a defined emergency spillway, routed such that it can be picked up by the main outflow channel.
 - m. Adequate maintenance access from public or private right-of-way to the basin will be reserved. The access will be on a slope of 5:1 or less, stabilized to withstand the passage of heavy equipment, and will provide direct access to both the forebay and the riser/outlet.
 - n. For sites where chemicals may be stored and used (e.g. certain commercial and industrial developments) a spill response plan will be developed that clearly defines the emergency steps to be taken in the event of an accidental release of harmful substances that may migrate to the stormwater system. As a result of this plan, design elements such as shut-off valves or gates may be needed.
 - o. The placement of retention/detention basins within a floodplain is discouraged. Where retention/detention basins are proposed within a floodplain, information will be provided to verify that the facility will operate as designed during flood events.
2. PERMANENT RETENTION PONDS
- a. Storage volume.

Retention basins will be capable of storing two consecutive 100-year storms, which can be determined by:

$$37,970 \times \text{acreage} \times \text{the relative imperviousness factor } C - V_{cp-p}$$

- (1) An overflow assessment will be required. The assessment shall include descriptions of the surrounding areas that would be impacted in the event of an overflow.
- (2) The applicant must submit a soil boring log, taken within the basin bottom area to a depth of 25 feet below existing ground or 20 feet below proposed basin bottom elevation.
- (3) The volume required may be modified based upon the percolation rate of the soil, groundwater table elevation and a recommendation from a licensed hydro-geological consulting engineer.
- (4) The permeability of the soils shall follow all requirements set forth for large BMPs with the exception of the following:
 - a. The Basin shall be able to dewater a 100-year storm (V100R) within 72 hours based on the infiltration rates.
 - b. When calculating the volume of storage, no credit will be given for infiltration volume within the basin. However, infiltration volume from upstream BMPs may be credited towards the total retention volume required.
- b. Retention ponds require soil borings every 5,000SF of surface ponding area. Soil borings and infiltration studies must show a minimum infiltration rate of 0.24 inch/hr. For infiltration rates greater than 0.5 in/hr., a reduction in storage volume may be considered at the discretion of the Township Engineer. In no instance shall the storage volume be less than a 100-year storm. Infiltration standards are applicable to all post-construction BMP devices which utilize infiltration.

3. WET DETENTION BASINS

a. Storage volume.

Storage volume on a gravity outflow wet basin is defined as "the volume of detention provided above the invert of the outflow device". Any volume provided below the invert of the outflow device will not be considered as detention.

At a minimum, the volume of the permanent pool shall be at least:

$$2.5 \times 1.0 \text{ inch}^4 \times \text{runoff coefficient} \times \text{site drainage area.}$$

b. Wet detention pond configuration will be as follows:

- (1) Surface area to volume ratio shall be maximized to the extent feasible;
 - (2) In general, depths of the permanent pool shall be varied and average between 3 and 6 feet;
 - (3) A minimum length to width ratio of 3:1 shall be used unless structural measures are used to extend the flow path;
 - (4) Ponds shall be wedge-shaped, narrower at the inlet and wider at the outlet;
 - (5) Irregular shorelines are preferred.
- c. A marsh fringe shall be established near the inlet or forebay within the basin and around at least 50% of the pond's perimeter.

⁴1.0" represents the mean storm event as determined by EGLE.

- d. A shelf, a minimum of 4 feet wide at a depth of one foot, will surround the interior of the perimeter to provide suitable conditions for the establishment of aquatic vegetation, and to reduce the potential safety hazard to the public.
- e. To avoid drawdowns, a reliable supply of baseflow and/or groundwater will be required.
- f. If underlying soils are highly permeable (e.g. in the "A" or "B" hydrologic groupings), the bottom of the basin shall be lined with an impermeable geotextile or a 6 inch clay liner.
- g. In-line detention basins are strongly discouraged in all circumstances; and are prohibited on water courses greater than 2 square miles upstream or on a county drain. In-line basins are also prohibited if the waterway to be impounded traverses any area outside of the proposed development.

4. EXTENDED DETENTION BASINS

- a. A two-stage design is required, with separate outlet controls to detain both the 2-year and larger rain events.
 - (1) Lower stage.
 - (2) The lower stage shall contain a shallow, permanent pool designed to store and treat the "first flush", or 1.0 inch of runoff over the entire site. This pool shall be managed as a shallow marsh or wetland, and average 6-12 inches in depth.
 - (3) At a minimum, the volume of runoff detained in the entire lower stage shall be equivalent to the runoff volume produced by a 2-year storm.
 - (4) Upper stage.

The upper stage shall be sized for the 100-year, 24-hour storm, as provided in Part 2 Section 11.A.1.d.i. of these procedures and standards, and shall be graded to remain dry except during large storms.

A low flow channel, stabilized against erosion, will be provided through the dry portion of the basin. This channel shall have a minimum grade of 0.5%, and the remainder of the basin shall drain toward this channel at a grade of at least 1%. The low flow channel shall end at the lip of the lower stage, where riprap or gabion baffles will be placed to prevent scour and resuspension.

5. STORMWATER WETLAND SYSTEMS

- a. Background.
 - (1) Stormwater wetlands are defined as constructed systems explicitly designed to mitigate the stormwater quality and quantity impacts associated with development. They do so by temporarily storing stormwater runoff in shallow pools that create growing conditions suitable for emergent and riparian wetland plants. The runoff storage, complex microtopography and emergent plants in the stormwater wetland together form an ideal system for the removal of urban pollutants. Because of their water quality benefits, the use of stormwater wetlands is encouraged.
 - (2) As a general rule, stormwater wetlands shall not be located within delineated natural wetland areas, nor be confused with created wetlands that are used to mitigate the loss of natural wetlands.

