

MODEL ORDINANCES  
Upper Rabbit River Watershed Implementation Project

**Upper Rabbit River Watershed Project  
Model Ordinances:**

**Developed for:**

Dorr Township  
Salem Township  
Hopkins Township  
Hopkins Village  
Monterey Township  
Leighton Township  
Wayland Township  
City of Wayland

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**(a.) Intent.** The (community) recognizes that stormwater runoff has been traditionally treated as a by-product of development to be disposed of as quickly and efficiently as possible. The result has often been increased flooding, degradation of water quality, soil erosion and sedimentation, and a failure to capitalize on the benefit of creative stormwater management. It is also recognized that certain community development standards may contribute to decreased pervious surface and increased stormwater runoff.

**Private Road Ordinance PG>8**

**(a.) Intent.** The (community) recognizes that, due to the specific requirements of any given development, application of adopted public road design standards may result in development with excessive paving and grading, increased stormwater runoff, and loss of vegetation. It is also the intent of this Ordinance to recognize that stormwater runoff has been traditionally treated as a by-product of development to be disposed of as quickly and efficiently as possible. The result has often been increased flooding, degradation of water quality, soil erosion and sedimentation, and a failure to capitalize on the benefit of creative stormwater management. However, unobstructed, safe, and continuous vehicle access to lots is necessary to promote and protect the public health, safety, and welfare to ensure that public services can safely enter and exit private property at all times.

**Floodplain Management Standards PG>15**

**(a.) Intent.** It is the intent of the (community) in adopting this article to significantly reduce hazards to persons and damage to property as a result of flood conditions in the (community); to comply with the provisions and requirements of the National Flood Insurance Program; to protect human life, health and property from dangerous and damaging effects of flood conditions; to minimize public expenditures for flood control projects, rescue and relief efforts in the aftermath of flooding, repair of flood damage public facilities and utilities, and the redevelopment of flood damaged homes, neighborhoods, commercial and industrial areas; to maintain stable development patterns not subject to the blighting influence of flood damage; to designate floodplains and institute floodplain development regulations and general

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development standards; to establish regulations concerning the same; and to provide for the administration of this article and to provide penalties for violation.

#### **Post Construction Runoff Ordinance (Site-plan review)PG>19**

**(a). Intent** The purpose of this ordinance is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing in watersheds within this jurisdiction.

#### **Lake/Funnel Access Ordinance PG>57**

**(a). Intent:** To add provisions pertaining to the regulation of the number of users and types of uses of lake frontage. To preserve the qualities of the waters, minimize conflicting land uses, promote safety and help preserve the quality of recreational use of lands and waters within the township.

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#### **Stormwater Management/Impervious Surface Mitigation Standards**

The following is sample language relative to stormwater management that may be adopted as part of either the Zoning Ordinance or community design standards. Most communities have adopted standards that limit the rate of runoff from sites, but do little to encourage either creative means of managing stormwater on-site or reducing the amount of impervious surface. Frequently, local ordinances contain provisions that result in significant amounts of impervious surface from streets, sidewalks, and parking lots and do not promote environmentally compatible design. Single purpose solutions are proposed that may efficiently remove stormwater but do not promote infiltration, improve water quality, or enhance integrated stormwater management as an integral component of aesthetic site design.

Section \_\_\_\_\_. Stormwater Management/Impervious Surface Mitigation

(a.) Purpose. The (community) recognizes that stormwater runoff has been traditionally treated as a by-product of development to be disposed of as quickly and efficiently as possible. The result has often been increased flooding, degradation of water quality, soil erosion and sedimentation, and a failure to capitalize on the benefit of creative stormwater management. It is also recognized that certain community development standards may contribute to decreased pervious surface and increased stormwater runoff.

It is the intent of this Ordinance to encourage the use of Best Management Practices (BMPs) which are structural, vegetative, or managerial practices designed to treat, prevent, or reduce degradation of water quality due to stormwater runoff. All development projects subject to review under the requirements of this Ordinance shall be designed, constructed, and maintained using BMPs to prevent flooding, protect water quality, reduce soil erosion, maintain and improve wildlife habitat, and contribute to the aesthetic values of the project. The particular facilities and measures required on-site shall reflect and incorporate existing grade, natural features, wetlands, and watercourses on the site, to the maximum extent feasible.

(b.) Stormwater Drainage/Erosion Control. All stormwater drainage and erosion control plans shall meet the standards adopted by the (community) for design and construction and shall, to the maximum extent feasible, utilize nonstructural control techniques, including but not limited to:

- (1) limitation of land disturbance and grading;
- (2) maintenance of vegetated buffers and natural vegetation;

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- (3) minimization of impervious surfaces;
- (4) use of terraces, contoured landscapes, runoff spreaders, grass or rock-lined swales;
- (5) use of infiltration devices;

#### (c.) General Standards.

- (1) Stormwater management systems shall be designed to prevent flooding and the degradation of water quality related to stormwater runoff and soil erosion from proposed development.
- (2) All properties which are subject to this ordinance shall provide for on-site storage of stormwater. Facilities shall be designed to provide a volume of storage and discharge rate which meets the County Drain Commissioner's standards or the standards of (community), whichever are stricter.
- (3) Priority shall be placed on site design that maintains natural drainage patterns and watercourses. Alterations to natural drainage patterns shall not create flooding or degradation in water quality for adjacent or downstream property owners.
- (4) The use of swales and buffer strips vegetated with native materials is encouraged as a method of stormwater conveyance so as to decrease runoff velocity, allow for biofiltration, allow suspended sediment particles to settle, and to remove pollutants.
- (5) Drainage systems shall be designed to be visually attractive. The integration of stormwater conveyance systems and retention and detention ponds in the overall landscape concept is recommended. Ponds with a naturally contoured, rather than square or rectangular design and appearance shall be encouraged.

#### (d.) Use of Wetlands. Wetlands may be used for stormwater management if all the following conditions are met:

- (1) Direct discharge of untreated stormwater to a natural wetland is prohibited. All runoff from the development will be pre-treated to remove sediment and other pollutants prior to discharge to a wetland. Such treatment facilities shall be constructed before property grading begins. Stormwater runoff discharged to wetlands must be diffused to non-erosive velocities before it reaches the wetland.
- (2) Wildlife, fish, or other beneficial aquatic organisms and their habitat within the wetland will not be impaired
- (3) The wetland has sufficient holding capacity for stormwater, based upon

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calculations prepared by the proprietor and reviewed and approved by the township engineer.

(4) Adequate on-site erosion control is provided to protect the natural functioning of the wetland.

(5) Adequate private restrictions are established so as to insure that the wetland is not disturbed or impaired in the future relative to the needed storage capacity.

(6) Applicable permits from the Michigan Department of Environmental Quality are obtained.

(e.) Impervious Surface Reduction/Infiltration Enhancement. The (community) recognizes that, due to the specific requirements of any given development, inflexible application of the design standards may result in development in excessive paving and stormwater runoff and a waste of space, which could be left as open space.

Either through procedures prescribed by Ordinance or creative land development techniques permitted by Ordinance, the (community) may permit deviations from requirements allowing for reduction in impervious surfaces whenever it finds that such deviations are more likely to meet the intent and standards of this Ordinance and accommodate the specific characteristics of the use in question.

The (community) may attach conditions to the approval of a deviation that bind such approval to the specific use in question. Measures that reduce impervious surface and increase infiltration may include, but are not limited to, the following:

(1) Streets and Access.

a. Residential streets designed with the minimum required pavement width needed to support travel lanes; on-street parking; and emergency, maintenance, service vehicle access, and function based on traffic volumes.

b. The total length of residential streets reduced by examining alternative street layouts to determine the best option for increasing the number of homes per unit length.

c. Street right-of-way widths designed to reflect the minimum required to accommodate the travel-way, the sidewalk, and vegetated open channels.

d. Minimize the number of street cul-de-sacs and reduce the radius of cul-de-sacs to

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the minimum required to accommodate emergency and maintenance vehicles. Alternative turnarounds shall be considered, including the use of mountable curbing and grass shoulders for the occasional event of access by fire trucks and other large commercial trucks. Where cul-de-sacs do exist, provide landscape center islands.

e. Where density, topography, soils, and slope permit, use of vegetated open channels in the street right-of-way to convey and treat stormwater runoff.

f. Use of alternative driveway surfaces and shared driveways that connect two or more uses.

g. Promote more flexible design standards for residential subdivision sidewalks. Where practical, consider locating sidewalks on only one side of the street and providing common walkways linking pedestrian areas.

