

CHAPTER 14 STORM WATER MANAGEMENT

BASIS FOR CHAPTER

WHEREAS, the Township recognizes, in the public interest, the importance of maintaining the quality of the lakes, streams and other water courses of the Township;

WHEREAS, the increasing rate and impact of land development within the Township brings with it the possibility of significant adverse effects upon water resources within the Township;

WHEREAS, the Township has concluded that well-considered storm water regulations are essential in order to maintain the lakes, streams and wetlands of the Township in their natural state and to eliminate adverse environmental impacts associated with land development projects; and

WHEREAS, the Township desires to work actively toward preserving the quality of water resources and, to that end, desires to adopt reasonable regulations on the discharge and control of storm water runoff.

GENERAL

Section 14.1 Statutory Authority and Title.

- A. This Chapter is adopted in accordance with the Township Ordinance Act, as amended, being MCL 41.181, *et seq.*; the Township and Village Public Improvement Act, as amended, being MCL 41.721, *et seq.*; the Drain Code of 1956, as amended, being MCL 280.1, *et seq.*; the Land Division Act, as amended, being MCL 560.1, *et seq.*; the Revenue Bond Act, as amended, being MCL 141.101, *et seq.*; the Natural Resources and Environmental Protection Act, as amended, being MCL 324.101, *et seq.*; Section 401 (p) of the Federal Water Pollution Control Act (also known as the Clean Water Act), as amended, being 33 USC 1342(p) and 40 CFR Parts 9, 122, 123 and 124; and other applicable state and federal laws.
- B. This Chapter may be known and cited as the Township of Courtland Storm Water Ordinance.

Section 14.2 Findings. The Township finds that:

- A. Water bodies, roadways, structures, and other property within, and downstream of the Township are at times subjected to flooding;
- B. Flooding is a danger to the lives and property of the public and is also a danger to the natural resources of the Township and the region;
- C. Land development alters the hydrologic response of watersheds, resulting in increased storm water runoff rates and volumes, increased flooding, increased stream channel erosion, and increased sediment transport and deposition;

- D. Storm water runoff produced by land development contributes to increased quantities of water-borne pollutants;
- E. Increases of storm water runoff, soil erosion, and non-point source pollution have occurred as a result of land development, and cause deterioration of the water resources of the Township and downstream municipalities;
- F. Storm water runoff, soil erosion, and non-point source pollution, due to land development within the Township, have resulted in a deterioration of the water resources of the Township and downstream municipalities;
- G. Increased storm water runoff rates and volumes, and the sediments and pollutants associated with storm water runoff from future development projects within the Township will, absent reasonable regulation and control, adversely affect the Township's water bodies and water resources, and those of downstream municipalities;
- H. Storm water runoff, soil erosion, and non-point source pollution can be controlled and minimized by the regulation of storm water runoff from development;
- I. Adopting the standards, criteria and procedures contained in this Chapter, and implementing the same will address many of the deleterious effects of storm water runoff;
- J. Adopting the standards and requirements stated in this Chapter, and assuring their implementation, is necessary for the protection of water bodies and other affected natural resources.
- K. Adopting these standards is necessary for the preservation of the public health, safety and welfare.

Section 14.3 Purpose. It is the purpose of this Chapter to establish minimum storm water management requirements and controls to accomplish, among others, the following objectives:

- A. To minimize artificially induced flood damage;
- B. To minimize storm water runoff rates and volumes from land development;
- C. To prevent the deterioration of existing watercourses, culverts and bridges, and other structures;
- D. To encourage water recharge into the ground where geologically favorable conditions exist;
- E. To prevent non-point source pollution;
- F. To maintain the integrity of stream channels for their biological functions, as well as for drainage and other purposes;

- G. To eliminate the impact of development upon stream bank and streambed stability;
- H. To minimize erosion from development or construction projects;
- I. To preserve and protect water supply facilities and water resources by means of controlling increased flood discharges, stream erosion, and runoff pollution; and,
- J. To minimize storm water runoff rates and volumes, soil erosion, and nonpoint source pollution, wherever practicable, from lands that were developed without storm water management controls meeting the purposes and standards of this Chapter.
- K. To minimize the adverse impact of changing land use on water bodies and, to that end, this Chapter establishes minimum standards to protect water bodies from degradation resulting from changing land use where there are insufficient storm water management controls.

Section 14.4 Applicability, Exemptions and General Provisions. This Chapter shall apply to any development site which requires approval of a plat, a site development plan, building permit, or any other permit for work which will alter storm water drainage characteristics of the development site, provided, however, that this Chapter shall not apply to the following:

- A. The installation or removal of individual mobile homes within a mobile home park. This exemption shall not be construed to apply to the construction, expansion, or modification of a mobile home park.
- B. Farm operations and buildings, except dwellings, directly related to farm operations. This exemption shall not apply to greenhouses and other similar structures.
- C. Plats with preliminary plat approval and other developments with final land use approval prior to the effective date of this Chapter, where such approvals remain in effect.

Section 14.5 Definitions. For the purpose of this Chapter, the following words and phrases shall have the meanings respectively ascribed to them by this Section unless the context in which they are used specifically indicates otherwise:

- A. **Base Flood** means a flood having a one percent (1%) chance of being equaled or exceeded in any given year.
- B. **Base Flood Elevation** means the high water elevation of the Base Flood, commonly referred to as the “100-year flood elevation.”
- C. **Base Flood Plain** means the area inundated by the Base Flood.
- D. **Best Management Practices (BMPs)** means a practice, or combination of practices and design criteria that comply with the Michigan Department of

Environmental Quality's Guidebook of BMPs for Michigan Watersheds, or if required by the Township, equivalent practices and design criteria that accomplish the purposes of this Chapter (including, but not limited to minimizing storm water runoff and preventing the discharge of pollutants into storm water) as determined by the Township Engineer, and, where appropriate, the standards of the Kent County Drain Commissioner.