- (3) The design of an effective and diverse stormwater wetland requires a sophisticated understanding of hydrology and wetland plant ecology. Therefore, wetland construction, reconstruction or modification must be overseen by a qualified professional with specific wetland expertise. An excellent reference for the design of stormwater wetlands is by Thomas R. Scheuler, "Design of Stormwater Wetland Systems" (published by the Metropolitan Washington Board of Governments).
- b. Standards.
 - (1) Stormwater wetland systems must be designed to perform in conformance with all standards for storage volume and discharge rate established in these procedures and standards.
 - (2) The developer will provide for the monitoring of wetland plantings and replacement as needed for a two-year period after construction.

6. UNDERGROUND STORAGE FACILITIES

If all of the property in the proposed development is five (5) acres or less, including all past, present and future phases, or if the proposed development constitutes a redevelopment of a use previously approved by the Township and constructed and used by the property owner for at least ten years prior to applying for approval of the proposed development under consideration, then underground storage facilities shall be permitted, in whole or part, in lieu of surface stormwater basins; provided, that, with the exception of a redevelopment project qualifying under this section which does not have an existing stormwater storage basin, approval under this section shall be conditioned upon it being demonstrated by the applicant that it would be in the public interest not to disturb the area that would otherwise be used to construct the basin.

An applicant seeking approval for an underground storage facility shall specify the total system proposed, including any surface basins as well as proposed underground facilities, and shall include all calculations and other supporting information demonstrating the legitimate reasons why the proposed system should be approved. The applicant shall demonstrate all of the following in order to secure approval of an underground storage facility:

- a. Natural resource and feature preservation shall be enhanced;
- b. Public safety shall be preserved or enhanced;
- c. The absence of potential problems that may result;
- d. Engineering advantages;
- e. The storage facility shall function as well or better than the surface stormwater basin in terms of water quality and quantity considerations; and
- f. Both of the following standards shall be met:
 - (1) An open space as large as, and in the location of, the area that would have been required for the surface basin shall be set aside and preserved by a conservation easement or other mechanism approved by the Township Attorney as adequate, with the view of ensuring the availability of an area to construct a back-up system if the underground storage facility fails to fully function as intended; and

- (2) The intensity of development would be equal to or less than that which would be permitted with the surface stormwater basin proposed to be eliminated.
- g. The proposed system shall meet the following standards:
 - (1) It shall be a groundwater recharge or infiltration type system.
 - (2) In calculating the storage volume in order to meet the 100 year storm standard, the void space in the bedding material under and around the facility shall not be counted or included.
 - (3) The emergency overflow elevation for the discharge from the underground storage system on the property shall be at least six (6") inches higher than the lowest rim elevation of the catch basin on the site, including all parking lot curbs and similar structures restraining water leaving the site.
 - (4) An additional storage capacity equal to a 1-year, 24-hr storm event must be provided within the underground detention system above the required 100-year, 24-hr storm event all detention basins must meet to simulate the freeboard volume required on above ground detention basins.

B. *STORMWATER CONVEYANCE*

All stormwater conveyance structures will be constructed in accordance with governing specifications. (Michigan Department of Transportation, Oakland County Road Commission, or Township). In the event of no other governing specifications, the latest edition of the Michigan Department of Transportation standards will be observed.

Stormwater conveyance systems incorporating pumps are not permitted, absent a variance, which shall require a showing that there is no feasible and prudent alternative, and that it is in the public interest.

1. NATURAL STREAMS AND CHANNELS

- a. Natural streams are to be preserved. Natural swales and channels shall be preserved, whenever possible.
- b. If channel modification must occur, the physical characteristics of the modified channel will meet the existing channel in length, cross-section, slope, sinuosity, vegetation and carrying capacity.
- c. Streams and channels will be expected to withstand all events up to the 100-year storm without increased erosion. Armoring banks with riprap and other manufactured materials will be accepted only where erosion cannot be prevented in any other way, such as by the use of vegetation.

2. VEGETATED SWALES/OPEN DITCHES

- a. Open swale/ditch drainage Systems will be preferred to enclosed storm sewers where applicable governmental standards and site conditions permit, provided, that appropriate safety measures shall be observed.
- b. Swales shall:
 - (1) Follow natural, pre-development drainage paths insofar as possible be well vegetated, wide and shallow.
- c. Open ditch flow velocities will be neither siltative nor erosive. In general, the minimum acceptable velocity will be 2.0 ft./sec., and the maximum acceptable velocity will be 6.0 ft./sec.

