



## Uniform Storm Water Management Ordinance for Charlevoix County

### Preamble

The local units of government within Charlevoix County have collectively determined that the protection of surface water within the County's jurisdictional boundaries would be better served by establishing a countywide storm water management ordinance to supplement the various local, state and federal laws that govern the protection of this natural resource. The Township of Melrose (hereafter called "the local unit of government") has elected to enact a uniform ordinance consistent with this determination. This ordinance sets forth administrative procedures, regulations, standards, enforcement remedies, and repeals any other ordinances or parts of ordinances in conflict herewith. It is in the public interest for each Township, Village, and City within the County (collectively the "local units of government") to adopt an ordinance identical to this Ordinance and to uniformly adopt any amendments to this Ordinance in the future. To promote uniformity throughout the County, this Ordinance shall be known as the Uniform Storm Water Management Ordinance for Charlevoix County (hereafter for brevity called the "Ordinance").

THE TOWNSHIP OF MELROSE ORDAINS:

### ARTICLE I PURPOSE, OBJECTIVES, & ADMINISTRATION

#### Section 1.1 Purpose

The purpose of this Ordinance is to supplement Michigan Public Act 451 of 1994, as amended, for the more stringent regulation of storm water discharges originating within the County; to establish a single unified set of regulations for storm water management within the County's various local units of government; and to provide rules and guidelines to facilitate enforcement thereof.

#### Section 1.2 Objectives

The objective of this Ordinance is to accomplish, among other things, the following:

1. To manage storm water runoff resulting from earth changes occurring within Charlevoix County, both during and after development.
2. To ensure that future development provides measures to manage the quantity and quality of storm water runoff originating from the property so that surface water and groundwater quality is protected and flooding potential is reduced.
3. To preserve and use the natural drainage system for receiving and conveying storm water runoff and to minimize the need to construct enclosed, below grade storm drain systems.

4. To preserve natural infiltration and the recharge of groundwater and to maintain subsurface flows which replenish lakes, streams and wetlands.
5. To ensure that storm water runoff management systems are incorporated into site planning at an early stage of the planning and design process.
6. To minimize the need for costly maintenance and repairs to roads, embankments, ditches, streams, lakes, wetlands and storm water management facilities which are the result of inadequate storm water control.
7. To reduce long-term expenses and remedial projects which are caused by uncontrolled storm water runoff.
8. To encourage the design and construction of storm water management systems which serve multiple purposes, including but not limited to flood prevention, water quality protection, wildlife habitat preservation, education, recreation and wetlands protection.
9. To minimize the impact of development on downstream properties and to preserve the biological and structural integrity of existing watercourses.
10. To allow for off-site storm water management facilities and measures if such proposals meet the requirements of these regulations.
11. To assure that all storm water facilities will be properly designed, constructed and maintained in accordance with a uniform set of standards.
12. To provide for enforcement of this Ordinance and penalties for violations.

### **Section 1.3 Ordinance Administration**

The local unit of government is authorized to enter into an inter-local agreement with Charlevoix County which will permit the Charlevoix County Soil Erosion and Sedimentation Control Officer to be the Enforcing Agent (“Agent”) for this Ordinance. The Agent shall administer and enforce this Ordinance.

### **Section 1.4 Exclusive Storm Water Regulation Provision**

To the extent that this storm water ordinance is in conflict with any previously adopted ordinance within the local unit of government, the intent is to have this storm water ordinance supersede any other storm water regulations that may have been previously adopted or included as a portion of other local ordinances or zoning provisions. If any conflicts arise, the local unit of government shall either repeal or amend such other ordinances to make this Ordinance the exclusive regulation within the local unit of government.

### **Section 1.5 Repeal**

Any non-zoning regulation inconsistent with the storm water regulations contained in this Ordinance is hereby repealed to the extent of such inconsistency.

## **Section 1.6 Rules Applying to Text in this Ordinance**

When not inconsistent with the context, the present tense includes the future; words used in the singular include the plural. The word “shall” is understood to be mandatory, and the word “may” is merely suggestive.

## **ARTICLE II DEFINITIONS**

### **Section 2.1 General**

This Article sets forth the definitions of certain terms used within the Ordinance which have a meaning specific to the interpretation of the text of the Ordinance.

### **Section 2.2 Undefined Words**

Any word not defined herein shall first be interpreted as defined within Part 91, Public Act 451 of 1994, as amended, and where not defined there, shall be interpreted within its common and approved usage.

### **Section 2.3 Definitions**

The following terms and phrases shall have the meaning given herein, unless the context otherwise requires:

**AGENT:** The Charlevoix County Soil Erosion and Sedimentation Control Officer.

**APPEALS BOARD:** The public body which is charged with the responsibility to consider and decide appeals from decisions made by the Agent in administering and enforcing this Ordinance within any local unit of government that has enacted this Ordinance.

**APPEALS BOARD CLERK:** The individual specified in an intergovernmental agreement among the local units of government within Charlevoix County that have enacted this Ordinance who is charged with the responsibility to process appeals to the Appeals Board pursuant to Article VIII of this Ordinance.

**APPLICANT:** The landowner, or his duly authorized agent, for the property upon which a regulated earth change is proposed, and who has submitted an application for a Storm Water Management Permit.

**CHANNEL:** The portion of a stream which conveys normal flows of water, or a ditch or other conveyance structure excavated for the flow of water.

**COMMERCIAL DEVELOPMENT:** An activity, action or alteration of property that is proposed for the purpose of a commercial activity, such as retail sales, professional offices, multi-family residential structures for sale or rental, or any other purpose which includes access by the public for conducting business.

**CONVEYANCE FACILITY (STRUCTURE):** A surface or subsurface structure, pipe or channel which transports storm water from one location to another.

**COUNTY DRAIN:** Drains established and/or constructed pursuant to the Michigan Drain Code (Act 40 of 1956, as amended).

**DESIGN STANDARD (OR ENGINEERING DESIGN STANDARD):** A specification or set of specifications that prescribes the methodology for developing storm water management facilities based upon a uniform set of standards, calculations, and procedures.

**DESIGN STORM:** A hypothetical rainfall event that is developed as a statistical relationship between actual rainfall intensity-duration-frequency data for the purpose of modeling the effectiveness of a given drainage system.