- E. **Building Opening** means any opening of a solid wall such as a window or door, through which floodwaters could penetrate.
- F. **Clean Water Act** means the Federal Water Pollution Control Act, 33 USC Sec 1251 *et seq.*, as amended, and the applicable regulations promulgated thereunder.
- G. **Construction Site Storm Water Runoff** means storm water runoff from a development site following an earth change.
- H. **Design Engineer** means a registered and licensed professional engineer responsible for the design of a drainage plan.
- I. **Detention** means a system which is designed to capture storm water and release it over a given period of time through an outlet structure at a controlled rate.
- J. **Developed or Development** means the installation or construction of impervious surfaces on a development site that require, pursuant to state law or local ordinance, the Township's approval of a site plan, plat, site condominium, special land use, planned unit development, rezoning of land, land division approval, private road approval or other approvals required for the development of land or the erection of buildings or structures; provided, however, that for purposes of Article II only, developed or development shall not include the actual construction of, or an addition, extension or modification to, an individual single-family or a two-family detached dwelling.
- K. **Developer** means any person proposing or implementing the development of land.
- L. **Development Site** means any land that is being or has been developed, or that a developer proposes for development or that is the subject of an earth change.
- M. **Discharger** means any person or entity who directly or indirectly discharges storm water from any property. Discharger also means any employee, officer, director, partner, contractor, or other person who participates in, or is legally or factually responsible for, any act or omission which is or results in a violation of this Chapter.
- N. **Drain** means any drain as defined in the Drain Code of 1956, as amended, being MCL 280.1, *et seq.*, other than an established county or inter-county drain.
- O. **Drainage** means the collection, conveyance, or discharge of ground water and/or surface water.

- P. **Drainageway** means the area within which surface water or ground water is carried from one part of a lot or parcel to another part of the lot or parcel or to adjacent land.
- Q. **Earth Change** means any human activity which removes ground cover, changes the slope or contours of the land, or exposes the soil surface to the actions of wind and rain. Earth change includes, but is not limited to, any excavating, surface grading, filling, landscaping, or removal of vegetative roots.
- R. **EPA** means the United States Environmental Protection Agency.
- S. **Erosion** means the process by which the ground surface is worn away by action of wind, water, gravity or a combination thereof.
- T. **Exempted Discharges** means discharges other than storm water as specified in Section 14.24 of this Chapter.
- U. **Federal Emergency Management Agency (FEMA)** means the agency of the federal government charged with emergency management.
- V. **Flood or Flooding** means a general and temporary condition of partial or complete inundation of normally dry land areas resulting from the overflow of water bodies or the unusual and rapid accumulation of surface water runoff from any source.
- W. **Floodplain** means any land area subject to periodic flooding.
- X. **Flood-Proofing** means any structural and/or non-structural additions, changes, or adjustments to structures or property that reduce or eliminate flood damage to land, or improvements utilities and structures.
- Y. **Flood Protection Elevation (FPE)** means the Base Flood Elevation plus one (1) foot at any given location.
- Z. **Floodway** means the channel of any watercourse and the adjacent land areas that must be reserved to carry and discharge a base flood without cumulatively increasing the water surface elevation more than one-tenth (1/10) of a foot due to the loss of flood conveyance or storage.
- AA. **Grading** means any stripping, excavating, filling, and stockpiling of soil or any combination thereof and the land in its excavated or filled condition.
- BB. **Illicit Connection** means any method or means for conveying an illicit discharge into water bodies or the Township's storm water system.
- CC. **Illicit Discharge** means any discharge to water bodies that does not consist entirely of storm water, discharges pursuant to the terms of an NPDES permit, or exempted discharges as defined in this Chapter.

- DD. **Impervious Surface** means a surface that does not allow storm water runoff to slowly percolate into the ground.
- EE. **KCDC** means the Kent County Drain Commissioner.
- FF. **Lowest Floor** means the lowest floor or the lowest enclosed area (including a basement), but not including an unfinished or flood-resistant enclosure which is usable solely for parking of vehicles or building access.
- GG. **MDEQ** means the Michigan Department of Environmental Quality.
- HH. **NPDES** means the National Pollution Discharge Elimination System.
- II. **Overland Flow-Way** means a surface area that conveys a concentrated flow of storm water runoff.
- JJ. **Person** means an individual, firm, partnership, association, public or private corporation, public agency, instrumentality, or any other legal entity.
- KK. **Plan** means written narratives, specifications, drawings, sketches, written standards, operating procedures, or any combination of these which contain information pursuant to this Chapter.
- LL. **Pollutant** means a substance discharged which includes, but is not limited to the following: any dredged spoil, solid waste, vehicle fluids, yard wastes, animal wastes, agricultural waste products, sediment, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological wastes, radioactive materials, heat, wrecked or discharged equipment, rock, sand, cellar dirt, and industrial, municipal, commercial and agricultural waste, or any other contaminant or other substance defined as a pollutant under the Clean Water Act.
- MM. **Property Owner** means any person having legal or equitable title to property or any person having or exercising care, custody, or control over any property.
- NN. **Retention** means a system which is designed to capture storm water and contain it until it infiltrates the soil or evaporates.
- OO. **Soil Erosion** means the stripping of soil and weathered rock from land creating sediment for transportation by water, wind or ice, and enabling formation of new sedimentary deposits.
- PP. **State of Michigan Water Quality Standards** means all applicable State rules, regulations, and laws pertaining to water quality, including the provisions of Section 3106 of Part 31 of 1994 PA 451, as amended.
- QQ. **Storm Drain** means a system of open or enclosed conduits and appurtenant structures intended to convey or manage storm water runoff, ground water and drainage.

- RR. **Storm Water Permit** means a permit issued pursuant to this Chapter.
- SS. **Storm Water Runoff** means the runoff and drainage of precipitation resulting from rainfall or snowmelt or other natural event or process.
- TT. **Storm Water Runoff Facility** means the method, structure, area, system, or other equipment or measures which are designed to receive, control, store, or convey storm water.
- UU. **Stream** means a river, stream or creek which may or may not be serving as a drain, or any other water body that has definite banks, a bed, and visible evidence of a continued flow or continued occurrence of water.
- VV. **Township** means the Township of Courtland.
- WW. **Water Body** means a river, lake, stream, creek or other watercourse or wetlands.
- XX. **Watershed** means a region draining into a water body.
- YY. **Wetlands** means land characterized by the presence of water at a frequency and duration sufficient to support wetland vegetation or aquatic life.