- d. Open ditch slopes will depend on existing soils and vegetation and, whenever possible, will be greater than 1.5%. For slopes less than 1.5%, additional inspection will be necessary to ensure proper, positive drainage. In no case shall slopes be less than 1.0%, unless other techniques such as infiltration devices are implemented. Maintenance for such devices must be detailed in the overall Maintenance Plan.
 - e. Side slopes of ditches shall be no steeper than 3:1. Soil conditions, vegetative cover and maintenance ability will be the governing factors for determining slope requirements.
 - f. Slopes and bottoms of open ditches and swales will be stabilized to prevent erosion.
 - g. Swale length shall be a minimum of 200 feet whenever possible, to increase the contact time of stormwater.
 - h. In general, a 5-foot clearance will be provided between open swale/ditch inverts and underground utilities unless special provisions are employed. Special provisions, for example, could be the encasement of utility lines in concrete when crossing under the channel, in no case will less than 2 feet of clearance be allowed.
 - i. Permanent metal or plastic markers will be placed on each side of the drain to show the location of underground utilities.
 - j. All bridges will be designed to provide a two foot minimum flood stage freeboard to the underside of the bridge. Footings will be at least one foot below the invert grade of the channel. Depending on soils, additional footing depth may be required.
 - k. A series of check dams or drop structures across swales shall be provided to enhance water quality performance and reduce velocities.
 - l. Designers shall consider integrating additional redundant pollutant removal enhancement features such as stilling basins and stone infiltration trenches.
3. ENCLOSED DRAINAGE STRUCTURES (ALSO SEE ORDINANCE CODE SECTION 24-180)
- a. Enclosed storm drain systems will be sized to accommodate the 10-year storm, with the hydraulic gradient generally kept below the top of the pipe.
 - b. Restricted conveyance systems designed to create backflow into stormwater storage facilities are not permitted.
 - c. Drainage structures will be located as follows:
 - (1) To assure complete positive drainage of all areas of the development.
 - (2) At all low points of streets and rear yards.
 - (3) Such that there is no flow across a street intersection.
 - (4) For smaller enclosed pipes (12-30 inches), manholes will not be spaced more than 350 feet apart. Longer runs may be allowed for larger sized pipe but in all cases maintenance access must be deemed adequate by the Township.
 - (5) In conformance with any more stringent local requirements.
 - d. The catch basin or inlet covers shall be designed to accept the 10-year design storm. No ponding of water shall occur during this storm event.
 - e. Discharge from enclosures will be as follows:

- (1) All outlets will be designed so that velocities will be appropriate to, and will not damage, receiving waterways.
 - (2) Outlet protection using riprap or other approved materials will be provided as necessary to prevent erosion.
 - (3) The soils above and around the outlet will be compacted and stabilized to prevent piping around the structure. Riprap extending 3 feet above the ordinary high water mark is recommended for all outlets.
 - (4) When the outlet empties into a detention/retention facility, channel or other watercourse, it will be designed such that there is no overfall from the end of the apron to the receiving waterway.
- f. Pipe will conform to the following criteria:
- (1) In order to avoid accumulation of sediment in the drain, pipe will be designed to have minimum velocity flowing full of 3 ft/sec., with the exception of sediment chambers. In isolated circumstances, 2 ft/sec. will be allowed. The allowable maximum velocity flowing full will be 10 ft/sec. Special cases where topography is steep may be granted exception.
 - (2) Pipe joints will be such as to prevent excessive infiltration or exfiltration.
 - (3) All materials will be of such quality as to guarantee a maintenance-free expectancy of at least 50 years and will meet all appropriate A.S.T.M. standards.
- g. If sump pump leads are required to be connected into an enclosed system, these taps shall be made directly into storm sewer structures.
4. DETERMINATION OF CHANNEL SIZE
- a. The "Mannings" formula will be used to size the open channel or pipe.
- "Mannings Formula"*
- $$Q = \frac{14.9}{n} AR^{2/3} S^{1/2}$$
- Q = flow, in cubic feet per second
A = cross sectional area, in square feet
n = Mannings coefficient of roughness (See Appendix E for reference)
R = hydraulic radius = A/P, in feet
P = wetted perimeter
S = slope of the bottom of the drain
- If the "Mannings" formula is not used, the alternative method used will be approved by the Township Engineer.
- b. A minimum "n" of 0.035 will be used for the roughness coefficient unless special treatment is given to the bottom and side slopes, such as sodding, riprap or paving.
5. DETERMINATION OF CULVERT SIZE
- a. Under Michigan State Law (Act 451, PA. Part 301 of 1994), crossroad culverts draining two square miles or more must be reviewed and approved by EGLE.

- b. Crossroad culverts draining less than 2 square miles of upstream watershed will be sized by the applicants engineer and approved by the MDOT, Oakland County Road Commission and Oakland County Water Resources Commissioner's Office.
- c. In general, culverts will pass the 100-year storm flow with the velocity not exceeding 8 feet per second, and with no increase in adverse water conditions occurring off of the development property or flooding of structures within the development. A minimum of one foot of freeboard is required.
- d. Acceptable methods of determining the quantity of water needed to pass through the culvert are listed below. The applicant's engineer may use any of the methods listed or another if approved by the Township Engineer:
 - (1) Rational method.
 - (2) U.S.D.A. soil conservation service method.
 - (3) The Michigan Department of Natural Resources Method.
 - (4) Continuous flow modeling.
- e. The discharge velocity from culverts shall consider the effect of high velocities, eddies, or other turbulence on the natural channel, downstream property and roadway embankment. The culvert exit velocity shall not cause downstream channel erosion or scour.
- f. Sizing of culvert crossings will consider entrance and exit losses as well as tailwater conditions on the culvert. Once the design flow is determined, the required size of the culvert will be determined by one of the following methods:
 - (1) The "Mannings" formula.
 - (2) The inlet headwater control/outlet tailwater control nomographs.
 - (3) Other methods approved by the Township.
- g. Wing walls, headwalls and all other culvert extremities will be designed to assure the stability of the surrounding soil. It is recommended that Michigan Department of Transportation standard designs be observed unless special exemption is given by the entity having jurisdiction.

C. *ADDITIONAL STORMWATER MANAGEMENT BMPS: INFILTRATION TRENCHES, SAND FILTERS, AND BIORETENTION BASINS/RAIN GARDENS*

A variety of best management practices, other than those detailed within these procedures and standards, provide effective water quality and quantity control. The following section provides design standards for only three of many approaches that may be acceptable to the Township. In general, BMP designs and volume calculations shall follow the latest edition of the Oakland County Water Resource Commissioner Stormwater Engineering Design Standards.