**DETENTION BASIN (POND):** A structure or facility, natural or artificial, which stores storm water on a temporary basis and releases it at a controlled rate. A detention basin may drain completely after a storm event (dry detention basin) or it may be a body of water with a fixed minimum and maximum water elevation between runoff events (wet detention basin).

**DISCHARGE:** The rate of flow of water through an outlet structure at a given point and time, typically measured in cubic feet per second (cfs) or gallons per minute (gpm).

**DISTURBED AREA:** An area of land subjected to erosion due to the removal of vegetative cover and/or earthmoving activities, including filling.

**DRAINAGE:** The interception and removal of water (groundwater or surface water) by natural or artificial means.

**DOWNSTREAM PROPERTIES:** Down gradient lands and waters which receive storm water runoff and other surface water flows from the applicant's property and are often subjected to the cumulative impact of upstream development.

**DRAINAGE SYSTEM:** All facilities, channels and areas which serve to convey, filter, store and/or receive storm water, either on a temporary or permanent basis.

**EARTH CHANGE:** A human-made change in the natural cover or topography of land, including cut and fill activities, which may result in or contribute to soil erosion or sedimentation of the waters of the state. The term "earth change" as used in this Ordinance shall not apply to the practice of plowing and tilling soil for the purpose of crop production.

**FLOOD:** An overflow of surface water onto lands not normally covered by water. Floods have these essential characteristics: the inundation of land is temporary and results from unusually heavy precipitation and the land is inundated by overflow from a lake, pond, stream and/or wetland, or is flooded by natural runoff.

**FLOODPLAIN:** The area of land adjoining a lake or stream which is inundated when the flow exceeds the capacity of the normal watercourse. For mapping purposes, floodplains are designated according to the frequency of the flood event, such as the 100-year floodplain or 500-year floodplain.

**GRADING:** Any stripping, clearing, stumping, excavating, filling, stockpiling or any combination thereof, including the land in its excavated or filled condition.

**GRUBBING:** To clear (ground) of roots and/or stumps.

**IMPERVIOUS AREA:** Surfaces that do not readily allow rainfall to infiltrate into the soil; examples include but are not limited to: roof area, paved or gravel driveways, parking areas, roads (both asphalt and gravel), or areas of heavy clay soils.

**INDUSTRIAL USE:** Any manufacturing, processing, fabrication, maintenance assembly, printing or improvement of articles or merchandise, warehousing, wholesaling, storage, or activities related to mineral extraction and processing; and other business enterprises not classified as commercial.

**INFILTRATION:** The downward movement or seepage of water from the surface into the subsoil and/or groundwater. The infiltration rate is expressed in terms of inches per hour.

**LOCAL UNIT OF GOVERNMENT:** The City, Township, or Village that enacts this Ordinance.

**MAINTENANCE AGREEMENT:** A binding agreement between the landowner and the local unit of government, which sets forth the location and design of best management practices as well as terms and requirements for storm water and erosion management facility maintenance, recorded with the Charlevoix County Register of Deeds.

**OFF-SITE FACILITY:** Storm water management facility which is located partially or completely off the applicant's subject property.

**ORDINARY HIGH WATER MARK:** The line between upland and bottomland which persists through successive changes in water levels, below which the presence and action of the water is so common or recurrent that the character of the land is marked distinctly from the upland and is apparent in the soil itself, the configuration of the surface of the soil and the vegetation. On an inland lake which has a level established by law, it means the ordinary high established level. Where water returns to its natural level as the result of the permanent removal or abandonment of a dam, it means the natural ordinary high water mark.

**OUTFALL:** The point where water flows out from a conduit, drain or stream.

**PEAK DISCHARGE RATE (PEAK FLOW):** The maximum calculated rate of storm water flow at a given point in a channel, watercourse, or conduit resulting from a predetermined frequency storm or flood, measured in cubic feet per second (cfs).

**PERSON:** Any individual, firm, partnership, association, public or private corporation, company, organization or legal entity of any kind, including governmental agencies.

**RETENTION BASIN:** A wet or dry storm water holding area, either natural or manmade, which does not have any outlet to adjoining watercourses or wetlands other than an emergency spillway.

**SITE:** Any tract, lot, or parcel of land or combination of tracts, lots or parcels of land proposed for development.

**STOP WORK ORDER:** A notice for cessation of activity issued by the Agent to any person engaged in an activity in violation of this Ordinance including, but not limited to, grading and development activities.

**STORM WATER MANAGEMENT FACILITIES:** Any structure, facility, barrier, berm, vegetative cover, basin or other measure which serves to manage storm water.

Temporary Measures: Installations designed to manage storm water runoff during development or until soils in the contributing drainage area are stabilized.

Permanent Measures: Installations designed to manage storm water runoff after development is completed.

**STORM WATER MANAGEMENT PERMIT:** Written statement along with supporting documentation and storm water management plan that is executed by the Agent and issued under the provisions of this Ordinance authorizing the applicant to engage in specified earth changes.

**STORM WATER MANAGEMENT PLAN:** Maps and written information prepared in accordance with specific standards identified within the Ordinance for a proposed land use or earth change. The storm water management plan describes the way in which storm water runoff will be managed during and after completion of the proposed development.

**STORM WATER RUNOFF:** Excess water that does not infiltrate the soil, but instead flows over the surface of the ground or is collected in channels, watercourses or conduits and transported over a given drainage area.

**STREAM:** A moving body of water that has definite banks, a bed and visible evidence of a continued flow or continued occurrence of water. See Public Act 451 of 1994, as amended, Part 301, Inland Lakes and Streams Section 324.30101, Subparagraph E, as amended.

**SWALE:** Low lying grassed area with gradual slopes which transports storm water, either on site or off site.

**WATERSHED:** A land area, also known as a drainage area, which collects precipitation and contributes runoff to a receiving body of water or point along a watercourse.

## **ARTICLE III REGULATED ACTIVITIES & PERMIT REQUIREMENTS**

### **Section 3.1 Regulated Activities**

Except as otherwise provided in this Ordinance, all earth changes described below shall be regulated activities and shall require a Storm Water Management Permit from the Agent, pursuant to Section 3.2 of this Ordinance:

1. Industrial and commercial development regardless of the size or location, with the following exception:

A proposal for redevelopment or alteration of an existing commercial or industrial site with a maximum total increase of ten percent (10%) of the impervious surface in existence on May 1, 2010 or 4,356 square feet, whichever is less, shall not be required to meet the design standards of this Ordinance. Greater than a ten percent (10%) increase in the impervious surface in existence on May 1, 2010 or more than 4,356 square feet of additional impervious surface shall require storm water management measures in accordance with the design standards of this Ordinance for the entire increase.