STORM WATER PERMITS

Section 14.6 Permit Required.

- A. A developer shall not engage in any development without first receiving a storm water permit from the Township pursuant to Section 14.7.
- B. The granting of a storm water permit shall authorize only such development for which the permit is required, subject to the terms of the permit, and it shall not be deemed to approve other development or other land use activities.

Section 14.7 Storm Water Permit Review Procedures. The Township shall grant a storm water permit, which may impose terms and conditions in accordance with Section 14.14, and which shall be granted only upon compliance with each of the following requirements:

- A. The developer has submitted a drainage plan complying with Section 14.8.
- B. The drainage plan contains a description of an adequate, temporary storm water retention system to prevent construction site storm water runoff, satisfying the requirements of Section 14.10, and the developer has obtained a soil erosion permit, if necessary.
- C. One of the following conditions is satisfied:
 - 1. The developer provides:

- a. A permanent on-site storm water system sufficient to provide, as required in the reasonable discretion of the Township, either on-site detention or on-site retention of storm water runoff in a twenty-five (25) year storm event, and
 - b. A direct connection for all storm water runoff that will be discharged from and through the development site in a one hundred (100) year storm event; or
- D. The developer provides a permanent on-site storm water system with a restricted outlet designed to result in no net increase in storm water runoff volume or rate onto any adjacent property in a one hundred (100) year storm event.
- E. The developer has paid or deposited the storm water permit review fee pursuant to Section 14.9.
- F. The developer has paid or posted the applicable financial guarantee pursuant to Section 14.11.
- G. The developer provides all easements necessary to implement the approved drainage plan and to otherwise comply with this Chapter including, but not limited to, Section 14.43. All easements shall be acceptable to the Township in form and substance and shall be recorded with the Kent County Register of Deeds.
- H. The drainage plan is designed in conformity with the Township's design and performance standards for drains and storm water management systems, as set forth in this Chapter.
- I. All storm water runoff facilities shall be designed in accordance with the then-current BMPs.
- J. The developer provides the required maintenance agreement for routine, emergency, and long-term maintenance of all storm water runoff facilities and in compliance with the approved drainage plan and this Chapter including, but not limited to, Section 14.44. The maintenance agreement shall be acceptable to the Township in form and substance and shall be recorded with the Kent County Register of Deeds.

Section 14.8 Drainage Plan. The developer shall provide a drainage plan to the Township for review and approval by the Township. The drainage plan shall identify and contain all of the following:

- A. The location of the development site and water bodies that will receive storm water runoff.
- B. The existing and proposed topography of the development site, including the alignment and boundary of the natural drainage courses, with contours having a

maximum interval of one foot (using USGS datum). The information shall be superimposed on the pertinent Kent County soil map.

- C. The development tributary area to each point of discharge from the development.
- D. Calculations for the final peak discharge rates.
- E. Calculations for any facility or structure size and configuration.
- F. A drawing showing all proposed storm water runoff facilities with existing and final grades.
- G. The sizes and locations of upstream and downstream culverts serving the major drainage routes flowing into and out of the development site. Any significant off-site and on-site drainage outlet restrictions other than culverts should be noted on the drainage map.
- H. An implementation plan for construction and inspection of all storm water runoff facilities necessary to the overall drainage plan, including a schedule of the estimated dates of completing construction of the storm water runoff facilities shown on the plan and an identification of the proposed inspection procedures to ensure that the storm water runoff facilities are constructed in accordance with the approved drainage plan.
- I. A plan to ensure the effective control of construction site storm water runoff and sediment track-out onto roadways.
- J. Drawings, profiles, and specifications for the construction of the storm water runoff facilities reasonably necessary to ensure that storm water runoff will be drained, stored, or otherwise controlled in accordance with this Chapter.
- K. A maintenance agreement, in form and substance acceptable to the Township, for ensuring maintenance of any privately-owned storm water runoff facilities. The maintenance agreement shall include the developer's written commitment to provide routine, emergency, and long-term maintenance of the facilities and, in the event that the facilities are not maintained in accordance with the approved drainage plan, the agreement shall authorize the Township to maintain any on-site storm water runoff facility as reasonably necessary, at the developer's expense.
- L. The name of the engineering firm and the registered professional engineer that designed the drainage plan and that will inspect final construction of the storm water runoff facilities.
- M. All design information must be compatible for conversion to Grand Valley Regional Geographic Information System (REGIS).

- N. Any other information necessary for the Township to verify that the drainage plan complies with the Township’s design and performance standards for drains and storm water management systems.

Section 14.9 Storm Water Permit Review Fees.

- A. All expenses and costs incurred by the Township directly associated with processing, reviewing and approving or denying a storm water permit application shall be paid (or reimbursed) to the Township from the funds in a separate escrow account established by the developer, as provided in subsection (2). The Township may draw funds from a developer’s escrow account to reimburse the Township for out-of-pocket expenses incurred by the Township relating to the application. Such reimbursable expenses include, but are not limited to, expenses related to the following:
 - 1. Services of the Township Attorney directly related to the application.
 - 2. Services of the Township Engineer directly related to the application.
 - 3. Services of other independent contractors working for the Township which are directly related to the application.
 - 4. Any additional public hearings, required mailings and legal notice requirements necessitated by the application.
- B. At the time a developer applies for a storm water permit, the developer shall deposit with the Township clerk, as an escrow deposit, an initial amount as determined by resolution of the Township Board for such matters and shall provide additional amounts as requested by the Township in such increments as are specified in said resolution (if the developer makes an escrow deposit for zoning purposes, any funds deposited for storm water permit purposes may be maintained and accounted for in the zoning escrow account). Any excess funds remaining in the escrow account after the application has been fully processed, reviewed, and the final Township approval and acceptance of the development has occurred will be refunded to the developer with no interest to be paid on those funds. At no time prior to the Township’s final decision on an application shall the balance in the escrow account fall below the required initial amount. If the funds in the account are reduced to less than the required initial amount, the developer shall deposit into the account an additional amount as determined by the Township Board resolution, before the application review process will be continued. Additional amounts may be required to be placed in the escrow account by the developer, at the discretion of the Township.