1. INFILTRATION TRENCHES

- a. Background.
 - (1) Infiltration devices are designed to capture and treat stormwater runoff from smaller rain events that are managed for water quality purposes. They function to reduce runoff at its source, since the diverted "first flush" is not discharged to surface water but is stored until it is gradually removed by infiltration and evaporation. Through these mechanisms, infiltration can remove pollutants, provide groundwater recharge and help reduce the volume of runoff leaving a

site. Infiltration devices are generally incorporated as one component of an overall stormwater system that utilizes other management approaches as well.

- (2) While the concept of infiltration best conforms to the stormwater management goals of water quantity and quality control stated within these procedures and standards, in practice, infiltration approaches to stormwater management have limited application. Although many infiltration devices are very effective for removing fine sediment particles and the pollutants associated with them, coarse sediments and oil will clog infiltration systems, and must be removed prior to entering them. Clogging of infiltration devices is a primary reason for failure, causing many to fail during the first few years of operation. The use of erosion control measures, sedimentation basins and grass filter strips to pre-treat runoff is essential, as well as a very aggressive maintenance program. In addition, studies have shown that many infiltration facilities fail or do not work as designed due to poor initial site selection. Therefore, soil suitability and the contributing drainage area must be carefully assessed. The potential for groundwater contamination must also be seriously considered prior to implementation.
- (3) Infiltration approaches to stormwater management are particularly attractive for small catchment areas of less than 10 acres in size, where the employment of more traditional BMP's such as wet ponds, artificial marshes, and/or extended detention dry ponds is often neither feasible nor desirable.

NOTE: Infiltration basins will not be permitted due to universally high failure rates.

b. Design criteria for infiltration trenches.

- (1) Infiltration trenches are limited to small tributary areas of approximately 5 acres.
- (2) Infiltration trenches are not feasible where the slope of the site is greater than 20%, unless proper energy dissipation devices are installed. Trenches are also not recommended where the slope of the contributing watershed is greater than 5%. The slope of the trench bottom shall be close to zero to evenly distribute exfiltration.
- (3) Minimum design volume will be based on infiltration of 1.0 inch runoff over the entire drainage basin.
- (4) All trenches will be designed to hold water for a minimum of 6 hours and a maximum of 72 hours.
- (5) Filter fabric will be used to line the sides of the trench, and either filter fabric or 6 inches of sand will be used on the trench bottom. (Filter fabric placed 6 to 12 feet below the surface of an open trench can prevent the need for major rehabilitation).
- (6) Cleaned, washed stone aggregate, 1.5 to 3 inches in diameter, will be used within the stone reservoir.
- (7) The trench bottom will be a minimum of 4 feet above seasonally high groundwater and bedrock.
- (8) To remain operative in freezing weather, the bottom of the trench will be placed 3 feet below the frost line.
- (9) Stormwater pretreatment.

- [i. Reserved.]
 - ii. A sediment settling basin, or other stormwater management practice, will be provided to remove coarse sediment from stormwater flows before they reach infiltration trenches.
 - iii. The use of pretreatment systems that provide some degree of storage (e.g. sump pits, swales with check dams or plunge pools) is encouraged.
 - iv. For surface trenches, a minimum 25 foot wide grass buffer is required as a filter.
 - v. Underground trenches will receive water directed through an oil/grit separator or other form of pretreatment that will remove both coarse solids and oils where applicable.
 - (10) Where an overflow pipe is provided for flows in excess of design, the pipe will be placed near the surface of the trench and outlet to an acceptable point of discharge.
 - (11) Underground trenches will be readily accessible for maintenance purposes.
 - (12) An observation well, consisting of a perforated vertical pipe within the trench, will be installed in every trench to monitor performance.
 - c. Infiltration trenches will not be built downslope of new construction until the entire development area has been permanently stabilized.
 - d. Infiltration trenches shall be located on soils in hydrologic groups "A" or "B" as designated by the U.S. Soil Conservation Service. Where infiltration trenches are proposed, a sufficient number of soil borings will be provided in each location to allow evaluation of site suitability.
 - (For SCS Soil Hydrologic Groupings, see Appendix J)
 - e. The bottom of the trench will be roto-tilled after construction, to reduce the possibility of initial soil compaction (caused by excavation with heavy equipment).
 - f. A legally enforceable and binding maintenance agreement will be included in the property deed for each trench. All trenches will require inspection and maintenance every six (6) months.
2. SAND FILTERS
- a. Background.
 - (1) Sand filters are a technique for treating stormwater, whereby the first flush of runoff is diverted into an off-line, self-contained bed of sand. The runoff is then strained through the sand, collected in underground pipes and returned back to the stream or channel. Enhanced sand filters utilize layers of peat, limestone, and/or topsoil, and may also have a grass cover crop. In general, sand filters have a limited ability to reduce peak discharges and are usually designed solely to improve water quality.
 - (2) Because sand filters are a self-contained, artificially constructed soil system, they have few constraining factors and can be applied to most development sites, including those too small to be effectively served by ponds (i.e. small in

fill developments). Sand filters are also useful in areas with concerns over groundwater contamination and poor soil infiltration rates, and as end-of-pipe retro fits. The upper limit on sand filters appears to be about 50 acres; however, most have a contributing watershed between 0.5 and 10 acres.