2. All subdivision developments as defined by Section 102 of Public Act 288 of 1967, as amended, regardless of size, location or environmental sensitivity.
3. All site condominium developments or condominium developments as defined by Public Act 59 of 1978, as amended, Section 559.101 et seq. of the Michigan Compiled Laws regardless of size, location or environmental sensitivity.
4. A mobile home park, manufactured housing development, or campground.
5. Public and private roads which either provide access to five (5) or more parcels, are more than five hundred (500) feet in length, and/or have a grade of ten percent (10%) or greater.
6. A private driveway that is at a ten percent (10%) grade or greater, sloping down toward the intersecting road.

### **Section 3.2 Permit Requirements**

For purposes of this Ordinance, a Storm Water Management (SWM) Permit for regulated activities as identified in Section 3.1 is required before any earth changes commence. The SWM Permit requirements are independent of any other regulations governing the proposed earth change, such as soil erosion regulations or zoning requirements, which may require additional permitting through other enforcing agencies. The granting of a SWM Permit shall authorize only such earth changes for which the permit has been issued, and shall not be deemed to approve any development as a whole, or any other land use activities.

### **Section 3.3 Permit Application Submittal**

1. An application for a SWM Permit shall be submitted on the form provided by the Agent, signed by the landowner or his/her duly authorized agent, and shall include a storm water management plan, prepared in accordance with Article IV, along with the appropriate permit and review fees, prior to being considered by the Agent as an administratively complete application. The Agent may request additional storm water management plans or supporting documentation at his/her discretion during the permit review process.
2. The application for a SWM Permit shall be made, reviewed and approved prior to the start of any earth change including construction of access roads, driveways, grubbing or grading. Permit approval shall be given prior to the initiation of any work activity. Any unauthorized work shall be considered a violation of this Ordinance subject to enforcement actions under Article VII regardless of any later actions taken toward compliance. Soil test borings including those utilizing reasonable backhoe test excavation, vegetative cutting for land surveys, percolation tests and normal maintenance shall not be considered a start of work under these regulations.

### **Section 3.4 Plan Preparation by a Registered Professional**

Following the calculation of pre- and post-development (or increase in development) stormwater runoff, if 100% of this increased storm water will not be retained on-site in a stormwater retention basin, the storm water management plan shall be prepared by a registered professional, in accordance with Section 6.2.

### **Section 3.5 Sequential Applications**

1. On development proposals which are so large or complex that a storm water management plan encompassing all phases of the project cannot reasonably be prepared prior to initial ground breaking, an application for a sequential SWM Permit, based on successive major incremental earth change activities may be allowed. Requests for sequential applications shall be approved by the Agent prior to submittal of the initial SWM Permit application.
2. Approval of sequential applications shall take place in two phases. First, the overall conceptual plan for the entire development shall be submitted for review and approval. Second, detailed plans for each phase of the total project shall be submitted for review and approval.
3. All permits processed and issued for phases of a project shall be clearly defined as to the nature and extent of work covered for that phase. Each phase of the project must be reviewed and permitted individually prior to construction.

### **Section 3.6 Permit Application Review**

The application review period begins upon receipt of an administratively complete application submittal. The Agent shall act upon an application for a residential earth change permit involving five (5) acres or less of disturbed area within fifteen (15) calendar days. An application for all other regulated projects shall be acted upon within thirty (30) calendar days.

### **Section 3.7 Permit Approval or Disapproval**

1. If the Agent determines that the proposed storm water management plan complies with the standards in this Ordinance, a permit shall be issued specifying the work approved, along with any supplemental conditions. If the proposed storm water management plan does not comply with these standards, the permit request shall be modified by the applicant or denied. When necessary, the Agent may request additional information from the applicant upon which to base the permit decision.
2. The Agent shall notify the applicant in writing if the application is denied, citing the reasons for the denial.
3. The Agent shall notify the appropriate local unit of government, within whose jurisdiction the project is located, after a permit decision has been made.
4. Upon written request, the Agent shall furnish any interested party with a statement in writing, detailing the reasons for permit denial or approval.

### **Section 3.8 Permit Expiration or Revocation**

1. SWM Permits shall terminate automatically upon completion of the project or one (1) year from the date of issuance, whichever occurs first. The applicant may request a one-year extension, which shall be reviewed and shall be granted by the Agent if he/she finds good cause for the extension and that the SWM regulations governing the proposed development have not changed since the date the SWM Permit was first approved.



2. A SWM Permit issued by the Agent under this Ordinance may be revoked or suspended, subject to the provisions of Article VII, for any of the following causes:
  - a. A violation of a condition of the permit.
  - b. Obtaining a permit by misrepresentation or failure to fully disclose relevant facts in the application or storm water management plan.
  - c. A change in a condition that requires a temporary or permanent change in the activity.

### **Section 3.9 Permit Revisions**

Revisions to an approved SWM Permit, permit condition, or approved storm water management plan must first be approved by the Agent. The applicant shall make a written request for the proposed revision(s) to the Agent, including any supporting documentation that the Agent may require as a basis for making a decision regarding the proposed revision. Proposed revisions do not take effect until approved by the Agent, and construction of unapproved plan revisions may be subject to enforcement action.

### **Section 3.10 Administrative Fee Schedule**

1. All fees applicable under this Ordinance shall be specified in a fee schedule determined from time to time by resolution of the legislative body of the local unit of government and maintained in the Agent's office.
2. Permit fees shall be directly related to the actual costs of administering the SWM Permit program, including design review, site inspection, enforcement and permit administration.
3. A printed fee schedule shall be made available by the Agent.
4. If the Agent determines that the basic fees will not cover the actual costs of the application review, or if the Agent determines that review of the application and/or participation in the review process by qualified professional planners, engineers, attorneys, or other professionals is necessary or advisable, then the applicant shall deposit with the Agent such additional fees in an amount determined by the Agent equal to the estimated additional costs. The additional fees shall be held in escrow in the applicant's name and shall be used solely to pay these additional costs. If the amount held in escrow becomes less than ten percent (10%) of the initial escrow deposit or less than ten percent (10%) of the latest additional escrow deposit and review of the application is not completed, then the Agent may require the applicant to deposit additional fees into escrow in an amount determined by the Agent to be equal to the estimated costs to complete the review. Failure of the applicant to make any escrow deposit required under this Ordinance shall be deemed to make the application incomplete thereby justifying the denial of the application. Any unexpended funds held in escrow shall be returned to the applicant following final action on the application. Any actual costs incurred by the Agent in excess of the amount held in escrow shall be billed to the applicant and shall be paid by the applicant prior to the release of a final decision on the application.