Section 14.10 Construction Site Runoff Controls. Prior to making any earth change on a development site regulated by this Chapter, the developer or other person making an earth change shall first obtain a soil erosion permit issued in accordance with Part 91 of Act No. 451 of the Public Acts of 1994, as amended, if one is required. The developer or other person making an earth change shall install storm water runoff facilities and shall phase the development activities

so as to prevent construction site storm water runoff and off-site sedimentation. During all construction activities on the development site, the Township Engineer may inspect the development site to ensure compliance with the approved construction site runoff controls.

Section 14.11 Financial Guarantee.

- A. The Township Engineer shall not approve a storm water permit until the developer submits to the Township, in a form and amount satisfactory to the Township, a letter of credit or other financial guarantee for the timely and satisfactory construction of all storm water runoff facilities and site grading in accordance with the approved drainage plan. Upon certification by a registered professional engineer that the storm water runoff facilities have been completed in accordance with the approved drainage plan including, but not limited to, the provisions contained in Section 14.8.H, the Township may release the letter of credit, or other financial guarantee subject to final Township acceptance and approval.
- B. Except as provided in subsection (3), the amount of the financial guarantee shall be \$10,000, unless the Township determines that a greater amount is appropriate, in which case the basis for such determination shall be provided to the developer in writing. In determining whether an amount greater than \$10,000 is appropriate, the Township shall consider the size and type of the development, the size and type of the on-site storm water system, and the nature of the off-site storm water runoff facilities the development will utilize.
- C. The Township Supervisor or board-appointed administrator, may reduce or waive the amount of the financial guarantee for a development that will not increase the percentage of impervious surface of the development site by more than ten percent (10%).
- D. This Chapter shall not be construed or interpreted as relieving a developer of its obligation to pay all costs associated with on-site private storm water runoff facilities as well as those costs arising from the need to make other drainage improvements in order to reduce a development's impact on a drain consistent with adopted design standards.

Section 14.12 Certificate of Occupancy. No certificate of occupancy shall be issued until storm water runoff facilities have been completed in accordance with the approved drainage plan; provided, however, the Township may issue a certificate of occupancy if an acceptable letter of credit or other financial guarantee has been submitted to the Township, for the timely and satisfactory construction of all storm water runoff facilities and site grading in accordance with the approved drainage plan.

Section 14.13 No Change in Approved Facilities. Storm water runoff facilities, after construction and approval, shall be maintained in good condition, in accordance with the approved drainage plan, and shall not be subsequently altered, revised or replaced except in accordance with the approved drainage plan, or in accordance with approved amendments or revisions in the plan.

Section 14.14 Terms and Conditions of Permits. In granting a storm water permit, the Township may impose such terms and conditions as are reasonably necessary to effectuate the purposes of this Chapter. A developer shall comply with such terms and conditions.

STORM WATER SYSTEM, FLOODPLAIN AND OTHER STANDARDS, SOIL EROSION CONTROL

Section 14.15 Management of and Responsibility for Storm Water System. The Township is not responsible for providing drainage facilities on private property for the management of storm water on said property. It shall be the responsibility of the property owner to provide for, and maintain, private storm water runoff facilities serving the property and to prevent or correct the accumulation of debris that interferes with the drainage function of a water body.

Section 14.16 Storm Water System. All storm water runoff facilities shall be constructed and maintained in accordance with all applicable federal, state and local ordinances, and rules and regulations.

Section 14.17 Storm Water Discharge Rates and Volumes. The Township is authorized to establish minimum design standards for storm water discharge release rates and to require dischargers to implement on-site retention, detention or other methods necessary to control the rate and volume of surface water runoff discharged into the storm water drainage system, in the following circumstances:

- A. A parcel of land is being developed in a manner that increases the impervious surface area of the parcel; or
- B. The discharge exceeds the Township-calculated pre-development discharge characteristics for the subject property, and the Township determines that the discharge is a violation of the drainage, flooding or soil erosion regulations of this Chapter.

Section 14.18 Floodplain Standards.

- A. All new buildings and substantial improvements to existing buildings shall be protected from flood damage up to the Flood Protection Elevation (FPE) and shall be in accordance with all applicable federal, state and local ordinances, and rules and regulations. Floodway alteration shall be permitted only upon review and approval by the Township, in accordance with an approved drainage plan.
- B. A drainage plan providing for the filling or alteration of a floodway shall include provisions for maintaining stability of the banks of streams or other water bodies, by means of the establishing of buffer zones and other means of providing protection of the slopes and banks of water bodies.
- C. Within any required buffer zone, no earth change shall take place except in accordance with the approved drainage plan. Such a plan may also include provisions for the replacement of flood plain storage volume, where such storage volume is lost or diminished as a result of approved development.

Section 14.19 Soil Erosion and Sedimentation Control.

- A. All persons who cause, in whole or in part, any earth change to occur shall provide soil erosion and sedimentation control so as to adequately prevent soils from being eroded and discharged or deposited onto adjacent properties or into a storm water drainage system, a public street or right of way, wetland, creek, stream, water body, or floodplain. All development shall be in accordance with all applicable federal, state and local ordinances, rules and regulations.