#### (2) Parking

a. Base parking requirements on the specific characteristics of the use, and landbank in open space, parking that is required to satisfy Ordinance requirements.

b. Reduce the overall imperviousness associated with parking lots by providing compact car spaces, minimizing stall dimensions, incorporating efficient parking lanes, and using pervious materials in the spillover parking areas where possible.

c. Encourage shared parking between compatible users.

#### (3) Site Design

a. Relax side yard setbacks and allow narrower frontages to reduce total road length in the community and overall site imperviousness. Relax front set back requirements to minimize driveway lengths and reduce overall lot imperviousness.

b. Direct rooftop runoff to pervious areas such as yards, open channels, or vegetated areas and avoid routing rooftop runoff to the roadway and the stormwater conveyance system.

c. Create a variable width, naturally vegetated buffer system along all drainageways that also encompasses critical environmental features such as the 100-year floodplain, steep slopes, and wetlands.

d. Minimize clearing and grading of woodlands and native vegetation to the minimum amount needed to build lots, allow access, and provide fire protection.

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e. Conserve trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native plants.

(f.) Maintenance. Whenever a landowner is required to provide on-site storm water retention and/or surface drainage to wetland, or whenever other protective environmental measures including monitoring devices are required, such measures or facilities shall be provided and maintained at the landowner's expense. The landowner shall provide satisfactory assurance to the Township whether by written agreement or otherwise, that the landowner will bear the responsibility for providing and maintaining such methods or facilities.

#### **Private Road Ordinance**

Private roads can be an effective tool to allow reasonable and safe access to properties while avoiding some of the grading, increase in impervious surfaces, and tree removal often associated with public road standards. When coupled with Planned Unit Developments and/or open space development ordinances, private road regulations can be used as an incentive for more creative, environmentally compatible development and serve to aid in more effective stormwater management.

Section. \_\_\_\_\_. Private Road Regulations

(a.) Intent. The (community) recognizes that, due to the specific requirements of any given development, application of adopted public road design standards may result in development with excessive paving and grading, increased stormwater runoff, and loss of vegetation. It is also the intent of this Ordinance to recognize that stormwater runoff has been traditionally treated as a by-product of development to be disposed of as quickly and efficiently as possible. The result has often been increased flooding, degradation of water quality, soil erosion and sedimentation, and a failure to capitalize on the benefit of creative stormwater management. However, unobstructed, safe, and continuous vehicle access to lots is necessary to promote and protect the public health, safety, and welfare to ensure that public services can safely enter and exit private property at all times.

It is the intent of this Ordinance to permit access to the interior of certain properties within the (community) by private roads that are subject to minimum standards and specifications. These standards and limitations are intended to permit unobstructed, safe, and continuous vehicle access, as well as, encourage road design standards which will result in the reduction of impervious surfaces and the preservation of vegetation, in order to more appropriately manage stormwater. It is further the intent of this Ordinance to ensure that private roads are maintained and repaired by the private property owners, who own and use the road.

The procedures, standards, and specifications hereinafter set forth are determined to

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be the minimum procedures, standards, and specifications necessary to meet the intent of this ordinance.

(b.) Definitions.

(1) Easement - The right of an owner of property by reason of such ownership, to use the property of another for purposes of ingress, egress, utilities, drainage, and similar uses. In the context of this Ordinance, private road easements shall be designated for purpose of vehicle ingress and egress.

(2) Private Road - An area of land that is privately owned, provides vehicular access to more than one (1) lot and has not been dedicated to public use other than access by emergency and public safety vehicles, and is maintained by its private owners.

(3) Public Street or Right-of-Way - A public or dedicated right-of-way, which affords the principal means of vehicular access to abutting property and which is under public ownership or control.

(4) Private Road Administrator - An official appointed by the (community) to administer the Private Road Ordinance.

(c.) Permit Application and Review Requirements. Each application for a private road shall be accompanied by completed plans prepared and sealed by civil engineer or land surveyor registered in the State of Michigan, which include the information contained herein. Where the required information is incorporated in the overall site plan of a development, separate road plans shall not be required.

The application and plans for a private road shall include the following information:

(1) The names and addresses of the lot or parcel owners to be served by the private road.

(2) A vicinity map of a minimum scale of one inch equals two thousand feet (1" = 2,000'), showing the location of the private road in the Township, any access roads and cross streets, road names, a scale, and a north arrow.

(3) Existing topography at two (2) foot contour intervals for the portions of the site sufficient to determine drainage from the private road easement to a suitable storm water outlet.

(4) Proposed improvements (including but not limited to, roads, sewers, and ditches) shown in plan and profile indicating all materials, grades, dimensions, and bearings in compliance with the standards set forth in Attachment A. The plans shall also show all existing and proposed grades, the location of all existing and proposed drainage

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facilities, the location of existing and/or proposed utilities and structures, other structures, physical or natural conditions existing adjacent to such improvements, and any connections to existing public and private roads.

(5) Soil borings within the proposed route of the road. Tree coverage and wetland areas within one hundred (100) feet of either side of the proposed route.

(6) Location of existing buildings on the lots or parcels being served or intended to be served by the private road, as well as, any existing building or structures in or adjacent to any proposed road easement.

(7) Plans shall show the existing or proposed location of private utilities and easements, such as gas, telephone, and electric.

(8) A complete statement of all the terms and conditions of the proposed road easement, including copies of all agreements or intended agreements regarding the maintenance and improvements of the right-of-way and roadway. Furthermore, said maintenance agreements shall be in such form as to be recordable with the County Register of Deeds and shall specifically address the liability and responsibility of the parties to said agreement to maintain the private road pursuant to the specifications of this article, including, but not limited to, the responsibility of removing snow from said private roads. The recorded statement which runs with the land, shall also inform subsequent purchasers that the road is private and may never be maintained or accepted by the County Road Commission.

(9) Appropriate deed restrictions and/or master deed provisions shall provide for free and clear vehicular access for emergency service vehicles on all private roads.

(d.) Design Standards.

(1) The design and construction of all private roads shall comply with the most currently published American Society of Highway Traffic Officials (ASHTO) standards for the criteria applicable to the private road, subject to the approval of the (community) Engineer (see attachment A). If the private road provides direct access to a county road, approval of the road connection, placement, and design must be approved by the County Road Commission prior to (community) approval.

(2) Notwithstanding any other provisions of the Ordinance, private roads in subdivisions platted prior to the enactment of this Ordinance and private roads or easements that are contained in land divisions approved by the (community) prior to the enactment of this Ordinance, shall continue to meet the specifications approved at the time of application. Upon expansion, reconstruction, or major alteration of an

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existing private road, new construction shall comply with the most currently published American Society of Highway Traffic Officials (ASHTO) standards for the criteria applicable to the private road. The (community) Engineer shall determine if this provision is met.

(e.) Inspection. Prior to the initiation of construction, a pre-construction conference will be held with the applicant, (community) Engineer, and Private Road Administrator. Evidence of issuance of County Road Commission and soil erosion control permits shall be provided by the applicant at the time of the meeting.

All required improvements shall be inspected by the (community) Engineer or designated (community) official at various stages of construction. The (community) Engineer or Private Road Administrator shall make a final inspection upon completion of construction and shall report the results of the final inspection to the (community) in writing. The applicant's engineer shall certify to the (community), before the final inspection and report thereon are made, that the required improvements were made in accordance with this article and all approved plans.

The costs of inspection, including compensation of the (community) Engineer or (community) official shall be paid by the applicant prior to the issuance of the certificate of completion. The (community) shall establish and determine the costs of inspection. If the applicant does not directly pay the costs of inspection, the same shall be paid from the deposit established by the (community) and held by the (community), and the balance, if any, shall be returned to the applicant.

(f.) Permit Approval Procedure.

(1) Upon receipt of an application, the Private Road Administrator shall bring the application before the (legislative body) at its next regular meeting. The (legislative body) may refer the application to the Planning Commission and any other appropriate body for review and comment.