### **Section 3.11 Penalties for Initiating Earth Change Activities without a Permit**

Any earth change activity, subject to regulation under this Ordinance, which has commenced without a valid permit, is not proceeding in accordance with an issued SWM Permit, or is in violation of a permit condition shall be considered a violation of this Ordinance and subject to the provisions of Article VII of this Ordinance.

## **ARTICLE IV STORM WATER MANAGEMENT PLAN REQUIREMENTS**

### **Section 4.1 Storm Water Management Plan Requirements**

A storm water management plan shall be prepared for any regulated earth change subject to SWM Permit requirements. The plan shall be designed to effectively manage the runoff from the site to not more than the rate and volume prior to development. Pretreatment of runoff shall be required if deemed necessary by the Agent. Administratively complete plans shall include the following:

1. A map or maps at a scale of not more than two hundred (200) feet to the inch or as otherwise determined by the Agent, including the following:
  - a. A legal description
  - b. Site location sketch which includes the proximity of any proposed earth change to lakes, streams, and wetlands
  - c. Predominant land features
  - d. Contours at not more than 2-foot intervals, or slope description.
2. A written description of the soil types of the exposed land area contemplated for the earth change.
3. A description and the location of the physical limits of each proposed earth change.
4. Location of all lakes, streams, and wetlands partially or completely contained within the boundaries of the site or within fifty (50) feet of the site boundary to the extent that the property owner has the ability of depicting the same.
5. A description and the location of all existing and proposed on-site storm water management facilities and measures.
6. The timing and sequence of each proposed regulated earth change.
7. A description and the location of all proposed temporary storm water facilities and measures.
8. A description and the location of all proposed permanent storm water facilities and measures.
9. Storm water calculations.

10. A program for the continued maintenance of all permanent storm water facilities and measures.
11. Other information which the Agent requires to review the impact of the proposed earth change in relationship to the standards and requirements of this Ordinance.

#### **Section 4.2 Site Condominium & Subdivision Requirements**

Applicants for site condominium or subdivision plat approval shall submit the same information as in Section 4.1 of this Ordinance and may need to submit additional relevant information including but not limited to the following: off-site watershed boundaries, existing and proposed easements, and proposed drainage system including water movement onto and out of the proposed development.

#### **Section 4.3 General Standards for Approval of Storm Water Management Plans**

Approval of a storm water management plan shall be based upon the following general provisions:

1. The Agent shall approve or disapprove storm water management permit applications and plans in accordance with the provisions of this Ordinance and the design standards included and/or referenced in Appendix A.
2. All regulated earth changes subject to review under the requirements of this Ordinance shall be designed, constructed and maintained to provide for the retention/detention of storm water runoff and to protect water quality.
3. Measures required for storm water shall take into consideration natural features, proximity of the site to lakes, streams and wetlands, extent of impervious surfaces, potential for flooding, and the size of the site.
4. Alteration to natural drainage patterns shall not create downstream or off-site flooding.
5. Storm water management plans shall be designed in accordance with the specific design criteria included as "Design Standards", attached and made a part of this Ordinance as Appendix A.
6. All storm water management plans and maintenance agreements shall be recorded with the Charlevoix County Register of Deeds by the Agent, at the expense of the applicant.
7. Storm water management facilities shall be constructed, operated and maintained on the applicant's property, without impact or degradation to downstream conveyance structures or properties. However, the applicant may request a waiver from the requirements for on-site storm water management by written petition to the Agent with the SWM Permit application. Where a request is made for off-site storm water management, the request shall comply with the following general criteria:
  - a. Off-site storm water management areas may be shared between two or more property owners or developments, provided that maintenance agreements have been approved by the Agent and storm water management easements have been obtained and recorded with the Charlevoix County Register of Deeds by the Agent, at the expense of the applicant.

- b. The storm water management easement shall contain language stating that the easement shall exist as long as said development exists and shall not be modified or terminated without the prior written authorization of the Agent. The Agent may only approve a modification or termination of this easement upon a determination that alternative means are available and will be used to improve the handling and disposition of storm water generated from the development or redevelopment of the site.
- c. Easements within drainage districts shall require prior approval of the Drain Commissioner.
- d. Storm water management plan requirements specified in Section 4.3 and the Design Standards included as Appendix A of this Ordinance shall be used as the basis for reviewing off-site storm water management proposals.

## **ARTICLE V MAINTENANCE, INSPECTION & ACCESS**

### **Section 5.1 Applicability**

All temporary storm water management facilities shall be maintained and inspected during the life of the facility to provide adequate protection against adverse impacts from storm water runoff. Permanently installed storm water management facilities shall be routinely inspected and maintained by the property owner or designated qualified party to ensure the continued and proper operation of the facility for the protection of downstream properties.

### **Section 5.2 Maintenance Requirements**

Where maintenance is required, it shall be performed in accordance with the following general provisions, as well as any specific conditions that may be included with the SWM Permit.

1. All storm water management facilities and measures shall be maintained in accordance with permit conditions.
2. The person(s) or organization(s) responsible for maintenance shall be designated in the storm water management plan or the permit application submitted to the Agent. Options may include:
  - a. The owner(s) of the property.
  - b. Property owners association or other designated qualified party as determined by the Agent, provided that provisions for financing necessary maintenance are included in deed restrictions or other contractual agreements.
3. Maintenance agreements may be required by the Agent when the average annual cost of maintenance is reasonably expected to exceed \$500 per year and shall be required for all site condominium and subdivision plat proposals. When required, maintenance agreements shall specify responsibilities for financing maintenance and emergency repairs, including but not limited to the procedures specified in Sections 5.3 and 5.4 and Article VI of this Ordinance.