- B. During any earth change which exposes soil to an increased risk of erosion or sediment track-out, the property owner and other persons causing or participating in the earth change shall do the following:
 - 1. Comply with the storm water management standards of this Chapter.
 - 2. Obtain and comply with the terms of a soil erosion and sedimentation control permit if required by law.
 - 3. Prevent damage to any public utilities or services within the limits of grading and within any routes of travel or areas of work of construction equipment.
 - 4. Prevent damage to or impairment of any water body on or near the location of the earth change or affected thereby.
 - 5. Prevent damage to adjacent or nearby land.
 - 6. Apply for and secure all required approvals or permits prior to the commencement of work.
 - 7. Proceed with the proposed work only in accordance with the approved plans and in compliance with this Chapter.
 - 8. Maintain all required soil erosion and sedimentation control measures, including but not limited to, measures required for compliance with the terms of this Chapter.
 - 9. Promptly remove all soil, sediment, debris, or other materials applied, dumped, tracked, or otherwise deposited on any lands, public streets, sidewalks, or other public ways or facilities, including catch basins, storm sewers, ditches, drainage swales, or water bodies. Removal from water bodies shall require appropriate direction or instruction from the DEQ. Removal of all such soil, sediment, debris or other materials within twenty-four (24) hours shall be considered prima facie compliance with this requirement, unless such materials present an immediate hazard to public health and safety.

10. Refrain from grading lands at locations near or adjoining lands, public streets, sidewalks, alleys, or other public or private property without providing adequate support or other measures so as to protect such other lands, streets, sidewalks or other property from settling, cracking or sustaining other damage.
11. Request and obtain inspection of soil erosion and sedimentation control facilities, by the Township at such frequency as required by the Township.

Section 14.20 Building Openings.

- A. No building opening shall be constructed below the following elevations:
 1. One foot above the 100-year floodplain.
 2. The building opening established at the time of plat or development approval and on file in the Township Engineering Department.
 3. Three feet above the top of any downstream culvert.
 4. Four feet above the bottom of any permanent and defined drain.
- B. A waiver from elevations stated in this Section may be granted by the Township Engineer following receipt of a certification from a registered professional engineer demonstrating that the proposed elevation does not pose a risk of flooding.
- C. Upon completion of construction of the structure's foundation and or slab on grade, a registered land surveyor shall certify any minimum building opening elevation specified by this Chapter. This certificate shall attest that the building opening elevation complies with the standards of this Chapter. The permittee for the building permit shall submit the certificate to the Township Building Inspections official prior to the commencement of framing and/or structural steel placement. If the surveyor should find that the minimum building opening elevation is below the elevation specified above, that opening must be raised using a method that meets with the approval of the Township. After reconstruction, a registered land surveyor or engineer shall re-certify that the minimum building opening elevation complies with the standards of this Chapter prior to the commencement of framing and or structural steel placement.

Section 14.21 Sump Pump Discharge. Whenever building footing drains are required or utilized, a direct connection between the footing drains through a sump pump-check valve system to a storm sewer is required. A gravity system is not permitted.

Section 14.22 Public Health, Safety and Welfare. Protection of the public health, safety and welfare shall be a primary consideration in the design of all storm water runoff facilities.

PROHIBITIONS AND EXEMPTIONS

Section 14.23 Prohibited Discharges.

- A. No person shall discharge to a water body, directly or indirectly, any substance other than storm water or an exempted discharge. Any person discharging storm water shall effectively prevent pollutants from being discharged with the storm water, except in accordance with best management practices.
- B. The Township is authorized to require dischargers to implement pollution prevention measures, utilizing BMPs, necessary to prevent or reduce the discharge of pollutants into the Township's storm water drainage system.

Section 14.24 Exempted Discharges. The following non-storm water discharges shall be permissible, provided that they do not result in a violation of State of Michigan water quality standards:

- Water supply line flushing
- Landscape irrigation
- Diverted stream flows
- Rising ground water
- Uncontaminated ground water infiltration to storm drains
- Uncontaminated pumped ground water
- Discharges from potable water sources
- Foundation drains
- Air conditioning condensate
- Non-commercial car washing
- De-chlorinated swimming pool water
- Street washwater
- Discharges or flows from emergency firefighting activities
- Discharges for which a specific federal or state permit has been issued.

Section 14.25 Interference with Natural or Artificial Drains.

- A. It shall be unlawful for any person to stop, fill, dam, confine, pave, alter the course of, or otherwise interfere with any natural or constructed drain, or drainageway without first submitting a drainage plan to the Township and receiving approval of that plan. Any deviation from the approved plan is a violation of this Chapter. This section shall not prohibit, however, necessary emergency action so as to prevent or mitigate drainage that would be injurious to the environment, the public health, safety, or welfare.
- B. No filling, blocking, fencing or above-surface vegetation planting shall take place within a floodway.
- C. For an overland flow-way:

1. Silt screen fences shall not be permitted below the top of the bank of a water body.
 2. Chain link fences shall be permitted if the Township determines that the fence will not obstruct or divert the flow of water.
 3. If a fence is removed by the Township for drain access or drain maintenance, the fence shall be replaced by the owner of the fence at the owner's expense.
 4. No shrubs or trees shall be planted below the top of the bank of a water body.
- D. Shrubs, trees or other above-ground woody vegetation shall not be planted over the top of an underground storm sewer or over the top of the easement within which the storm sewer has been installed.

Section 14.26 Storage of Hazardous or Toxic Materials in Drainageway. Except as permitted by law, it shall be unlawful for any person to store or stockpile within a drainageway any hazardous or toxic materials unless adequate protection and/or containment has been provided so as to prevent any such materials from entering a drainageway.

INSPECTION, MONITORING, REPORTING, AND RECORDKEEPING

Section 14.27 Inspection and Sampling. To assure compliance with the standards in this pervasively regulated area, the Township may inspect and/or obtain storm water samples from storm water runoff facilities of any discharger to determine compliance with the requirements of this Chapter. Upon request, the discharger shall allow the Township's properly identified representative to enter upon the premises of the discharger at all hours necessary for the purposes of such inspection or sampling. The Township shall provide the discharger reasonable advance notice of such inspection and/or sampling. The Township or its properly identified representative may place on the discharger's property the equipment or devices used for such sampling or inspection.