- (3) While the technology is still developing, a number of standard sand filter designs are available and may be acceptable to the Township.
 - (4) In general, all designs incorporate three basic components:
 1. A pretreatment wet pool or sedimentation basin;
 2. An on-line diversion weir for isolating the stormwater to be treated; and
 3. An off-line sand filter bed area. A good reference for the design of sand filters is by Warren Bell, P. E., "A Catalogue of Stormwater Quality Best Management Practices for Ultra-Urban Watersheds". A copy of this paper is available through the Townships office.
- b. General standards for the design of sand filter systems are as follows:
- (1) The system shall be designed to capture and treat the first 1.0 inch of runoff from the impervious portion of the contributing watershed.
 - (2) Pretreatment of stormwater will be required before discharge into the sand filter. The following pretreatment mechanisms may be acceptable to the Township:
 - (i) Wet pool.
 - (ii) Sedimentation basins.
 - (iii) Oil-grit separators.
 - (iv) Grass filter strips.
 - (3) Sufficient sediment storage volume will be provided within pre-treatment devices, so that clean-out intervals are reduced to once every 2 to 3 years.
 - (4) Design stormflows will be conveyed to the sand filter bed basin at a nonerosive velocity. Generally, this velocity will be less than one foot per second.
 - (5) An over-sized perforated hood/trash guard will be incorporated into weir designs to minimize clogging of the baseflow pipe.
 - (6) Excess runoff volumes will be returned to the receiving conveyance channel via a rip-rapped baseflow/overflow channel.
 - (7) Sand filter bed.
 - (i) A variety of formulas for sizing sand filter beds are available, and may be acceptable to the Township.
 - (ii) The maximum surface ponding time for the design runoff volume will be limited to 24 hours.
 - (iii) An impermeable liner may be required to eliminate potential groundwater infiltration/exfiltration problems.

- (8) Because of the potential for system failure due to bed clogging, sand filter system use is restricted to stabilized drainage areas.
- (9) Regular inspection and timely periodic removal of sediment and trash will be required. Grass cover crops, when provided, will be mowed whenever they exceed 10 cm. height (approx. once per week) and all grass cuttings removed.
- (10) The filter bed area will be clearly marked, and an appropriate drainage easement provided.

3. BIORETENTION DEVICES

a. Background.

- (1) Bioretention devices are designed to capture and treat stormwater runoff from smaller rain events, that are managed for water quality purposes. They function to reduce runoff at its source, capturing the "first flush" and removing sedimentation and contaminants through engineered soil media as stored waters is absorbed by native Michigan plantings. Through these mechanisms, infiltration can remove pollutants, provide groundwater recharge, and help reduce the volume of runoff leaving a site. Bioretention devices are generally incorporated as one component of an overall stormwater system that utilizes other management approaches as well.
- (2) While the concept of infiltration best conforms to the stormwater management goals of water quantity and quality control stated within these procedures and standards, in practice, infiltration approaches to stormwater management have limited application. Although many infiltration devices are very effective for removing fine sediment particles and the pollutants associated with them, coarse sediments and oil will clog infiltration systems, and must be removed prior to entering them. Clogging of infiltration devices is a primary reason for failure, causing many to fail during the first few years of operation. The use of erosion control measures, sedimentation basins and grass filter strips to pre-treat runoff is essential, as well as a very aggressive maintenance program. In addition, studies have shown that many infiltration facilities fail or do not work as designed due to poor initial site selection. Therefore, soil suitability and the contributing drainage area must be carefully assessed. The potential for groundwater contamination must also be seriously considered prior to implementation.
- (3) Bioretention approaches to stormwater management are particularly attractive for small catchment areas of less than 3 acres in size, where the employment of more traditional BMP's such as wet ponds, artificial marshes, and/or extended detention dry ponds is often neither feasible nor desirable. Developer is encouraged to utilize bioretention devices in tandem with other traditional storm water managements BMPs.

b. Design criteria for bioretention devices.

- (1) Bioretention devices are limited to small tributary areas of approximately 0.5 to 3 acres.
- (2) Minimum design volume will be based on infiltration of 1.0 inch runoff over the entire drainage basin.
- (3) All bioretention devices will be designed to hold water for a minimum of 12 hours and a maximum of 48 hours.

- (4) Bioretention devices and rain gardens shall consist of the following sections:
 - i. Ponding area ranging from 6 to 18” in depth. Ponding area will consist of native Michigan plantings that are moisture tolerate and suitable for submerged environments. Max side slopes in planting area is 3:1.
 - ii. Engineered soil media for filtration between 18 to 48” in depth. Engineered soil media shall consist of 50% sand, 20% composted organics, and 30% topsoil.
 - iii. Optional storage bed consisting of uniformly graded clean aggregate or clean washed sand between 6 to 12” in depth. Storage bed is required for systems utilizing and overflow structure with perforated underdrain.
 - iv. Optional perforated underdrain minimum 6” in diameter for in-situ soils with infiltration rates less than 0.5in/hr.
- (5) The basin bottom will be a minimum of 4 feet above seasonally high groundwater and bedrock.
- (6) To remain operative in freezing weather, the bottom of the basin utilizing underdrain system will be placed below the frost line.
- (7) Where an overflow pipe is provided for flows in excess of design, the pipe will be placed in an accessible location for easy maintenance and outlet to an acceptable point of discharge.
- (8) Bioretention devices will be readily accessible for maintenance purposes.
- c. Bioretention devices will not be built downslope of new construction until the entire development area has been permanently stabilized.
- d. Bioretention devices shall be located on soils in hydrologic groups "A" or "B" as designated by the U.S. Soil Conservation Service. Where basins are proposed, a sufficient number of soil borings will be provided in each location to allow evaluation of site suitability. A minimum infiltration rate of 0.24 inch/hr is required as confirmed by a qualified geotechnical engineer licensed in the State of Michigan.
 - (For SCS Soil Hydrologic Groupings, see Appendix J)
- e. The bottom of the basin will be roto-tilled after construction and prior to any plantings, to reduce the possibility of initial soil compaction (caused by excavation with heavy equipment).
- f. A legally enforceable and binding maintenance agreement will be included in the property deed for each device. All devices will require inspection and maintenance every six (6) months.