4. The Agent is not required to accept the applicant's desired responsible party for maintenance purposes in a given situation. Natural features, proximity of site to lakes, streams and regulated wetlands, extent of impervious surfaces, size of the site and potential need for ongoing maintenance activities will be considered when making this decision, as well as the overall complexity of the storm water management facilities. Where deemed necessary by the Agent, third party maintenance may be required for the adequate protection of sensitive sites, or complex storm water management facilities.

### **Section 5.3 Inspections**

1. The Agent, or his/her authorized agent, shall have the right to conduct on-site inspections of the storm water management facilities to verify compliance with the requirements of this Ordinance, including that maintenance is being performed as required by this Ordinance. Any such inspections may take place before, during, and after any earth change activity has occurred for which a permit has been issued. The Agent or his/her authorized agent shall exercise this right to inspection by written consent of the person having the right to possession of the property, or by administrative search warrant issued by a court of competent jurisdiction. Submission of an application for a permit under this Ordinance shall be deemed as providing written consent for the Agent to conduct on-site inspections of the storm water management facilities.
2. If upon inspection, existing site conditions are found not to be as stated in the permit or approved storm water management plan, the permit may be revoked. No earth disrupting work shall be undertaken or continued, except preventative storm water measures as authorized by the Agent, until revised plans have been submitted and a valid permit issued.
3. Requests for revisions must be submitted to and approved by the Agent in writing before being effective unless approved by the Agent on site. If a change is approved on site, the following shall occur:
  - a. The Agent shall provide written verification of a change and/or revision.
  - b. The permit holder shall provide updated drawings, calculations, etc. to reflect the changes and/or revisions.

### **Section 5.4 Storm Water Management Easements**

1. If any portion of the storm water management facilities will be located on property other than the property on which the storm water will originate, then the owner of the property on which the storm water will originate shall obtain a storm water management easement from the owner of the property on which all or a portion of the storm water management facilities will be located. The storm water management easement shall define the scope of the easement to include at a minimum the legal right of the owner of the property on which the storm water will originate to access the property on which the storm water management facilities will be located for the purpose of installing, inspecting, and maintaining the storm water management facilities; shall run in perpetuity with the land benefitted by the easement, or until the storm water management facilities are removed, whichever is sooner; and shall be recorded in the office of the Charlevoix County Register of Deeds.
2. A recorded copy of the storm water management easement shall be filed with the Agent prior to the issuance of a SWM Permit.

3. The recorded storm water management easement shall not be revoked, terminated, reconveyed, or amended without the prior written authorization of the Agent. Any such extinguished or revised storm water management easement shall be recorded in the office of the Charlevoix County Register of Deeds, and a recorded copy shall be filed with the Agent.

## **ARTICLE VI COMPLIANCE ASSURANCE**

### **Section 6.1 Performance Guarantees**

1. Applicants proposing subdivision plats, site condominiums, road construction projects, or other developments identified by the Agent with a high potential for storm water management problems may be required to post a cash escrow, letter of credit, or other acceptable form of performance security in an amount sufficient to assure the installation and completion of the storm water management plan.
2. Letters of credit shall extend for a minimum of one (1) year with the option of renewal. Money held in escrow, cash deposits, and/or certified checks will be returned to the applicant when the site is completely stabilized to meet requirements set forth by the Agent, and as-built plans of the site, sealed by a State of Michigan Licensed Professional Engineer, are submitted to the Agent.

### **Section 6.2 Construction Certification by a Registered Professional**

1. For any sites that require a professionally prepared site plan in accordance with Section 3.4, a certification letter shall be submitted after any storm water management facilities have been installed to affirm that construction has been completed in accordance with the approved storm water management plan. Unless this Ordinance requires certification by a State of Michigan Licensed Civil Engineer as provided later in this section, the certification letter can be prepared by one of the following registered professionals: State of Michigan Licensed Civil Engineer, Land Surveyor, Architect, and/or Landscape Architect.
2. If there are changes during the course of construction, the Agent may require final “as-built” drawings for final approval of the site work.
3. “Changes during construction”, as used in this Section, includes, but is not limited to: unanticipated soil conditions, elevation, acts of God, or other changes in circumstances not anticipated during the initial application process.
4. Sites Where Certification by a State of Michigan Licensed Civil Engineer is Mandatory
  - a. Certain activities listed under the Michigan Natural Resources and Environmental Protection Act (Public Act 451 of 1994, as amended).
    - i. Part 23, Pretreatment
    - ii. Part 31, Floodplain
    - iii. Part 41, Sewage Systems
    - iv. Part 111, Solid Waste
    - v. Part 115, Hazardous Waste

- vi. Part 307, Inland Lake Levels
- vii. Part 309, Inland Lake Improvements
- viii. Part 315, Dams

- b. Certain activities listed under the U.S. Environmental Protection Agency, Title 40 of the Code of Federal Regulations.
  - i. Part 112, Spill Prevention, Control and Counter Measures
  - ii. Part 122, Storm Water Pollution Prevention Plan (SWPS)

### **Section 6.3 Letter of Compliance**

Upon receipt and approval of the certification letter, the Agent shall issue a letter of compliance to the property owner.

## **ARTICLE VII STOP WORK ORDERS & ENFORCEMENT ACTION**

### **Section 7.1 Stop Work Orders**

1. If necessary to assure compliance with the permit requirements, standards, and other provisions of this Ordinance or to protect public health, safety and/or welfare, the Agent may issue a stop work order for the purpose of preventing uncontrolled storm water, or other conditions posing imminent and substantial danger to public health, safety, welfare or natural resources.
2. The stop work order, when issued, shall require all specified storm water activities to be stopped. A copy of the stop work order shall immediately be submitted to other state and local agencies with regulatory jurisdiction. Said order shall describe the specific alleged violation and the steps deemed necessary to bring the project back into compliance.
3. If the Agent determines that storm water violations have or will reasonably occur from a parcel of land in violation of this Ordinance, it may seek to enforce the Ordinance by notifying the person who owns the land by mail, with return receipt requested, of its determination. The notice shall contain a description of specific storm water measures which, if implemented by the property owner, would bring the property owner into compliance.

### **Section 7.2 Enforcement**

1. Any person who violates any provision of this Ordinance shall be responsible for a municipal civil infraction as defined in Public Act 12 of 1994, amending Public Act 236 of 1961, being Sections 600.101-600.9939 of Michigan Compiled Laws and shall be subject to a fine of not more than Five Hundred and 00/100 Dollars (\$500.00). In addition, any person found responsible for a municipal civil infraction may be subject to an enforcement order issued by the District Court Judge requiring remedial action to bring the property into compliance with this Ordinance. Each day this Ordinance is violated shall be considered as a separate violation.