Section 14.28 Storm Water Monitoring Facilities. A discharger of storm water runoff shall provide and operate equipment or devices for the monitoring of storm water runoff, so as to provide for inspection, sampling, and flow measurement of each discharge to a water body or a storm water runoff facility, when directed in writing to do so by the Township. The Township may require a discharger to provide and operate such equipment and devices if it is necessary or appropriate for the inspection, sampling and flow measurement of discharges in order to determine whether adverse effects from or as a result of such discharges may occur. All such equipment and devices for the inspection, sampling and flow measurement of discharges shall be installed and maintained in accordance with applicable laws, ordinances and regulations.

Section 14.29 Accidental Discharges.

- A. Any discharger who accidentally discharges into a water body any substance other than storm water or an exempted discharge shall immediately inform the Township

concerning the discharge. If such information is given orally, a written report concerning the discharge shall be filed with the Township within five (5) days. The written report shall specify:

1. The composition of the discharge and the cause thereof.
 2. The exact date, time, and estimated volume of the discharge.
 3. All measures taken to clean up the accidental discharge, and all measures proposed to be taken to reduce and prevent any recurrence.
 4. The name and telephone number of the person making the report, and the name of a person who may be contacted for additional information on the matter.
- B. A properly-reported accidental discharge shall be an affirmative defense to a civil infraction proceeding brought under this Chapter against a discharger for such discharge. It shall not, however, be a defense to a legal action brought to obtain an injunction, to obtain recovery of costs or to obtain other relief as a result of or arising out of the discharge. A discharge shall be considered properly reported only if the discharger complies with all the requirements of this Section.

Section 14.30 Record Keeping Requirement. Any person subject to this Chapter shall retain and preserve for no less than six (6) years any and all books, drawings, plans, prints, documents, memoranda, reports, correspondence and records, including records on magnetic or electronic media and any and all summaries of such records, relating to monitoring, sampling and chemical analysis of any discharge or storm water runoff from any property.

ENFORCEMENT

Section 14.31 Sanctions for Violation.

- A. Any person violating any provision of this Chapter shall be responsible for a municipal civil infraction, subject to the penalties provided by Chapter 60 of the Courtland Township Code.
- B. Any person who aids or abets a person in a violation of this Chapter shall be subject to the sanctions provided in this section.

Section 14.32 Stop Work Order. Where there is work in progress that causes or constitutes in whole or in part, a violation of any provision of this Chapter, the Township is authorized to issue a Stop Work Order so as to prevent further or continuing violations or adverse effects. All persons to whom the stop work order is directed, or who are involved in any way with the work or matter described in the stop work order shall fully and promptly comply therewith. The Township may also undertake or cause to be undertaken, any necessary or advisable protective measures so as to prevent violations of this Chapter or to avoid or reduce the effects of noncompliance herewith. The cost of any such protective measures shall be the responsibility of the owner of the property

upon which the work is being done and the responsibility of any person carrying out or participating in the work, and such cost shall be a lien upon the property.

Section 14.33 Failure to Comply; Completion. In addition to any other remedies, should any owner fail to comply with the provisions of this Chapter, the Township may, after the giving of reasonable notice and opportunity for compliance, have the necessary work done, and the owner shall be obligated to promptly reimburse the Township for all costs of such work.

Section 14.34 – 14.37 [Reserved]

* * *

Section 4.38 Emergency Measures. When emergency measures are necessary to moderate a nuisance, to protect public safety, health and welfare, and/or to prevent loss of life, injury or damage to property, the Township is authorized to carry out or arrange for all such emergency measures. Property owners shall be responsible for the cost of such measures made necessary as a result of a violation of this Chapter, and shall promptly reimburse the Township for all of such costs.

Section 4.39 Cost Recovery for Damage to Storm Drain System. A discharger shall be liable for all costs incurred by the Township as the result of causing a discharge that produces a deposit or obstruction, or causes damage to, or impairs a storm drain, or violates any of the provisions of this Chapter. Costs include, but are not limited to, those penalties levied by the EPA or MDEQ for violation of an NPDES permit, attorney fees, and other costs and expenses.

Section 4.40 Collection of Costs; Lien. Costs incurred by the Township and the Drain Commissioner pursuant to this Chapter shall be a lien on the premises which shall be enforceable in accordance with Act No. 94 of the Public Acts of 1933, as amended from time to time. Any such charges which are delinquent for six (6) months or more may be certified annually to the Township Treasurer who shall enter the lien on the next tax roll against the premises and the costs shall be collected and the lien shall be enforced in the same manner as provided for in the collection of taxes assessed upon the roll and the enforcement of a lien for taxes. In addition to any other lawful enforcement methods, the Township or the Drain Commissioner shall have all remedies authorized by Act No. 94 of the Public Acts of 1933, as amended.

Section 4.41 Appeals. Any person as to whom any provision of this Chapter has been applied may appeal in writing, not later than 30 days after the action or decision being appealed from, to the Township Board the action or decision whereby any such provision was so applied. Such appeal shall identify the matter being appealed, and the basis for the appeal. The Township Board shall consider the appeal and make a decision whereby it affirms, rejects or modifies the action being appealed. In considering any such appeal, the Township Board may consider the recommendations of the Township Engineer and the comments of other persons having knowledge of the matter. In considering any such appeal, the Township Board may grant a variance from the terms of this Chapter so as to provide relief, in whole or in part, from the action being appealed, but only upon finding that the following requirements are satisfied:

The application of the Chapter provisions being appealed will present or cause practical difficulties for a development or development site; provided, however, that practical difficulties

shall not include the need for the developer to incur additional reasonable expenses in order to comply with the Chapter; and

The granting of the relief requested will not substantially prevent the goals and purposes sought to be accomplished by this Chapter, nor result in less effective management of storm water runoff.

STORM WATER EASEMENTS AND MAINTENANCE AGREEMENTS

Section 14.42 Applicability of Requirements. The requirements of this Article concerning storm water easements and maintenance agreements shall apply to all persons required to submit a drainage plan to the Township for review and approval.