(2) The (community) Engineer shall report in writing to the (legislative body) as to whether or not the proposed private road conforms to the standards and specifications of this Ordinance. Said report may include any suggested conditions to be attached to the Permit that, in the Engineer's judgment, are necessary to achieve the intent of this Ordinance.

(3) The (legislative body) shall consider the application, the Engineer's report, and all other relevant information in determining whether to grant the Permit application. If the information submitted by the applicant does not establish that the proposed private road will conform to the standards and specifications of this Ordinance, the

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(legislative body) shall not grant the Permit. The (legislative body) shall impose such conditions on the approval of the Permit as it deems necessary to achieve the intent and objectives of this Ordinance, which may include, but need not be limited to, conditions suggested by the Engineer. The breach of any such condition proposed by the (legislative body) shall automatically invalidate the Permit.

(4) As a condition to the granting of any Permit under this Ordinance, the (legislative body) shall require that the applicant deposit with the Private Road Administrator a sum of money, bank letter of credit or certified check, in an amount sufficient to guarantee that the applicant shall perform the terms and conditions of the permit, including the payment of required fees. Upon completion of all improvements required by this Ordinance, any unused portion of the deposit shall be refunded to the applicant.

(5) Upon receipt of the required deposit and predetermined fees and approval, the Private Road Administrator shall issue the Permit pursuant to the terms established by the (legislative body) approving the application.

(6) Only the (legislative body) shall have the authority to approve or deny applications for permits. No other permit issued by any Official or other governmental body or official shall be a substitute for a Permit.

(g.) Variances.

(1) Variances may only be granted by the (community) upon the finding that at least one of the two following conditions have been met:

a. That a variance or exemption is required in order to comply with conflicting County or State laws, rules, or regulations.

b. That there are such special circumstances or conditions affecting said property that strict application of the provisions of this Ordinance would clearly be impractical or unreasonable. This may include topographic, vegetative, or drainage conditions.

(2) In order to grant a variance, the (community) shall also find:

a. That the granting of the variance will not be detrimental to the public welfare or injurious to other property in the area in which said property is situated.

b. That such variance or exemption will not have the effect of nullifying the intent and purpose of this Ordinance, the Master Plan, or the Zoning Ordinance.

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(h.) Violations. Any person who violates any provision of this article shall be guilty of a misdemeanor and shall be subject to a fine not exceeding five hundred dollars (\$500.00) or by imprisonment not exceeding ninety (90) days, or both such fine and imprisonment. Any access that is used in violation of the terms of this article be and the same is hereby declared to be a nuisance per se, and such use may be abated, restrained, enjoined, and prohibited, upon the commencement of an appropriate action in the court of competent jurisdiction.

(i.) Fees. The (legislative body) shall establish by resolution a fee schedule to defray costs of inspection, plan review, administration, and enforcement of this article.

(j.) Severability. The provisions of this ordinance are severable and any decision by any Court of competent jurisdiction that any provision or clause hereof is invalid shall not affect the validity of the remainder of this ordinance.

(k.) Compliance with Other Statutes, Ordinance Order, or Regulation. Nothing in this Ordinance is intended to permit any practice which is a violation of any statute, ordinance, order or regulation, and no provision contained in this ordinance is intended to impair or abrogate any civil remedy or process whether legal or equitable which might otherwise be available to any person.

(l.) Effective Date. This ordinance was adopted by the (legislative body) at a regular meeting thereof held on the day of and shall become effective thirty days after publication.

#### Attachment A

##### Minimum Private Road Standards

As Per the American Society of Highway Traffic Officials (ASHTO)

1. Average Daily Traffic Volumes (ADT) - 9.5 vehicles per day per single family detached dwelling; 8 vehicles per day per each attached dwelling unit.
2. Design Speed - 20 mph
3. Stopping Sight Distance - 125 feet
4. Vertical Alignment - 0.5% minimum, 10.0% maximum
5. Horizontal Alignment - 100 ft. minimum radius
6. Right-of-Way Width - With ditches: 60 feet, 100-ft. diameter at cul-de-sacs; With curb & gutter: 50 feet, 100-ft. diameter at cul-de-sacs
7. Road Width (width of pavement, edge to edge - ADT less than 250: 18 feet ADT over 400: 20 feet

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8. Shoulder Width (graded slope) - Shoulders not required with curb & gutter; otherwise: ADT less than 400: 2 feet (each side), ADT over 400: 4 feet (each side)
  9. Curb and Gutter - Concrete curb and gutter permitted
  10. Cul-de-Sacs - 66-foot diameter minimum
    - to edge of pavement (not including shoulders or curb & gutter)
    - islands permitted when road is paved
    - islands must include curb & gutter
  11. Intersection Offsets - Private road intersections shall be directly aligned with other streets or roads, or offset at least 250 feet from a public road or offset at least 125 feet from a private road (measurement from centerline to centerline)
  12. Road Surface - Less than 5 houses: 7 inches compacted thickness of 21AA, 22A, or 23A gravel. Five (5) or more houses: 3 inches of bituminous surface, placed in two courses over a 7-inch gravel base of 6-inches of concrete.
  13. Sub-Base - Six (6) inches of compacted Class II sand. On-site material may be used if laboratory analysis indicates that it meets specification requirements. Sub-base not required for concrete pavement.
  14. Drainage - Ditches: 2'-0" minimum depth from centerline, IV; 3H front and back slopes; 2' bottom width. Culverts/Storm Sewers: Pipe must comply with MDOT Standard Specifications. Provide minimum 2-foot of cover over pipe at road crossings. End sections must be provided at culvert ends.
  15. Horizontal Clearance to Obstructions - All trees and other objects must be removed from the roadway to the back slope of the ditch 1' above the ditch bottom.
  16. Erosion Control/Restoration - All areas disturbed by construction must be topsoiled, seeded, and mulched. Steep slopes may require sod or riprap. Temporary erosion control measures must be utilized.
  17. Private Road Sign - Each private road shall be identified with a sign at each intersection. These signs shall be distinguishable from public street signs.
  18. Traffic Control Devices - Provide stop signs and street signs at entrance and interior intersections (comply with MMUTCD Manual). Provide a speed limit sign (5 MHP less than the design speed) following each intersection, located 100' to 200' from the intersection. Provide pedestrian crossing signs at all trail/walkway crossings.
  19. County Road Commission Approval - If the private road intersects a County road, a permit for the approach must be obtained from the County Road Commission prior to Township review. A copy of the permit shall be attached with the application.
- Source: Hamburg Township Private Road Ordinance as taken from the American Society of Highway Traffic Officials (ASHTO)

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#### **Floodplain Management Standards**

Floodplain management regulations have been in existence for a number of years, but took on increased significance with the passage of the National Flood Insurance Program. Floodplain regulations are a necessary prerequisite to permit enrolling of proposed owners in the flood insurance program.

The following language represents standards that are designed to prevent loss of life and property by restricting development within floodplain areas.

Section. \_\_\_\_\_. Floodplain Management Standards

(a.) Intent. It is the intent of the (community) in adopting this article to significantly reduce hazards to persons and damage to property as a result of flood conditions in the (community); to comply with the provisions and requirements of the National Flood Insurance Program; to protect human life, health and property from dangerous and damaging effects of flood conditions; to minimize public expenditures for flood control projects, rescue and relief efforts in the aftermath of flooding, repair of flood damage public facilities and utilities, and the redevelopment of flood damaged homes, neighborhoods, commercial and industrial areas; to maintain stable development patterns not subject to the blighting influence of flood damage; to designate floodplains and institute floodplain development regulations and general development standards; to establish regulations concerning the same; and to provide for the administration of this article and to provide penalties for violation.

(b.) Delineation of the flood hazard area overlay zone.

(1) The flood hazard area zone shall overlay existing zoning districts delineated on the official (community) Zoning Map. The boundaries of the flood hazard area zone shall coincide with the boundaries of the areas indicated as within the limits of the 100-year flood on the Flood Insurance Road Map for (community) dated \_\_\_\_\_. The Flood Insurance Rate Map is adopted by reference, appended, and declared to be a part of this ordinance. The term flood hazard area as used in this ordinance shall mean the flood hazard area zone.