2. The Agent and any other person designated by the legislative body of the local unit of government are hereby designated as the authorized officials to issue municipal civil infraction citations directing alleged violators of this Ordinance to appear in court.
3. A violation of this Ordinance is hereby declared to be a public nuisance or a nuisance per se and is declared to be offensive to the public health, safety and welfare.
4. In addition to enforcing this Ordinance through the use of a municipal civil infraction proceeding, the Agent may initiate proceedings in the Circuit Court on behalf of the local unit of government, to abate or eliminate the nuisance per se or any other violation of this Ordinance.

### **Section 7.3 Emergency Action**

1. Where necessary to protect public safety or water resources, including lakes, streams, regulated wetlands, and other receiving bodies of water, the Agent, through a Circuit Court abatement proceeding, may seek a temporary restraining order or preliminary injunction from the court authorizing entry onto private property for the purpose of initiating emergency action to abate imminent and substantial danger and risk.
2. Except as otherwise provided through maintenance agreements, the property owner shall reimburse the local unit of government and/or Charlevoix County for all expenses incurred as a result of the emergency action, including but not limited to reasonable attorneys fees, administrative costs, and the costs of any remedial action taken to abate the emergency condition.

## **ARTICLE VIII APPEALS**

### **Section 8.1 Creation of Appeals Board**

An Appeals Board is hereby created which shall consist of five (5) members. The membership and organizational structure of the Appeals Board shall be determined pursuant to an intergovernmental agreement among the local units of government within Charlevoix County that have enacted this Ordinance. When discharging its duties under this Ordinance, the Appeals Board shall comply with all requirements of the Open Meetings Act, being Act 267 of the Public Acts of 1976, as amended. The Appeals Board Clerk shall be responsible for providing all required notices for Appeals Board hearings and for taking the minutes of the Appeals Board hearings.

### **Section 8.2 Right of Appeal**

Any person aggrieved by the action or inaction of the Agent related to this Ordinance may appeal to the Appeals Board. Such appeal shall be made in writing and shall be filed with the Appeals Board Clerk within thirty (30) calendar days of the decision that is being appealed. Any appeal that is not filed in a timely manner shall be dismissed by the Appeals Board. The written appeal shall state the order, requirement, decision, or determination that is being appealed, the sections of this Ordinance that relate to the appeal, and those facts relevant to the appeal, which support the basis for the appellant's claim.

### **Section 8.3 Appeals Process**

Upon receipt of an appeal, the Appeals Board Clerk shall direct the Agent to transmit to the Appeals Board a summary report of all previous action taken on the subject of the appeal, a copy of any permits



issued, and the appellant's written statement. The Appeals Board will then adhere to the following general process:

1. Within fifteen (15) calendar days of receiving a completed application, the Appeals Board Clerk shall schedule a hearing date before the Appeals Board. The Appeals Board Clerk shall send a written notice specifying the time, date, and place of the Appeals Board hearing to the appellant and to all land owners within three hundred (300) feet of the subject parcel and shall publish a copy of the hearing notice in a newspaper of general circulation within the local unit of government where the subject property is located. The notice shall be mailed and published no less than fifteen (15) days before the scheduled hearing. The Appeals Board shall hold the hearing within sixty (60) calendar days from receipt of a completed application.
2. The appellant shall deposit with the Appeals Board Clerk when the appeal is filed the required fee, as specified in the fee schedule adopted under Section 3.10.1 of this Ordinance. The fee shall be used to cover the cost of handling said appeal including compensation for Appeals Board members and associated administrative costs.
3. If the Appeals Board Clerk determines that the basic fee will not cover the actual costs of the appeal, then the appellant shall deposit with the Appeals Board Clerk such additional fees in an amount determined to be equal to the estimated additional costs, including costs which may be incurred by the Agent. The additional fees shall be held in escrow in the appellant's name and shall be used solely to pay these additional costs. If the amount held in escrow becomes less than ten percent (10%) of the initial escrow deposit or less than ten percent (10%) of the latest additional escrow deposit and the appeal is not completed, the Appeals Board Clerk may require the appellant to deposit additional fees into escrow in an amount determined to be equal to the estimated costs to complete the appeal. Failure of the appellant to make any required deposits shall be deemed to make the appeal incomplete thereby justifying denial of the appeal. Any unexpended funds held in escrow shall be returned to the appellant following final action on the appeal. Any actual costs incurred in excess of the amount held in escrow shall be billed to the appellant and shall be paid by the applicant prior to the release of a final decision on the appeal.
4. The Appeals Board may affirm or reverse, wholly or in part, a decision of the Agent. In deciding an appeal, the Appeals Board shall determine:
  - a. Whether the Agent properly interpreted and applied this Ordinance in making the decision.
  - b. Whether the specific situation has circumstances that warrant a variance from the standards of this Ordinance. Where the Appeals Board has determined that a variance from the standards of this Ordinance may be warranted, the Board may grant the appellant a variance from any design standard, setback, or other provision contained within this Ordinance, provided that such variance complies with the following general standards:
    - i. The variance will not adversely impact adjacent property owners or downstream properties in any material way.
    - ii. The variance is necessary to grant the appellant substantial relief from a hardship that would otherwise be imposed by strict enforcement of this Ordinance.

- iii. The variance granted is the minimum deviation from the requirements of this Ordinance necessary to do substantial justice to the appellant. The Appeals Board may include such conditions or limitations on any variance issued to ensure that granting the relief requested will not substantially prevent, nor result in less, effective management of storm water runoff.
  - iv. Granting of the variance would not knowingly be in conflict with other regulatory requirements.
  - v. The need for the variance is due to circumstances that are unique to the property in question and not due to any act or omission of the property owner, a prior property owner, or a past or present occupant of the property.
5. The decisions of the Appeals Board shall in all instances be final administrative decisions, shall be in writing, and shall include specific findings of fact by the Board, and further, shall be subject to such judicial review as by law may be provided.

#### **ARTICLE IX SEVERABILITY**

If any section, clause, provision, or portion of this Ordinance is adjudged unconstitutional or invalid by a court of competent jurisdiction, the remainder of the Ordinance shall not be affected.