Section 14.43 Storm Water Management Easements. The developer shall provide all storm water management easements necessary to implement the approved drainage plan and to otherwise comply with this Chapter in form and substance required by the Township and shall record such easements as directed by the Township. The easements shall assure access for proper inspection and maintenance of storm water runoff facilities and shall provide adequate emergency overland flow-ways.

Section 14.44 Maintenance Agreements. The developer shall provide all storm water maintenance agreements necessary to implement the approved drainage plan and to otherwise comply with this Chapter in form and substance as required by the Township, and shall record such agreements as directed by the Township. The maintenance agreements shall, among other matters, assure access for proper inspection and maintenance of storm water runoff facilities and adequate emergency overland flow-ways.

Section 14.45 Establishment of County Drains. Prior to final approval, all storm water management facilities for platted subdivisions shall be established as county drains, as authorized in Section 433, Chapter 18 of the Michigan Drain Code (P.A. 40 of 1956, as amended) for long-term maintenance.

PERFORMANCE AND DESIGN STANDARDS

Section 14.46 Performance Standards. In order to achieve the goals and purposes of this Chapter, the following two storm water management zones (Zones A and B) are hereby established. The Zones are shown on the map attached as Appendix A and made a part of this Chapter.

Zone A represents areas which require the most protective storm water management regulations. Generally, lands in Zone A have less than 10% imperviousness. The goal of this zone is to preserve the natural condition of water bodies included in it, in whole or in part. Zone A has, in general, little impervious surface area and few storm water facilities. When site conditions permit, infiltration of storm water runoff shall be required. When site conditions do not permit infiltration, detention pond(s) with restricted outlet(s) shall be required, rather than the directed flow of storm water runoff into water bodies. This storm water management practice provides greater protection for surface water quality, and also assists in augmenting stream base flow, reduction of flash storm flows and prevention of

stream bank erosion. Section 14.47 specifies design criteria for Zone A, in order that the volume and rate of storm water runoff are controlled at predevelopment levels.

Zone B represents developed areas that have significant impervious surfaces and storm water runoff facilities in place. Generally, the lands in Zone B have from 10% to 25% imperviousness. The goal of Zone B is the control of storm water runoff in order to prevent further destabilizing of streams and other water bodies. In this zone, the use of retention and/or detention ponds, the maintenance and enhancement of buffer strips and other measures to reduce directly-connected impervious areas are specified in Section 14.47 for the achieving of the storm water management standards applicable to Zone B. The management practices for this zone are intended to maintain existing water quality and to alleviate adverse downstream impact on water bodies.

Section 14.47 Design Standards. The design standards for storm water runoff facilities for Zones A and B as described in Section 14.46, are the following:

	Zone A	Zone B
Storm Water Management Standards	Use infiltration ponds, infiltration fences, extended detention ponds, retention ponds with infiltration and/or constructed wetlands. Maintain and enhance buffer strips.	Use detention ponds; retention basins with infiltration; maintain and enhance buffer strips, and reduce directly connected impervious area.
Water Quality Control	Detain the first 0.5” of runoff from the contributing watershed, with detention per Zone B and infiltration where conditions permit, or provide equivalent treatment.	Detain the first 0.5” of runoff from the contributing watershed for 24 hours or provide equivalent treatment, and infiltration when conditions permit.
Bank Erosion Control	Rate of release shall be limited to 0.025 cfs/acre for a 2-year storm event.	Release rate of .13 cfs/acre per Kent County Drain Commissioner rules, but storm water runoff shall not exceed the capacity of the downstream conveyance system.
Flood Control	Detention with infiltration when conditions permit. Release rate of 0.13 cfs/acre per KCDC rules.	Release rate of 0.13 cfs/acre per Kent County Drain Commissioner rules.

Section 14.48 Resolution to Implement Performance and Design Standards. The Township Board of the Township may adopt a resolution establishing more detailed design and performance standards for storm water runoff facilities, consistent with the terms of this Chapter, and in order to further implement its goals and purposes.

OTHER MATTERS

Section 14.49 Interpretation. Words and phrases in this Chapter shall be construed according to their common and accepted meanings, except that words and phrases defined in Section 14.5 shall be construed according to the respective definitions given in that section. Technical words and technical phrases that are not defined in this Chapter but which have acquired particular meanings in law or in technical usage shall be construed according to such meanings.

**SCHEDULE A
TO CHAPTER 14**

WHEREAS, Section 14.48 of said Chapter provides that the Township Board may adopt by resolution additional design and performance standards for storm water runoff facilities, consistent with the terms of the Chapter, in order to further implement its goals and purposes; and

WHEREAS, the Township Board by resolution dated January 2, 2002 has adopted the following additional design and performance standards for storm water runoff facilities and other standards pertaining to storm water management.

IT IS, THEREFORE, RESOLVED AS FOLLOWS:

Section 1. Lot Drainage.

- (a) Any drainage situation not involving any public property water is the responsibility of the property owner.
- (b) Lot grading and private property drainage is a civil matter among the property owners affected.
- (c) To aid contractors and builders in grading private property, a lot grading plan shall be required for all development and such information shall be disbursed along with the building permit. The lot grading plan shall show:
 - (1) Any established minimum building opening.
 - (2) Floodway and floodplain elevations.
 - (3) All storm sewers, and the rise, grades, invert elevations and top of casting elevations.
 - (4) All storm sewer laterals.
 - (5) All utility and drainage easements and their foil description.
 - (6) Minimum basement elevation for sanitary sewer.
 - (7) Direction of drainage on each lot.
 - (8) Elevations of any constructed surface drainage facilities.
 - (9) Surface grading of the entire parcel.
- (d) Reserved.
- (e) A minimum rear yard of twenty-five feet (25') without any drainage encumbrance is required. This will allow opportunity for rear yard use for sheds, play equipment, etc., without concern about water damage or inconvenience.