(2) Disputes as to the location of a flood hazard area zone boundary shall be resolved by the Zoning Board of Appeals.

(3) In addition to other requirements of this ordinance applicable to development in the underlying zoning districts, compliance with the requirements of this Section shall be necessary for all development occurring within the flood hazard area zone. Conflicts between the requirements of this Section and other requirements of this ordinance or any other ordinance shall be resolved in favor of this Section, except

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where the conflicting requirement is more stringent and would further the objectives of this Section to a greater extent than the requirements of this Section. In such cases, the more stringent requirement shall be applied.

(c.) Principal and Accessory Uses Permitted.

(1) Within the flood hazard area overlay zone, no land shall be used except for one or more of the following principal uses:

a. Agriculture and pasture land.

b. Parks and recreation facilities, provided no permanent structures are constructed.

c. Swimming beaches, fishing, and boating docks in accord with the provisions of the Inland Lakes and Streams Act of 1972.

d. Required open space or lot area for structural uses that are landward of the overlay zone.

(2) The following accessory structures and uses are permitted, provided they are also permitted in the underlying zoning district.

a. Off-street parking, streets, roads, bridges, outdoor play equipment, sheds and garages, boathouses, boat hoists, utility lines, pump houses, bleachers, bank protection structures, signs, fences, gazebos and similar outdoor equipment and appurtenances, provided each of the following requirements are met:

1. The structure would not cause an increase in water surface elevation, obstruct flow, or reduce the impoundment capacity of the floodplain.

2. All equipment and structures shall be anchored to prevent flotation and lateral movement.

3. Compliance with these requirements is certified by an engineering finding by a registered engineer.

(d.) Filling and Dumping - Dredging and filling and/or dumping or backfilling with any material in any manner is prohibited unless through compensating excavation and shaping of the floodplain, the flow and impoundment capacity of the floodplain will be maintained or improved, and unless all applicable state regulations are met.

(e.) General Standards for Flood Hazard Reduction.

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(1) No building or structure shall be erected, converted, or substantially improved or placed, and no land filled or structure used in a flood hazard area unless permission is obtained from the (community). Approval shall not be granted until a permit from the Michigan Department of Environmental Quality under authority of Act 245 of the Public Acts of 1929, as amended by Act 167 of the Public Acts of 1968 has been obtained.

(2) All public utilities and facilities shall be designed, constructed, and located to minimize or eliminate flood damage.

(3) Land shall not be divided in a manner creating parcels or lots which cannot be used in conformance with the requirements of this Section.

(4) Available flood hazard data from federal, state or other sources shall be reasonably utilized in meeting the standards of this section.

(f.) Disclaimer of Liability. The degree of flood protection required by this article is considered reasonable for regulatory purposes and is based upon engineering and scientific methods of study. Larger floods may occur on rare occasions. Flood heights may be increased by man-made or natural causes. Thus, approval of the use of land under this article shall not be considered a guarantee or warranty of safety from flood damage. This article does not imply that areas outside the flood hazard area will be free from flood damage. This article does not create liability on the part of the (community) or any officer or employee thereof for any flood damage that results from reliance on this article, or any administrative decision lawfully made.

(g.) Flood Hazard Area Variances.

(1) Variances from the provisions of Section \_\_\_\_\_ Floodplain Management shall only be granted by the Zoning Board of Appeals upon a determination of compliance with the general standards for variances contained in this ordinance and each of the following specific standards.

a. A variance shall be granted only upon:

1. a showing of good and sufficient cause;

2. a determination that failure to grant the variance would result in exceptional hardship to the applicant; and

3. a determination that the granting of a variance will not result in a harmful increase in flood heights, additional threats to public safety, extraordinary public expense,

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create nuisances, cause fraud on or victimization of the public, or conflict with existing laws or ordinances; and

4. a determination that the granting of a variance will not result in any violations of applicable state or federal laws.

b. The variance granted shall be the minimum necessary, considering the flood hazards, to afford relief to the applicant.

(2) The Zoning Board of Appeals may attach conditions to the granting of a variance to ensure compliance with the standards contained in this ordinance.

(3) Variances may be granted for the reconstruction, rehabilitation, or restoration of structures listed on the National Register of Historic Places or the Michigan Historic Markers listing of historic sites or any other state register of historic places without regard to the requirements of this section governing variances in flood hazard areas.

(h.) Mapping disputes.

(1) Where disputes arise as to the location of the flood hazard area boundary or the limits of the floodway, the Zoning Board of Appeals shall resolve the dispute and establish the boundary location. In all cases, the decision of the Zoning Board of Appeals shall be based upon the most current floodplain studies issued by the Federal Insurance Administration. Where Federal Insurance Administration information is not available, the best available floodplain information shall be utilized.

(2) Where a dispute involves an allegation that the boundary is incorrect as mapped and the Federal Insurance Administration floodplain studies are being questioned, the Zoning Board of Appeals shall modify the boundary of the flood hazard area or the floodway only upon receipt of an official letter of map amendment issued by the Federal Insurance Administration.

(3) All parties to a map dispute may submit technical evidence to the Zoning Board of Appeals.

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**Post Construction Runoff Ordinance (Site-plan review)**

**Section 1. General Provisions**

**1.1. Findings of Fact**

It is hereby determined that:

Land development projects and associated increases in impervious cover alter the hydrologic response of local watersheds and increase stormwater runoff rates and volumes, flooding, stream channel erosion, and sediment transport and deposition; This stormwater runoff contributes to increased quantities of water-borne pollutants, and; Stormwater runoff, soil erosion and nonpoint source pollution can be controlled and minimized through the regulation of stormwater runoff from development sites.

Therefore, the (jurisdictional stormwater authority) establishes this set of water quality and quantity policies applicable to all surface waters to provide reasonable guidance for the regulation of stormwater runoff for the purpose of protecting local water resources from degradation. It is determined that the regulation of stormwater runoff discharges from land development projects and other construction activities in order to control and minimize increases in stormwater runoff rates and volumes, soil erosion, stream channel erosion, and nonpoint source pollution associated with stormwater runoff is in the public interest and will prevent threats to public health and safety.

**1.2. Purpose**

The purpose of this ordinance is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing in watersheds within this jurisdiction. This ordinance seeks to meet that purpose through the following objectives:

- (1). minimize increases in stormwater runoff from any development in order to reduce flooding, siltation and streambank erosion and maintain the integrity of stream channels;
- (2). minimize increases in nonpoint source pollution caused by stormwater runoff from development which would otherwise degrade local water quality
- (3). minimize the total annual volume of surface water runoff which flows from any specific site during and following development to not exceed the pre-development hydrologic regime to the maximum extent practicable.

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(4). reduce stormwater runoff rates and volumes, soil erosion and nonpoint source pollution, wherever possible, through stormwater management controls and to ensure that these management controls are properly maintained and pose no threat to public safety.

*The above list is a general set of objectives to reduce the impact of stormwater on receiving waters. The local stormwater authority may wish to set some more specific objectives, based on priority water quality and habitat problems (e.g., to reduce phosphorus loads being delivered to recreational lakes, to sustain a class X trout fishery)*

### 1.3. Applicability

This ordinance shall be applicable to all major subdivision or site plan applications, unless eligible for an exemption or granted a waiver by the (jurisdictional stormwater authority) under the specifications of Section 4 of this ordinance. The ordinance also applies to land development activities that are smaller than the minimum applicability criteria if such activities are part of a larger common plan of development that meets the following applicability criteria, even though multiple separate and distinct land development activities may take place at different times on different schedules. In addition, all plans must also be reviewed by local environmental protection officials to ensure that established water quality standards will be maintained during and after development of the site and that post construction runoff levels are consistent with any local and regional watershed plans.

*The size of the site development to which post-construction stormwater management runoff control applies varies but many communities opt for a size limit of 5000 square feet or more. For sites less than 5000 square feet, local officials may wish to grant an exemption as long as the amount of impervious cover created does not exceed 1000 square feet.*

To prevent the adverse impacts of stormwater runoff, the (jurisdictional stormwater authority) has developed a set of performance standards that must be met at new development sites. These standards apply to any construction activity disturbing or more square feet of land. The following activities may be exempt from these stormwater performance criteria:

1. Any logging and agricultural activity which is consistent with an approved soil conservation plan or a timber management plan prepared or approved by the (agency), as applicable.