#### **ARTICLE X EFFECTIVE DATE**

This Ordinance shall become effective thirty (30) days after being published in a newspaper of general circulation within the Township.

#### **ARTICLE XI REVISIONS**

The Agent shall review this Ordinance at least biannually, and make recommendations for amendments if needed. The recommendations of the Agent shall be transmitted to the legislative body of each local unit of government within the County and the Charlevoix County Board of Commissioners.

## APPENDIX A

### Charlevoix County Storm Water Ordinance Design Standards

#### Temporary Storm Water Management Standards

1. Temporary storm water management facilities shall be installed by the applicant and inspected by the Agent before grading, filling or grubbing is initiated.
2. Where permanent storm water management facilities, such as detention or retention basins are proposed for use during construction as a temporary storm water management measure, the construction sequence and grading plan shall be designed for the proper and effective implementation of these facilities.
3. Temporary storm water management measures shall be maintained throughout the duration of the earth change, including the later stages of development. Maintenance activities may include, but are not limited to removal of accumulated sediment, structural repairs, and reseeded or replacement of temporary vegetative covers.
4. Temporary storm water management facilities shall be designed in accordance with the Michigan Department of Environmental Quality (MDEQ) Best Management Practices (BMP) Guide Book for Michigan Watersheds.
5. At a minimum, during construction all regulated earth changes shall be required to provide temporary storm water management that either contains the volume of runoff generated from a 10-year, 24-hour design storm on-site for all disturbed area, or to provide silt fencing or other permeable barriers that will manage the flow of storm water discharging off-site, diffusing it and releasing it at reduced velocities, where such discharge will not adversely impact downstream properties.

#### Permanent Storm Water Management Standards – General

1. Storm Water Management Plan Preparation
  - a. Various proposed types of land uses will require plans to be prepared by one or more of the following licensed professionals: State of Michigan Licensed Civil Engineer, Land Surveyor, Architect and/or Landscape Architect or other County certified individuals.
  - b. If the site plan is of a large and complex nature, the Agent may require that it is prepared by one or more of the above listed professionals.
  - c. If the site plan is of a large or complex nature, the Agent may request that the submitted site plan be reviewed by one or more of the above listed professionals contracted by the Agent. The costs incurred for such review(s) shall be the responsibility of the applicant. The applicant shall deposit with the Agent such fees in an amount determined by the Agent equal to the estimated costs. The fees shall be held in escrow in the applicant's name and shall be used solely to pay these costs. If the amount held in escrow becomes less than ten percent (10%) of the initial escrow deposit or less than ten percent (10%) of the latest additional escrow deposit and review of the application is not completed, then

the Agent may require the applicant to deposit additional fees into escrow in an amount determined by the Agent to be equal to the estimated costs to complete the review. Failure of the applicant to make any escrow deposit required under this Ordinance shall be deemed to make the application incomplete, thereby justifying denial of the application. Any unexpended funds held in escrow shall be returned to the applicant following final action on the application. Any actual costs incurred in excess of the amount held in escrow shall be billed to the applicant and shall be paid by the applicant prior to the release of a final decision on the application.

- d. If the applicant disputes the Agent's need for outside professional assistance in the review of the submitted plans, or the professional(s) selected, the applicant has the right to appeal the Agent's decision to the Appeals Board, who shall be responsible for making the final decision.
2. On-site storm water management facilities which minimize adverse impact to downstream properties shall be required for all sites unless a proposal for off-site storm water management has been approved. Storm water management facilities may include, but are not limited to: retention basins/ponds, detention basins/ponds, wet basins, storm water treatment units, controlled outfall structures, and rain gardens or other bio-filtration systems.
  3. The Michigan Department of Environmental Quality "Urban Stormwater Best Management Practices Manual" will be used as a reference as well as the following manuals: "Controlling Urban Runoff" by the Metropolitan Washington Council of Governments; "Designing Stormwater Quality Management Practices" by the University of Wisconsin, Madison; and the "Design of Stormwater Filtering Systems" by the Center for Watershed Protection.
  4. Retention and detention basins shall have an emergency overflow system. The overflow system shall be designed to accommodate flow from a 100-year storm event, or as otherwise required by the appropriate State of Michigan agency.
  5. If the storm water facilities for a 50-year storm cannot discharge to a stream, lake or wetland without causing scouring, flooding or pollution on site or downstream, then the basin shall be designed to hold or infiltrate storm water from a 100-year, 24-hour frequency storm event.
  6. Sites less than one (1) acre located in areas serviced with a municipal storm system and that have the approval of the municipal system owner may discharge storm water to that system after it has been treated with an approved separator system that removes sixty percent (60%) of sediments.
  7. The rainfall amounts for Charlevoix County shall be the numbers given by the Natural Resources Conservation Service for a 24-hour duration and are as follows: 1-year storm equals 1.8 inches; 2-year storm equals 2.2 inches; 5-year storm equals 2.7 inches; 10-year storm equals 3.0 inches; 25-year storm equals 3.5 inches; 50-year storm equals 3.9 inches; 100-year storm equals 4.2 inches.
  8. The maximum grade for the side slopes of any storm water retention or detention basin shall be no greater than 3:1 (horizontal to vertical) for vegetated basins. Where, due to site limitations, this maximum side slope grade cannot be met, the Agent may grant an increase in the slope, provided additional stabilization (beyond seed and mulch) is proposed.
  9. Storm water basins with permanent pools of water of three (3) foot depth or greater with side slopes steeper than one (1) on six (6) shall have one or more of the following safety features:

- a. Safety ledges at the basin perimeter which are at least ten (10) feet wide
  - b. Aquatic vegetation surrounding the basin which discourages wading
  - c. Fencing to prevent unauthorized access to the basin.
10. Storm water detention basins shall not be constructed in regulated wetlands unless approved by the appropriate State of Michigan agency and/or the Army Corps of Engineers.
  11. Storm water detention basins which impound five (5) acres or more and have a head of six (6) feet or more shall meet dam construction permit requirements in Part 315 of Act 451 of 1994, as amended, administered by the Michigan Department of Environmental Quality.
  12. Whenever possible, a created wetland or other bio-filtration area shall be incorporated into storm water management facilities to assist removal of soluble pollutants that cannot be removed by conventional settling. Sediment carried off by runoff shall be required to settle out prior to discharge into the created wetland or other bio-filtration area.
  13. Storm water management basins designed for retention, detention or infiltration shall be isolated from septic systems and water wells by fifty (50) feet or more. Variations in the required setback may be granted by the Health Department of Northwest Michigan prior to the issuance of a Charlevoix County Storm Water Management Permit.
  14. New fueling stations will be required to install an approved separator system for sites that discharge storm water off-site. Existing fueling stations that are modifying more than twenty five percent (25%) of their existing impervious surfaces will be required to install an approved separator system if they discharge storm water off-site.