- (f) Prior to construction of any structure on a parcel or lot upon which a floodway easement, floodplain or drainageway exists, the permittee shall obtain from the Township, a copy of the approved plans showing the location and design elevations of the floodway, floodplain and/or drainageway. Upon completion of the structure and prior to the issuance of an occupancy permit, the permittee shall provide a certification from a registered land surveyor that the floodway, floodplain and drainageway grades and dimensions are as designed. If the floodway, floodplain and drainageway does not conform to the approved plans, the floodway, floodplain and drainageway shall be reconstructed and certified prior to the issuance of an occupancy permit for the lot or parcel.

Concurrent floodway, floodplain and drainageway reconstruction and issuance of an occupancy permit are permitted only if that action does not present a danger to the safety and welfare of any affected property. To permit concurrent action, the permittee shall provide the Township with a performance bond, a letter of credit, or a cash deposit to cover the cost of said reconstruction at a dollar amount established by the Township.

Section 2. Storm Water Management Zones.

The performance standards stated in Section 14.46 of said Chapter are hereby supplemented as follows:

- (a) In any single development site, up to three different detention volumes may be calculated to determine the staged outlet elevations: (1) water quality control, (2) bank erosion control, and (3) flood control. These volumes are not intended to be cumulative; the flood control volume shall include the water quality control and bank erosion control volumes.
- (b) The default flood control volume shall be based on detaining the 25-year storm frequency so long as the downstream storm water conveyance system has adequate capacity and includes an acceptable emergency overland floodway. If the design engineer determines the downstream conveyance system is not adequate or an acceptable emergency overland floodway does not exist, then the flood control volume shall be based on detaining the 100-year storm.

Section 3. Flood Plain Protection.

Section 14.46 of said Chapter is supplemented as follows:

- (a) Natural floodway filling or alteration shall not be allowed without review and approval by the Township and compliance with the Floodplain Regulatory Authority found in Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act. 1994 PA 451, as amended (NREPA) on watercourses with contributing drainage area of 2 square miles or greater. If a flood way has not been mapped, the applicant's consultant shall provide the flood way delineation to the Township for approval.

- (b) Natural floodway fringe filling or alteration shall not be allowed without review and approval by the Township and compliance with the Floodplain Regulatory Authority found in Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA) on watercourses with contributing drainage area of 2 square miles or greater. If a floodplain has not been mapped, the applicant's consultant shall provide the floodplain delineation to the Township for approval.
- (c) To provide for streambank stability a buffer zone is to be established and shown on a recorded plat, an approved block grading plan, a site plan, or an improvement plan. This zone shall consist of existing natural tree and vegetation slope protection within a minimum of 25 feet from the ordinary high-water mark. This buffer zone shall be maintained as is, that is, no earth change or disturbance is to take place within it.
- (d) Replacement of lost floodplain shall meet the following criteria:
 - (i) Replacement of the loss of floodplain storage volume at a 1-to-1 ratio shall occur unless watershed conditions warrant a higher ratio. This applies to floodplain associated with rainfall events up to a 100-year frequency. The grading plan shall provide for an equivalent volume of storage for floodplains associated with more frequent events such as 10 and 25 year frequencies.
 - (ii) Storm water detention does not apply toward the replacement volume.
 - (iii) Floodplain storage volume shall be computed above the seasonal high ground water level only.
 - (iv) The inflow and outflow rates to the area shall be consistent with predevelopment rates.
 - (v) Up to 50 percent of the floodplain mitigation storage volume may be used for snow storage.
 - (vi) The proximity of the floodplain mitigation area shall provide for an equivalent hydrologic impact to the receiving stream and adjacent parcels.

**SCHEDULE B
TO CHAPTER 14**

WHEREAS, on January 2, 2002, the Township Board adopted Ordinance No. 02-01, the Township of Courtland Storm Water Ordinance, now designated Chapter 14 of the Courtland Township Code;

WHEREAS, Section 14.48 of said Chapter provides that the Township Board may adopt by resolution additional design and performance standards for storm water runoff facilities consistent with the terms of the Chapter, in order to further implement its goals and purposes;

WHEREAS, the Township Board by resolution dated January 2, 2002 has adopted the following performance standards for storm water runoff facilities with respect to certain lands along Rum Creek, Shaw Creek, Stegman Creek and Becker Creek;

WHEREAS, Rum Creek, Shaw Creek, Stegman Creek and Becker Creek are trout streams and are environmentally sensitive ecosystems requiring a high degree of storm water management and protection;

WHEREAS, these creeks are subject to the protective provisions of the Natural Rivers Act, being Public Act 451 of 1994 as amended; and

WHEREAS, these streams are tributaries of the Rogue River and are therefore subject to development standards specified by the Michigan Department of Environmental Quality Administrative Rules pertaining to the Rogue River, with respect to lands within 300 feet of the Rogue River and its designated tributaries.

IT IS, THEREFORE, RESOLVED AS FOLLOWS:

1. Storm water runoff from all lands within 300 feet on either side of Rum Creek, Shaw Creek, Stegman Creek and Becker Creek shall be managed and controlled on site, with no off-site increase in volume or rate of storm water discharge over the predevelopment volume or rate of discharge, in accordance with this resolution.
2. With respect to the above-stated lands, storm water runoff shall be retained on site to an extent that shall include a 25-year storm event, with in-ground infiltration required. For storm events greater than a 25-year storm event, the storm water release rate shall be no greater than 0.13 cfs.

If, notwithstanding the above requirement in this paragraph 2, on-site retention with infiltration is not reasonably possible because of the lack of permeability of the soil or for other circumstances involving the nature of the land, then the Township may in its discretion approve an alternate on-site or an off-site storm water management plan which adequately prevents erosion, sedimentation and chemical, organic and thermal stream degradation. In any such plan, storm water shall be retained for at least 24 hours in sediment basins or detention ponds with a release rate no greater than .025 cfs. After such 24-hour period, storm water may be transferred by means of gravity or mechanical pump to an acceptable site, wetland, lake, pond or

infiltration area approved by the Department of Environmental Quality, the Township and the off-site property owner.