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2. Additions or modifications to existing single family structures
3. Developments that do not disturb more than square feet of land, provided they are not part of a larger common development plan;
  - Repairs to any stormwater treatment practice deemed necessary by the (jurisdictional stormwater authority).

When a site development plan is submitted that qualifies as a redevelopment project as defined in Section 2 of this ordinance, decisions on permitting and on-site stormwater requirements shall be governed by special stormwater sizing criteria found in the current stormwater design manual. This criteria is dependent on the amount of impervious area created by the redevelopment and its impact on water quality. Final authorization of all redevelopment projects will be determined after a review by the (jurisdictional stormwater authority).

*There are a number of decisions to be made by local communities when addressing the issue of redevelopment and stormwater treatment. The first is defining exactly what qualifies as redevelopment. The definition in Section 2 is from the current Maryland Stormwater Management regulations, and uses the square foot size of the project and its land use classification to establish the definition of a redevelopment project. The second decision involves to what level of stormwater management standards redevelopment projects will be held. Providing cost effective stormwater treatment at redevelopment sites is often a difficult task, and these projects may be given reduced criteria to meet to allow for site constraints. The State of Maryland currently requires that proposed redevelopment project designs include either at least a 20 percent reduction in existing site impervious area, management of at least 20 % of the water quality volume, or some combination of both.*

#### **1.4. Compatibility with Other Permit and Ordinance Requirements**

This ordinance is not intended to interfere with, abrogate, or annul any other ordinance, rule or regulation, statute, or other provision of law. The requirements of this ordinance should be considered minimum requirements, and where any provision of this ordinance imposes restrictions different from those imposed by any other ordinance, rule or regulation, or other provision of law, whichever provisions are more restrictive or impose higher protective standards for human health or the environment shall be considered to take precedence.

#### **1.5. Severability**

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If the provisions of any article, section, subsection, paragraph, subdivision or clause of this ordinance shall be judged invalid by a court of competent jurisdiction, such order of judgment shall not affect or invalidate the remainder of any article, section, subsection, paragraph, subdivision or clause of this ordinance.

#### **1.6. Development of a Stormwater Design Manual**

The (jurisdictional stormwater authority) may furnish additional policy, criteria and information including specifications and standards, for the proper implementation of the requirements of this ordinance and may provide such information in the form of a Stormwater Design Manual.

This manual will include a list of acceptable stormwater treatment practices, including the specific design criteria for each stormwater practice. The manual may be updated and expanded from time to time, at the discretion of the local review authority, based on improvements in engineering, science, monitoring and local maintenance experience. Stormwater treatment practices that are designed and constructed in accordance with these design and sizing criteria will be presumed to meet the minimum water quality performance standards.

*Local communities will need to select the minimum water quality performance standards (e.g., 80% TSS, 40% P) they will require for stormwater treatment practices and place these in their design manual. The 80% removal goal for total suspended solids (TSS) is a management measure developed by EPA as part of the Coastal Zone Act Reauthorization Amendments of 1990. It was selected by EPA for the following factors: (1) removal of 80% is assumed to control heavy metals, phosphorus, and other pollutants; (2) a number of states including DE, FL, TX, MD, and MA require/recommend TSS removal of 80% or greater for new development; and (3) data show that certain structural controls, when properly designed and maintained, can meet this performance level. Further discussion of water quality standards for stormwater management measures can be found in the CZARA Coastal Zone 6217(g) management measures document entitled "Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters" (US EPA, 1993).*

*There are a number of good stormwater design manuals available around the country that communities may wish to refer to in creating their own local manual. One such manual is the new Maryland Department of the Environment 2000 Maryland Stormwater Design Manual Volumes I & II. This manual contains innovative criteria for stormwater management, and is available online at [www.mde.state.md.us/environment/wma/stormwatermanual/mdswmanual](http://www.mde.state.md.us/environment/wma/stormwatermanual/mdswmanual).*

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*Local communities may also wish to consult a new resource available on the Internet called the **Stormwater Managers Resource Center (SMRC)**. This site is dedicated to providing information to stormwater management program managers in Phase II communities to assist in meeting the requirements of the new National Pollutant Discharge Elimination System Phase II regulations. Among the resources available at the website will be a section devoted to supplying guidance on how to build a stormwater manual, including sizing and design criteria. The SMRC website and the manual-builder resources are located at [www.stormwatercenter.net](http://www.stormwatercenter.net).*

#### **Section 2. Definitions:**

**"Accelerated Erosion"** means erosion caused by development activities that exceeds the natural processes by which the surface of the land is worn away by the action of water, wind, or chemical action.

**"Applicant"** means a property owner or agent of a property owner who has filed an application for a stormwater management permit.

**"Building"** means any structure, either temporary or permanent, having walls and a roof, designed for the shelter of any person, animal, or property, and occupying more than 100 square feet of area.

**"Channel"** means a natural or artificial watercourse with a definite bed and banks that conducts continuously or periodically flowing water.

**"Dedication"** means the deliberate appropriation of property by its owner for general public use.

**"Detention"** means the temporary storage of storm runoff in a stormwater management practice with the goals of controlling peak discharge rates and providing gravity settling of pollutants.

**"Detention Facility"** means a detention basin or alternative structure designed for the purpose of temporary storage of stream flow or surface runoff and gradual release of stored water at controlled rates.

**"Developer"** means a person who undertakes land disturbance activities.

**"Drainage Easement"** means a legal right granted by a landowner to a grantee allowing the use of private land for stormwater management purposes.

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**"Erosion and Sediment Control Plan"** means a plan that is designed to minimize the accelerated erosion and sediment runoff at a site during construction activities.

**"Fee in Lieu"** means a payment of money in place of meeting all or part of the storm water performance standards required by this ordinance.

**"Hotspot"** means an area where land use or activities generate highly contaminated runoff, with concentrations of pollutants in excess of those typically found in stormwater.

**"Hydrologic Soil Group (HSG)"** means a Natural Resource Conservation Service classification system in which soils are categorized into four runoff potential groups. The groups range from A soils, with high permeability and little runoff production, to D soils, which have low permeability rates and produce much more runoff.

**"Impervious Cover"** means those surfaces that cannot effectively infiltrate rainfall (e.g., building rooftops, pavement, sidewalks, driveways, etc).

**"Industrial Stormwater Permit"** means an National Pollutant Discharge Elimination System permit issued to a commercial industry or group of industries which regulates the pollutant levels associated with industrial stormwater discharges or specifies on-site pollution control strategies.

**"Infiltration"** means the process of percolating stormwater into the subsoil.

**"Infiltration Facility"** means any structure or device designed to infiltrate retained water to the subsurface. These facilities may be above grade or below grade.

**"Jurisdictional Wetland"** means an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation.

**"Land Disturbance Activity"** means any activity which changes the volume or peak flow discharge rate of rainfall runoff from the land surface. This may include the grading, digging, cutting, scraping, or excavating of soil, placement of fill materials, paving, construction, substantial removal of vegetation, or any activity which bares soil or rock or involves the diversion or piping of any natural or man-made watercourse.

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**"Landowner"** means the legal or beneficial owner of land, including those holding the right to purchase or lease the land, or any other person holding proprietary rights in the land.

**"Maintenance Agreement"** means a legally recorded document that acts as a property deed restriction, and which provides for long-term maintenance of storm water management practices.

**"Nonpoint Source Pollution"** means pollution from any source other than from any discernible, confined, and discrete conveyances, and shall include, but not be limited to, pollutants from agricultural, silvicultural, mining, construction, subsurface disposal and urban runoff sources.

**"Offset Fee"** means a monetary compensation paid to a local government for failure to meet pollutant load reduction targets.

**"Off-Site Facility"** means a stormwater management measure located outside the subject property boundary described in the permit application for land development activity.

**"On-Site Facility"** means a stormwater management measure located within the subject property boundary described in the permit application for land development activity.

**"Recharge"** means the replenishment of underground water reserves.

**"Redevelopment"** means any construction, alteration or improvement exceeding square feet in areas where existing land use is high density commercial, industrial, institutional or multi-family residential.