D. *MANUFACTURED TREATMENT SYSTEMS*

1. DESCRIPTION

Underground swirl concentrators, "*treatment system*", are devices used to remove sediment and other particulate matter from stormwater runoff. These systems provide a mechanism for pretreatment of stormwater runoff and may be used upstream of detention facilities or upstream of wetlands that have been approved to manage stormwater runoff. The Township Engineer must approve use of these

treatment systems as part of the overall site stormwater management system to ensure maximum ecological benefits.

2. GENERAL PERFORMANCE AND DESIGN SPECIFICATIONS

- a. The system may be used in lieu of a sediment forebay as approved by the Township Engineer.
- b. The treatment system must include a "swirl chamber" with a tangential inlet that facilitates a swirling flow pattern to allow settlement of solids and prevent resuspension of settled particulates.
- c. Systems that have demonstrated 80% removal of the annual total suspended solids load based on third party independent testing are required.
- d. The system must treat 100% of the runoff from the 2-year/24-hour storm event and remove a minimum of 80% of the total suspended solids (TSS) load based on a 110-micron particle size.
- e. Rain events larger than the 2-year/24-hour event shall bypass the system without causing any resuspension of trapped sediments and without causing reentrainment of floatable contaminants.
- f. The system shall not create any backwater in the upstream pipe network during any dry weather conditions.
- g. The treatment system must prevent oil and floatable contaminants from entering downstream piping during routine maintenance and during rain events.
- h. Direct access must be provided to the sediment and floatable chambers to facilitate maintenance. There must be no appurtenances or restrictions within these chambers.
- i. Systems that require confined space entry for inspections or maintenance are not approved for use as a treatment system.
- j. If the system is proposed in traffic areas, then it must be designed to handle H2O loadings.

3. MAINTENANCE GUIDELINES

- a. Treatment systems shall be maintained according to the manufacturer's recommendations. An inspection and maintenance manual must be provided for review specific to the model.
- b. At a minimum, the system must be inspected and cleaned every 6 months, or more frequently if recommended by the manufacturer or directed in the reasonable exercise of discretion by the Township Engineer.
- c. All treatment systems shall be cleaned of accumulated sediment and other materials prior to turnover to the long-term property owner(s).
- d. Maintenance requirements for these treatment systems shall also be provided as described in *Section X. Stormwater Management System Maintenance Plans* of the ordinance to which this Appendix applies [of this Appendix].

4. PLAN SUBMITTALS

Calculations associated with the sizing and selection of the appropriate model for the selected type of treatment system shall be included in all plan submissions as outlined in *Part One Procedures for Submission and Review of Development Plans* of this Appendix.

III. NATURAL WETLANDS (ALSO SEE ORDINANCE CODE, CHAPTER 12)

This section governs natural wetlands (as distinct from stormwater wetland systems that are constructed expressly for stormwater management purposes), when a natural wetland is incorporated in an overall stormwater management scheme.

- A. Wetlands will be protected from damaging modification and adverse changes in runoff quality and quantity associated with land developments. Before approval of the final development plan, all necessary wetland permits from EGLE and the Township will be in place.
- B. Direct discharge of untreated stormwater to a natural wetland is prohibited. All runoff from the development will be pretreated to remove sediment and other pollutants prior to discharge to a wetland. Such treatment facilities will be constructed before property grading begins.
- C. Site drainage patterns will not be altered in any way that will modify existing water levels in protected wetlands without proof that all applicable permits from EGLE and the Township have been obtained.
- D. Wetland construction, reconstruction, or modification will be overseen by a qualified professional with specific wetland expertise working in conjunction with the Township Engineer and Township Environmental Director.
- E. Whenever possible, a permanent buffer strip, preferably vegetated with native plant species, will be maintained or restored around the periphery of wetlands. (*Also see* environmental feature setback provisions of Ordinance Code, Article 26, the Zoning Ordinance).
- F. Wetlands will be protected during construction by appropriate soil erosion and sediment control measures.

IV. LOT GRADING (*ALSO SEE* ORDINANCE CODE, CHAPTER 8)

Final lot grading shall be in accordance with all Township Code provisions, and in accordance with all plans approved by the Township and County.

- A. The grading of lots will be such that surface runoff is away from homes and toward swales, ditches or drainage structures. Provision for drainage through properly graded stormwater conveyance systems will be made for all areas within the proposed development.
- B. Where finished grades indicate a substantial amount of drainage across adjoining lots a drainage swale of sufficient width, depth and slope will be provided on the lot line to intercept this drainage. To ensure that property owners do not alter or fill drainage swales, easements will be required over areas deemed necessary by the Township, as stipulated below in this Part Two.

V. SOIL EROSION, SEDIMENTATION AND POLLUTION CONTROL

Discharge of sediment or other polluting materials to a waterway shall be prohibited.

A. *SOIL EROSION/SEDIMENTATION CONTROL*

All erosion control measures will be regularly inspected and maintained.