### Retention Basin Design

1. Small projects in areas that have less than one-half (0.5) acre of impervious surface shall be allowed to have runoff retention stored at two inches (2") of runoff from all impervious surface areas in lieu of detailed hydrologic calculations.
2. At a minimum, retention basins created in soils with permeability greater than 1.3 inch per hour shall have the storage capacity to hold the increase in runoff volume generated by the earth change.
  - a. The required volume shall be calculated by comparing the undeveloped conditions for a 2-year, 24-hour frequency storm event to the developed condition for a 25-year, 24-hour frequency storm event. Soil permeability rates are listed in the following table:

<b>Soil Texture &amp; Structure</b>	<b>Permeability (Inches/Hour)</b>
Coarse Sand and Medium Sand	6 or more
Fine Sand and Loamy Sand	3 – 6
Sandy Loam	2 – 3
Loam, Sandy Clay Loam	1.3 – 2
Clay Loam, Silt Loam, Clays, Silts, Muck, Peat, Marl	Less than 1.3

- b. The retention basin shall be designed to drain within seventy two (72) hours.
- 3. At a minimum, retention basins, which are created in soils with permeability less than 1.3 inch per hour, shall be designed to store runoff from back-to-back 50-year, 24-hour rainfall events.

Detention Basin Design Standards

- 1. When using the Natural Resource Conservation Service Method, the volume of a detention pond is to be calculated based upon a 50-year, 24-hour storm with the developed site conditions and with an allowable outflow of a 10-year, 24-hour storm based upon the pre-existing site conditions or 10% of the flow rate calculated by the 50-year developed site conditions analysis. [The TR-55 program does not accept lower values than ten percent (10%) of the developed rate.]
- 2. The allowable peak discharge rate from a permanent storm water management measure may be a staged rate. The maximum allowable peak discharge rate shall not exceed the peak discharge rate from the project site prior to the proposed development for all of the following 24-hour storm events: 2-year, 5-year, 10-year, 25-year, and 50-year. In no event shall the discharge exceed the ability of the downstream condition to convey the flow without damage to abutting properties.
- 3. All sites with greater than one (1) acre of impervious surface will require the detention outflow to be directed to approved storm systems or have the approval of adjacent property owners, with documented easements, or one can release at a 2-year before construction rate if it can be determined that there is not a flooding hazard on the adjacent property. Low porosity in the soils in the area of discharge and depressions in the land would be examples of reasons to deny detention out-flowing at a 2-year rate. Sites that have three (3) acres or more of parking area must in addition have an approved separator system to remove impurities before discharging to the detention/retention pond or install an approved treatment forebay.

Storm Water Separator Design Standards

- 1. Approved separators are to remove a minimum of sixty percent (60%) of sediments.

2. Treatment forebay criteria – The treatment forebay is designed to store the “first flush” of pollutants typically found in urban storm water runoff, and to capture initial flush pollutant loads.

- a. The treatment forebay shall be a wet basin or approved structure with an impermeable bottom and sides to the design high water level.
- b. Sizing – The treatment forebay shall be sized to store the water quality volume ( $V^{wq}$ ) defined as one-half (0.5) inch of runoff from the directly connected impervious area. This volume can be included in the overall flood control volume.
- c. The minimum required water quality volume is given by the equation:

$$V^{wq} = 1815 A l$$

Where:  $V^{wq}$  = Water quality volume (cft)

1815 = 0.5 inch of runoff x 3,630 to convert ac-in to cft

A = Contributing drainage area (ac)

l = Percent impervious expressed as a ration

- d. Capacity for the water quality volume shall be provided above the normal water level.
- e. The overflow structure from the treatment forebay shall be sized for the peak inflow from the design rainfall event.
- f. The top-of-berm elevation between the treatment forebay and the infiltration basin shall be a minimum of one (1) foot below the outer berm elevation.
- g. The treatment forebay shall have a minimum 1-foot-deep sump below the inlet pipe for sediment accumulation.
- h. The outlet structure from the treatment forebay shall be designed to draw water from the central portion of the water column with the forebay to trap floatables and contain sediments. The top of the inlet structure shall be located a minimum of one (1) foot below the normal water level, and the invert shall be a minimum of one and one-half (1.5) feet above the bottom of the treatment forebay.
- i. Material – Treatment forebays shall be lined with impermeable materials extending up to the design high water elevation. A minimum 18-inch-thick clay layer, or an impermeable liner protected with a minimum of twelve (12) inches of soil cover are acceptable alternatives. Maximum allowable permeability shall be 0.0001417 inch/hour as determined by a geotechnical engineer for clay placement, or manufacturer’s certificate for line products.

### Underground Storm Water Management Facilities

- 1. If the use of storm water retention or detention basins, either on-site or off-site is not feasible and the permeability of the soils is greater than 1.3 inch per hour, the installation of underground

drainage systems (catch basins / manholes with open bottoms with stone and/or run(s) of perforated piping) may be allowed if they provide for detention or retention volumes as stated in these Charlevoix County Storm Water Ordinance guidelines. The perforated piping and dry basin structure(s) cannot be considered to provide for any outflow when calculating volumes for the detention system design. All underground drainage systems must provide the following:

- a. Catch basins or separator systems, sediment basins, silt traps for storm water flowing to the underground drainage system
  - b. An approved overflow system
  - c. Adequate provisions for maintenance
2. The required detention volume may be reduced by the Agent by an amount not to exceed fifty percent (50%) if rain gardens are implemented and demonstrate the ability to accommodate an equivalent amount of storm water.

**MELROSE TOWNSHIP**

Dated: \_\_\_\_\_

By: \_\_\_\_\_  
Vern D. Goodwin

Its: Supervisor

Dated: \_\_\_\_\_

By: \_\_\_\_\_  
Robin Hissong Berry

Its: Clerk