**"Stop Work Order"** means an order issued which requires that all construction activity on a site be stopped.

**"Storm Water Management"** means the use of structural or non-structural practices that are designed to reduce storm water runoff pollutant loads, discharge volumes, and/or peak flow discharge rates.

**"Storm Water Retrofit"** means a stormwater management practice designed for an existing development site that previously had either no stormwater management practice in place or a practice inadequate to meet the stormwater management requirements of the site.

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"**Stormwater Runoff**" means flow on the surface of the ground, resulting from precipitation.

"**Stormwater Treatment Practices (STPs)**" means measures, either structural or nonstructural, that are determined to be the most effective, practical means of preventing or reducing point source or nonpoint source pollution inputs to stormwater runoff and water bodies.

"**Water Quality Volume (WQ<sub>v</sub>)**" means the storage needed to capture and treat 90% of the average annual stormwater runoff volume. Numerically (WQ<sub>v</sub>) will vary as a function of long term rainfall statistical data.

"**Watercourse**" means a permanent or intermittent stream or other body of water, either natural or man-made, which gathers or carries surface water.

### Section 3. Permit Procedures and Requirements

#### 3.1. Permit Required

No land owner or land operator shall receive any of the building, grading or other land development permits required for land disturbance activities without first meeting the requirements of this ordinance prior to commencing the proposed activity.

*The intent is to ensure that no activities that disturb the land are issued permits prior to review and approval of the stormwater management plan. Communities may elect to issue a stormwater management permit separate of any other land development permits they require, or, as in this ordinance, to tie the issuing of construction permits to the approval of a final stormwater management plan.*

#### 3.2. Application Requirements

Unless specifically excluded by this ordinance, any land owner or operator desiring a permit for a land disturbance activity shall submit to the (jurisdictional stormwater authority) a permit application on a form provided by the (jurisdictional stormwater authority) for that purpose.

Unless otherwise excepted by this ordinance, a permit application must be accompanied by the following in order that the permit application be considered: a stormwater management concept plan; a maintenance agreement; and a non-refundable permit review fee.

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The stormwater management plan shall be prepared to meet the requirements of Sec. 5 of this ordinance, the maintenance agreement shall be prepared to meet the requirements of Sec. of this ordinance, and fees shall be those established by the (jurisdictional stormwater authority).

#### **3.3. Application Review Fees**

The fee for review of any land development application shall be based on the amount of land to be disturbed at the site, and the fee structure shall be established by the (jurisdictional stormwater authority). All of the monetary contributions shall be credited to an appropriate capital improvements program project, and shall be made prior to the issuance of any building permit for the development.

*Local communities can use these review fees to raise funds for staff and resources to further their stormwater management programs.*

#### **3.4. Application Procedure**

- Applications for land disturbance activity permits must be filed with the (appropriate review agency) on any regular business day.
- A copy of this permit application shall be forwarded to (jurisdictional stormwater authority) for review
- Permit applications shall include the following: two copies of the stormwater management concept plan, two copies of the maintenance agreement, and any required review fees.
- Within business days of the receipt of a complete permit application, including all documents as required by this ordinance, the (jurisdictional stormwater authority) shall inform the applicant whether the application, plan and maintenance agreement are approved or disapproved.

*Local officials will need to decide the appropriate time frame for review of an application. This will often be determined by the staff available for permit review and for an inspection of sites undergoing construction.*

- If the permit application, stormwater management plan or maintenance agreement are disapproved, the applicant may revise the stormwater management plan or agreement. If additional information is submitted, the (jurisdictional stormwater authority) shall have business days from the date

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the additional information is received to inform the applicant that the plan and maintenance agreement are either approved or disapproved.

- If the permit application, final stormwater management plan and maintenance agreement are approved by the (jurisdictional stormwater authority), all appropriate land disturbance activity permits shall be issued.

#### 3.5. Permit Duration

Permits issued under this section shall be valid from the date of issuance through the date the (jurisdictional stormwater authority) notifies the permit holder that all stormwater management practices have passed the final inspection required under permit condition.

### **Section 4. Waivers to Stormwater Management Requirements**

#### **4.1. Waivers for Providing Stormwater Management**

Every applicant shall provide for stormwater management, unless they file a written request to waive this requirement. Requests to waive the stormwater management plan requirements shall be submitted to the (jurisdictional stormwater authority) for approval.

The minimum requirements for stormwater management may be waived in whole or in part upon written request of the applicant, provided that at least one of the following conditions applies:

- It can be demonstrated that the proposed development is not likely to impair attainment of the objectives of this ordinance.

2. Alternative minimum requirements for on-site management of stormwater discharges have been established in a stormwater management plan that has been approved by the (jurisdictional stormwater authority) and that is required to be implemented by local ordinance.

- Provisions are made to manage stormwater by an off-site facility. The off-site facility is required to be in place, to be designed and adequately sized to provide a level of stormwater control that is equal to or greater than that which would be afforded by on-site practices and has a legally obligated entity responsible for long-term operation and maintenance of the stormwater practice.

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- The (jurisdictional stormwater authority) finds that meeting the minimum on-site management requirements is not feasible due to the natural or existing physical characteristics of a site.
- Non-structural practices are provided that reduce the generation of stormwater from the site, the size and cost of stormwater storage and provide partial removal of many pollutants are to be used at the site. These non-structural practices are explained in detail in the current design manual and the amount of credit available for using such practices shall be determined by the (jurisdictional stormwater authority)

In instances where one of the conditions above applies, the (jurisdictional stormwater authority) may grant a waiver from strict compliance with stormwater management provisions that are not achievable, provided that acceptable mitigation measures are provided. However, to be eligible for a variance, the applicant must demonstrate to the satisfaction of the (jurisdictional stormwater authority) that the immediately downstream waterways will not be subject to:

- Deterioration of existing culverts, bridges, dams, and other structures;
- Deterioration of biological functions or habitat;
- Accelerated streambank or streambed erosion or siltation;
- Increased threat of flood damage to public health, life and property.

Furthermore, where compliance with minimum requirements for stormwater management is waived, the applicant will satisfy the minimum requirements by meeting one of the mitigation measures selected by the jurisdictional stormwater authority. Mitigation measures may include, but are not limited to, the following:

The purchase and donation of privately owned lands, or the grant of an easement to be dedicated for preservation and/or reforestation. These lands should be located adjacent to the stream corridor in order to provide permanent buffer areas to protect water quality and aquatic habitat,

The creation of a stormwater management facility or other drainage improvements on previously developed properties, public or private, that currently lack stormwater management facilities designed and constructed in accordance with the purposes and standards of this ordinance,

Monetary contributions (Fee-in-Lieu) to fund stormwater management related studies including regional wetland delineation studies, stream monitoring studies for water quality and macroinvertebrates, stream flow monitoring, and threatened and endangered species studies.

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#### **4.2. Fee in Lieu of Stormwater Management Practices.**

Where the (jurisdictional stormwater authority) waives all or part of the minimum stormwater management requirements, or where the waiver is based on the provision of adequate stormwater facilities provided downstream of the proposed development, the applicant shall be required to pay a fee in an amount as determined by the (jurisdictional stormwater authority).

When an applicant obtains a waiver of the required stormwater management, the monetary contribution required shall be in accordance with a fee schedule (unless the developer and the stormwater authority agree on a greater alternate contribution) established by the (jurisdictional stormwater authority), and based on the cubic feet of storage required for stormwater management of the development in question. All of the monetary contributions shall be credited to an appropriate capital improvements program project, and shall be made by the developer prior to the issuance of any building permit for the development.

#### **4.3. Dedication of land**

In lieu of a monetary contribution, an applicant may obtain a waiver of the required stormwater management by entering into an agreement with the (jurisdictional stormwater authority) for the granting of an easement or the dedication of land by the applicant, to be used for the construction of an off-site stormwater management facility. The agreement shall be entered into by the applicant and the (jurisdictional stormwater authority) prior to the recording of plats or, if no record plat is required, prior to the issuance of the building permit.