1. DURING CONSTRUCTION

- a. The development plan shall be fitted to the topography and soil so as to create the least erosion potential.
 - b. An approved soil erosion permit from the local enforcing agent, as well as a National Pollution Discharge Elimination System (NPDES) permit where applicable, will be required.
 - c. Sediment shall not be permitted to leave the site. Recommended procedures to achieve this goal are as follows:
 - (1) Wherever feasible, natural vegetation shall be retained and protected.
 - (2) The smallest practical area of raw land shall be exposed at any one time (i.e. only areas under active construction).
 - (3) The entire site shall be planted with temporary vegetation immediately after mass grading operations.
 - (4) Temporary vegetation and/or mulching shall be used to protect critical areas exposed during development.
 - (5) Sediment basins where needed shall be installed and maintained by the applicant.
 - (6) The permanent, final vegetation and structures shall be installed as soon as practicable in the development.
 - d. Areas within open drain rights-of-way that have been cleaned, reshaped or disturbed in any manner will be stabilized with seed and mulch or sod as quickly as possible.
 - e. All storm sewer facilities that are or will be functioning during construction will be protected, filtered, or otherwise treated to prevent sediment from entering the system. Construction activities will be complete before the construction of any stormwater management facilities susceptible to clogging (e.g. infiltration trenches).
2. PERMANENT EROSION CONTROL MEASURES
- a. Before entering any natural water course, protected wetland, county drain or other body of water, best management practices will be utilized to remove pollutants, including sediment, from stormwater runoff. Pollutant removal methods will include capture and treatment of the "first flush" and "bankfull" (2-year) storm events, as previously described in this Part II, above.
 - b. Headwalls, grouted riprap or other stabilization measures will be provided where necessary to prevent erosion. Permanent erosion protection will be placed at bends, drain inlets and outlets, and other locations as needed in all open ditches. Outlets to ditches will be placed at the average low water elevation of the water course.
 - c. Ditches with steep grades or unstable soils will be protected by sod, vegetative erosion control, geotextile fabric, rip rap or other means to prevent scour. Every effort shall be made to reduce the velocity of flow as much as possible at all storm drain outlets. Outlet velocities will be nonerosive.
 - d. All detention/retention basins will be permanently stabilized to prevent erosion.
- B. *OTHER POLLUTION CONTROL*
- 1. Discharge of runoff that may contain oil, grease, toxic chemicals, or other polluting materials is prohibited. Measures will be employed to reduce and trap pollutants and meet any prevailing federal, state, or local water quality requirements.

2. In commercial and industrial developments where large amounts of oil and grease may accumulate, appropriate methods for separating pollutants will be required. When used, a separator approved by the Township Engineer will be installed off-line or in locations where flow velocities have been determined to be lower than scouring velocity in a ten year storm. Where off-line facilities are proposed, a maintenance program, including an identified method and site for waste disposal, is required.
3. For sites where chemicals may be stored and used (e.g. certain commercial and industrial developments) a spill response plan must be developed that clearly defines the emergency steps to be taken in the event of an accidental release of harmful substances to the stormwater system.
4. Structures designed to remove trash and other debris from stormwater will be installed as required on stormwater management facilities prior to their outlet.
5. Additional water quality protection measures may be required depending on the nature and location of the development and the receiving waters.

VI. BUFFER STRIPS

Buffer strips shall be established adjacent to all surface waters through deed restrictions or provisions of master condominium agreements. Buffer strips are defined as zones where construction, paving, and chemical application is prohibited. Plantings capable of filtering stormwater shall be established or preserved. Widths shall be determined on a case by case basis, based on such considerations as slope, soils, and size of drainage area.

VII. FLOODPLAINS

It is the responsibility of the developer to demonstrate that any activity proposed within a 100-year floodplain will not diminish flood storage capacity. In certain instances an analysis to determine the 100-year floodplain may be required. Compensatory storage will be required for all lost floodplain storage.

VIII. EASEMENTS

- A. Wording relative to easement information shown on the final development plan will be as specifically required by the Township. If a Township Drain is to be established, or if a county drain is to be established under the Michigan Drain Code, related easement language will be depicted on final mylar plans and exhibit B condominium drawings as follows:

" _____ private easement to Township of West Bloomfield or Oakland County Drain Commissioner for drainage" — as applicable.

In addition, language will be included in the deed restrictions for the development and/or condominium master deed as shown in Appendix L.

- B. The location and purpose of drainage easements shall be clearly described in development deed restrictions or condominium master deeds.

Language shall be included within the development deed restriction or condominium master deed that clearly notifies property owners of the presence stormwater management facilities and accompanying easements, as well as restrictions on use or modification of these areas.

- C. If a utility is to be located within the right-of-way of any county drain or drainage easement, it will be located such that it will not significantly increase the expense of maintaining the drainage facility.
- D. Retention/detention basins or other stormwater management facilities will have sufficient easements for maintenance purposes. Easements will be sized and located to accommodate access and operation of equipment, spoils deposition, and other activities identified in the development's stormwater system maintenance plan.
- E. Easement widths will be sized by the Township and be situated in such a way as to allow maximum maintenance access (for example, by offsetting them from the centerline). In general, easement widths will conform to the following:
 - 1. Open channels and water courses: A minimum of 50 feet total width. Additional width may be required in some cases, including but not limited to: water courses with floodplains delineated by FEMA; sandy soils, steep slopes, at access points from road crossings.
 - 2. Back lot drainage (*open swales*): 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, including but not limited to pipe depth exceeding 4 feet from the top of pipe, sandy soils and steep slopes.
- F. Drain fields (septic areas) shall not be located within drainage easements.

IX. SAFETY CONSIDERATIONS

- A. Drainage system components, especially all ponds, will be designed to protect the safety of all persons coming in contact with the system. The following criteria will apply:
 - 1. The side slopes of all detention basins shall not exceed 6:1 (horizontal to vertical), and will be as gradual as practicable to prevent accidental falls into the basin and for stability and ease of maintenance. If steeper slopes are proposed, continuous fencing at least 5 feet in height shall be provided. Fencing materials shall meet with the approval of the Township. Side slopes of open channels will not be steeper than 3:1.
 - 2. Velocities throughout the surface drainage system will be controlled to safe levels taking into consideration rates and depths of flow.
 - 3. All wet detention basins will have a level safety ledge at least 4 feet in width and one foot below the normal water depth, and other design and landscaping features as may be needed to provide for protection of the public.
 - 4. Signs may be required, to alert residents to use limitations of any stormwater basin if the Township will have permanent maintenance jurisdiction.
- B. For sites where chemicals may be stored and used (e.g., certain commercial and industrial developments), a spill response plan will be developed which clearly defines the emergency steps to be taken in the event of an accidental release of large quantities of harmful substances into the drainage system.

X. STORMWATER MANAGEMENT SYSTEM MAINTENANCE PLANS

- A. Property deed restrictions (or condominium master deed documents) will specify the following timeframe for action to address needed maintenance of stormwater management facilities. Deed restrictions (or condominium documents) will also specify that, should the private entity fail to act within this timeframe, the responsible governmental entity may, but shall not be obligated to, perform the needed maintenance and assess the costs against the property owners within the development or condominium association by allowing such costs, together with a reasonable administrative fee be recovered (or collected prior to undertaking work), with the particular language and means to be approved by the Township Attorney.
1. Routine maintenance of stormwater management facilities will be completed within 30 days of receipt of written notification that action is required, unless other acceptable arrangements are made with the supervising governmental entity.
 2. Emergency maintenance will be completed within 36 hours of written notification.
- B. The applicant may fulfill his or her obligation to ensure that a governmental entity will be responsible for drainage system maintenance by establishing a county drainage district, or any other similar mechanism approved by the Township, to provide for the permanent maintenance of stormwater management facilities and necessary funding.
- If a County Drain is not established, the applicant will submit evidence of a legally binding agreement with another governmental agency responsible for maintenance oversight.
- C. A legally binding private maintenance agreement will be executed before final project approval is granted. The agreement shall be referenced on the property deed (or condominium master deed document) so that it is binding on all subsequent property owners.
- D. Maintenance plans will be submitted with all construction plans and included in the bylaws of all developments and site condominiums and will include the following information:
1. The maintenance plan shall include the components of an estimated annual maintenance budget itemized in detail by task. The financing mechanism shall also be described.
 2. A copy of the final approved drainage plan for the development that delineates the facilities and all easements, maintenance access, and buffer areas.
 3. A listing of appropriate tasks defined for each component of the system described, and a schedule for their implementation. The following areas will be covered:
 - a. Maintenance of facilities such as pipes, channels, outflow control structures and pumps.
 - b. Debris removal from catch basins, channels and dry and wet basins.
 - c. Dredging operations for both channels and basins to remove sediment accumulation.
 4. The party responsible for performing each of the various maintenance activities described, which will be recorded with final approved plans and plans.
 5. A detailed description of the procedure for both preventative and corrective maintenance activities. The preventative maintenance component will include:
 - a. Periodic inspections, adjustments and replacements;

- b. Record-keeping of operations and expenditures.
- 6. Provision for the routine and nonroutine inspection of all components within the system described:
 - a. Wet weather inspections of structural elements, (including inspection for sediment accumulation in detention basins) shall be conducted every six (6) months, with as-built plans in hand. These shall be carried out by a professional engineer reporting to the responsible agency or owner.
 - b. Housekeeping inspections, such as checking for trash removal, shall take place at least every six (6) months.
 - c. Emergency inspections on an as-needed basis, upon identification of severe problems, shall be carried out by a professional engineer.
- 7. A description of ongoing landscape maintenance needs. Landscaping shall consist of low maintenance and/or native plant species. The viability of plantings will be monitored by the applicant for at least one year after establishment and plantings will be replaced as needed. The Township is not responsible for landscape maintenance.
- 8. Provision for the maintenance of vegetative buffers by homeowner's associations, conservation groups or a public agency. Buffers will be inspected every six (6) months for evidence of erosion or concentrated flows through or around the buffer.
- E. The stormwater drainage system will be designed to minimize and facilitate maintenance.
 - 1. Riser pipes placed near or within pond embankments.
 - 2. Easily accessible trash racks.
 - 3. Alternate outflows for wet detention basins that can be used to completely drain the pool for sediment removal (pumping may be considered if drainage by gravity is not feasible).
 - 4. Sediment forebays for localizing sediment deposition and removal.
 - 5. Access for heavy equipment.
 - 6. On-site area for spoil deposition, wherever possible.
- F. Infiltration systems, including porous pavement, must be aggressively maintained and protected from clogging by sediment (including the maintenance of grass buffer strips). In the event of clogging by accumulated sediments, partial or total reconstruction of infiltration facilities may be required.

Porous pavement shall be vacuum swept and jet hosed at least four times per year to remove any grit or sediment trapped in the pores of the open-graded asphalt. Evidence of a regular service contract for performing this activity will be required.

Section 3 of Ordinance

Should any section, subdivision, sentence, clause, or phrase of this Ordinance be declared by the Courts to be invalid, it shall not affect the validity of the remainder of the Ordinance or any part other than the part invalidated. It is further declared that such provisions would have been adopted independently of the provision found to be invalid. Should any procedural aspect of this Ordinance be invalidated, such invalidation shall not affect the enforceability of the substantive aspects of this Ordinance.

Section 4 of Ordinance

This Ordinance shall take effect immediately upon publication.

CERTIFICATION

STATE OF MICHIGAN)

) SS.

COUNTY OF OAKLAND)

I, Deborah Binder, the duly elected Clerk for the Charter Township of West Bloomfield, Oakland County, Michigan, do hereby certify that the foregoing is a true and complete copy of the Ordinance adopted by the Township Board for the Charter Township of West Bloomfield at a meeting held on the 16th day of October, 2023, the original of which is on file in the Office of the Township Clerk.

I affix my official signature/seal this 16th day of October, 2023.

By: 
Deborah Binder, Clerk

INTRODUCED: October 2, 2023
ADOPTED: October 16, 2023
PUBLISHED: October 25, 2023
EFFECTIVE: October 25, 2023