### **Section 5. General Performance Criteria for Stormwater Management**

Unless judged by the (jurisdictional stormwater authority) to be exempt or granted a waiver, the following performance criteria shall be addressed for stormwater management at all sites:

(A). All site designs shall establish stormwater management practices to control the peak flow rates of stormwater discharge associated with specified design storms and reduce the generation of stormwater. These practices should seek to utilize pervious areas for stormwater treatment and to infiltrate stormwater runoff from driveways, sidewalks, rooftops, parking lots, and landscaped areas to the maximum extent practical to provide treatment for both water quality and quantity.

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*There are several sources of climatological references that can be consulted to find the rainfall depths for the appropriate design storm intervals (1, 10, 25, and 100 year). The NOAA National Climatological Data Center has a "Summary of the Day" database that can provide rainfall numbers for most major cities and airports in the country.*

*Another possible source is the Urban Hydrology for Small Watersheds, TR-55 (Technical Release 55) published by the Engineering Division, United States Natural Resource Conservation Service (formerly known as the Soil Conservation Service) United States Department of Agriculture, June 1986.*

(B). All stormwater runoff generated from new development shall not discharge untreated stormwater directly into a jurisdictional wetland or local water body without adequate treatment. Where such discharges are proposed, the impact of the proposal on wetland functional values shall be assessed using a method acceptable to the (jurisdictional stormwater authority). In no case shall the impact on functional values be any less than allowed by the Army Corp of Engineers (ACE) or the (Appropriate State Agency) responsible for natural resources.

(C). Annual groundwater recharge rates shall be maintained, by promoting infiltration through the use of structural and non-structural methods. At a minimum, annual recharge from the post development site shall mimic the annual recharge from pre-development site conditions.

*Recharge is a relatively new stormwater criteria, and has been implemented so far in the Massachusetts coastal zone and in Maryland. The recharge criteria requires considerable effort to use existing pervious areas for stormwater treatment and infiltration, which means that it must be considered very early in the site design process when basic decisions about layout and vegetative cover are made.*

(D). For new development, structural STPs shall be designed to remove % of the average annual post development total suspended solids load (TSS). It is presumed that a STP complies with this performance standard if it is:

- sized to capture the prescribed water quality volume (WQ<sub>v</sub>).
- designed according to the specific performance criteria outlined in the local stormwater design manual,
- constructed properly, and
- maintained regularly.

*For post construction stormwater runoff, the ability of stormwater management programs to meet federal guidelines under the NPDES regulations will become increasingly important. A local government seeking to manage runoff to achieve*

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*water quality standards has a number of options for reaching their goal. The options are listed below, from the most typical standard stormwater quality practice to more advanced program options. Each option has an associated level of effort for the management of stormwater, and the likelihood of realizing water quality treatment goals depends on the option a local government selects. Local governments should assess the option they wish to select in light of new Phase II regulations and the current ability of their stormwater management staff to meet more extensive local/state staff review and inspection requirements.*

#### **Option 1. Require Stormwater Treatment Practices for Stormwater Quality**

*Many current stormwater programs simply require that the developer install stormwater treatment practices, but do not specify a target for specific pollutant reduction performance. These programs simply require that a standard volume of stormwater be treated (e.g., a half-inch of runoff). Many of these programs also have generous waiver and exemption provisions, so that as much as 25% of all new development can avoid criteria for water quality. Typically, these programs have no formal maintenance programs. Unless the target removal goals are very low, these communities cannot expect their current programs to eliminate net additional pollutants associated with future development.*

#### **Option 2. Institute More Rigorous Design Standards for Stormwater Practices.**

*A number of communities have improved their stormwater programs by strengthening their design standards for stormwater practices. This has involved narrowing the list of acceptable practices to those with a proven ability to remove particular pollutants, increasing the volume of runoff that is treated by each practice (e.g., treat first 1" of stormwater runoff), clamping down on waivers and exemptions (or requiring a fee-in-lieu), and requiring design features that reduce maintenance problems.*

*The advantage of this program option is that compliance can be presumed as long as designers follow the design rules. It does require a good stormwater manual and more extensive local/state staff review and training. It can achieve significant reduction for some pollutants, such as sediment and nutrients. The disadvantage of the program option is that current stormwater technology may not be effective enough for some pollutants (e.g., bacteria), or capable of reducing the net additional load for high levels from future development.*

#### **Option 3. Require On-Site Load Calculation**

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*A handful of communities have adopted an approach whereby the design engineer must calculate pre- and post- development loads for a particular pollutant, and then design a system of practices to meet a load reduction target, based on STP removal rates. Phosphorus has been used in most cases, and the load reduction target varies. This option results in more directed design geared more specifically to the pollutant of concern.*

*The on-site load calculation option has several disadvantages. First, designers often utilize STP math tricks to come into compliance (fudging loads, removal efficiencies, etc). Second, technical data to support the program option are limited to just a few parameters, such as phosphorus, nitrogen and sediment. Third, the removal rates for the stormwater practices seldom account for factors where pollutant load removal is compromised, and tend to be optimistic. Lastly, this program option is very intensive in terms of local review and compliance, and requires more staffing to implement.*

#### ***Option 4. Load Calculation w/ Stormwater Offset Fee to Provide Retrofits on Existing Development***

*In this program option, a community requires the on-site load calculation described in Option 3, but is very conservative in the assumptions it allows on loading and removal efficiency. Consequently, designers at most sites cannot fully comply with the load reduction for the requirement at their site. To fully comply, they must pay an offset fee to the local government which is used to support design and construction of stormwater retrofits at existing development in the watershed. The fee is set at the cost of providing an equivalent amount of pollutant removal elsewhere (dollars/pound).*

*The advantage of this approach is that it provides a means of financing the stormwater retrofits needed to reduce pollutant loads from existing development. It does require greater local staffing to find, design and build the retrofits which offset the loads from new development. If administered properly, this program option can potentially eliminate the net additional load from new development. Several communities currently provide this option for developers, but it is not clear how much revenue has been collected so far.*

(E). To protect stream channels from degradation, a specific channel protection criteria shall be provided as prescribed in the current stormwater manual.

*Channel protection is a relatively new criteria, but is increasingly viewed as a critical one due to the mounting evidence that stream channels enlarge in response to watershed development. Studies have found higher bank erosion rates and increased*

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*instream sediment loads for urban streams when compared to the 5-20% estimate for the annual sediment budget attributable to bank erosion in rural streams (Walling and Woodward, 1995; Collins et al., 1997). Research also indicates that channel enlargement can begin at a relatively low level of watershed development, as indicated by the amount of impervious cover. One study estimated that channel erosion rates were three to six times higher in a moderately urbanized watershed (14% impervious cover) than in a comparable rural one, with less than 2% impervious cover (Neller, 1988).*

*The basic methodology to calculate channel enlargement relies on obtaining historical cross-sectional data from past surveys (often obtained from transportation agencies or public works departments that conducted surveys at the time of road construction or improvement projects) and comparing these with current cross-sectional data obtained from field surveys conducted at the time of the study. The approach also utilizes predictive (i.e., empirical) equations to estimate an ultimate channel enlargement ratio once the channel has enlarged sufficiently to be in balance with its hydrological forces.*

#### *Basic Options for Stream Channel Protection*

*As many as five different design criteria have been suggested to protect downstream channels from erosion. It should be clearly noted that none of these criteria have yet been monitored in the field to demonstrate their effectiveness, and most are based on hydrologic or hydraulic modeling of streams. The five options are:*

***Two year control*** *(post development peak discharge rate from two year storm is held to pre development levels). It is very important to note that research studies indicate that this criteria does not protect channels from downstream erosion, and may actually exacerbate erosion since banks are exposed to a longer duration of erosive bankfull and sub-bankfull events. (MacRae, 1993 and 1996, McCuen and Moglen, 1988). In addition, many communities have provided anecdotal evidence that two year control has failed to protect downstream channels from erosion. This evidence suggests that while the magnitude of the peak discharge is unchanged from pre to post development under two year control, the duration of erosive flows sharply increases. As a result, "effective work" on the channel (sensu Wolman et al, 1964) is shifted to smaller runoff events that range from the half year event up to the 1.5 year runoff event (MacRae, 1993). Consequently, the two year control approach is considered ineffective for stream channel protection, although it remains a useful criterion for prevention of overbank flooding.*

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**Two year over-control** (post development peak discharge rate to 50% or less of predevelopment level). First proposed by McCuen and Moglen (1988), this design approach recognizes the inherent limitations of two year control. The approach emphasizes "overcontrol" of the two year storm. The most common numerical approach is to control the two year post development discharge rate to the one year predevelopment rate, using the 24 hour storm event. Subsequent analysis by Macrae (1996), however, indicates that this design criteria is still not fully capable of protecting the stream channel from erosion. His modeling suggests that "tail-end" of the post development hydrograph is subject to a considerable duration of effective work".

**24 hour detention of the one year storm event.** This criteria would result in up to 24 hours of detention for runoff generated by a rainfall depth based on annual rainfall for a region. Smaller storms events would also experience some detention, but probably much less than 24 hours. The premise of this criteria is that runoff would be stored and released in such a gradual manner that critical erosive velocities would seldom be exceeded in downstream channels. The required volume needed for 1 year extended detention is significant; it is roughly equivalent to about 90 to 95% of the required volume needed for ten year peak discharge control. Consequently, the need for two year peak discharge management would be eliminated when the 1 year ED is provided, as long as the ten year peak discharge control is achieved.

**Distributed runoff control (DRC):** This criteria has been developed by MaCrae (1993) and involves complex field assessments and modeling to determine the hydraulic stress and erosion potential of bank materials. The criteria states that channel erosion is minimized if the alteration in the transverse distribution of erosion potential about a channel parameter is maintained constant with predevelopment values, over the range of available flows, such that the channel is just able to move the dominant particle size of the bed load. This Canadian method holds promise, but has not been tested extensively in the United States and requires significantly greater data collection and modeling than any of the other methods.

**Bankfull capacity/duration criteria:** This criteria has been advanced by Tapley et al 1996, and states that the post-development, bankfull flow frequency, duration and depth must be controlled to predevelopment values at a designated control point(s) in the channel. The Rule of thumb for selecting control point(s) is to use a 10: 1 ratio of peak discharge from the one year storm for the developed site to the discharge from the stream for the same frequency storm (Tapley et al, 1996). In theory, this criteria should result in a high level of downstream protection. The practical problem is in defining how the criteria is to be interpreted; whether sub-bankfull events (that typically erode the toe of the streambank) should also be considered; and precisely

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*where the "bankfull" should be measured. For example, the channel of many streams have been modified in the past by prior land uses and channelization, and may not represent the "true" channel. In other cases, the stormwater outfall discharge laterally to a stream, and it is therefore difficult to assign which flows the developer is actually responsible for controlling.*

#### ***Pros and Cons of Channel Protection Sizing Criteria.***

*If two year control and two year overcontrol are deemed inadequate to fully protect channels from erosion, then only three options remain, each of which has some limitations. For example, both the DRC and bankfull capacity sizing criteria options lack widely accepted or universal design methodologies. In each case, local stream cross-section and/or soil measurements are needed, and considerable contention between the designer and the reviewer can be expected on how and where the analysis should be performed. Given the many operational problems currently associated with either option, and the lack of a tested design methodology at present, the two options probably deserve further study, but are not ready for wide application.*

*This leaves only one remaining option-- the one-year 24 hour detention criteria. It, too, has some limitations:*

- *results in unacceptably small diameter orifices for sites less than ten acres in size.*
- *requires a storage volume roughly equivalent to that needed for two year control.*
- *has not been "tested" by continuous simulation modeling to determine if acceptable detention times can be achieved for smaller storms can be achieved (1.0 to 1.5 inches).*
- *is only needed in streams that are susceptible to bank erosion.*

*Based on the foregoing, it appears that the best option to provide channel protection ( $C_{pv}$ ) is 12 to 24 hour extended detention of the one-year 24 hour storm event. This  $C_{pv}$  requirement only applies to sites greater than ten acres in size. Local governments may wish to retain the option of employing the DRC or bankfull capacity/duration criteria as an alternative, should their analytical and design requirements become more simplified and refined in the future*

*There are some basic exemptions to where the channel protection criteria should be applied (small drainage areas, direct discharge to tidal waters or a lake, flat terrain etc), and communities must decide how and when this criteria will be required.*

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(F). Stormwater discharges to critical areas with sensitive resources (i.e., cold water fisheries, shellfish beds, swimming beaches, recharge areas, water supply reservoirs) may be subject to additional performance criteria, or may need to utilize or restrict certain stormwater management practices.

(G). Certain industrial sites are required to prepare and implement a stormwater pollution prevention plan, and shall file a notice of intent (NOI) under the provisions of the National Pollutant Discharge Elimination System (NPDES) general permit. The stormwater pollution prevention plan requirement applies to both existing and new industrial sites.

*Applicants and local communities may wish to consult the Environmental Protection Agency website at <http://www.epa.gov/owm/swm/phase2> for more information on Phase II requirements.*

(H). Stormwater discharges from land uses or activities with higher potential pollutant loadings, known as "hotspots", may require the use of specific structural STPs and pollution prevention practices.

(I). Prior to design, applicants are required to consult with the (jurisdictional stormwater authority) to determine if they are subject to additional stormwater design requirements.

(J). The calculations for determining peak flows as found in the Stormwater Design Manual shall be used for sizing all stormwater management practices.

### **Section 6. Basic Stormwater Management Design Criteria**

*Rather than place specific stormwater design criteria into an ordinance, it is often preferable to fully detail these requirements in a stormwater design manual. This allows specific design information to change over time as new information or techniques become available without requiring the formal process needed to change ordinance language. The ordinance can then require those submitting any development application to consult the current stormwater design manual for the exact design criteria for the stormwater management practices appropriate for their site.*

*In the Maryland Stormwater Design Manual, for example, there are a set of specified performance criteria for each stormwater management practice, based on six factors:*

- *Site Design Feasibility -*
- *Conveyance Issues -*

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- *Pretreatment Requirements -*
- *Treatment/Geometry Conditions*
- *Environmental/Landscaping Standards*
- *Maintenance Needs*

*Each community will need to decide the specific design and sizing criteria for the stormwater management practices they allow, and select a storm event frequency(1, 2, 10, 100 year) that they believe will meet their stormwater quality and quantity control requirements.*

#### **6.1. Minimum Control Requirements**

All stormwater management practices will be designed so that the specific storm frequency storage volumes (e.g., recharge, water quality, channel protection, 10 year, 100 year) as identified in the current stormwater design manual are met, unless the (jurisdictional stormwater authority) grants the applicant a waiver or the applicant is exempt from such requirements.

In addition, if hydrologic or topographic conditions warrant greater control than that provided by the minimum control requirements, the (jurisdictional stormwater authority) reserves the right to impose any and all additional requirements deemed necessary to control the volume, timing, and rate of runoff.

#### **6.2 Site Design Feasibility**

Stormwater management practices for a site shall be chosen based on the physical conditions of the site. Among the factors that should be considered:

- Topography
- Maximum Drainage Area
- Depth to Water Table
- Soils
- Slopes
- Terrain
- Head
- Location in relation to environmentally sensitive features or ultra-urban areas

Applicants shall consult the Stormwater Design Manual for guidance on the factors that determine site design feasibility when selecting a stormwater management practice.

#### **6.3. Conveyance Issues**

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All stormwater management practices shall be designed to convey stormwater to allow for the maximum removal of pollutants and reduction in flow velocities. This shall include, but not be limited to:

- Maximizing of flowpaths from inflow points to outflow points
- Protection of inlet and outfall structures
- Elimination of erosive flow velocities
- Providing of underdrain systems, where applicable

The Stormwater Design Manual shall provide detailed guidance on the requirements for conveyance for each of the approved stormwater management practices.

#### **6.4. Pretreatment Requirements**

Every stormwater treatment practice shall have an acceptable form of water quality pretreatment, in accordance with the pretreatment requirements found in the current stormwater design manual. Certain stormwater treatment practices, as specified in the Stormwater Design Manual, are prohibited even with pretreatment in the following circumstances:

- A. Stormwater is generated from highly contaminated source areas known as "hotspots"
- B. Stormwater is carried in a conveyance system that also carries contaminated, non-stormwater discharges
- C. Stormwater is being managed in a designated groundwater recharge area.
- D. Certain geologic conditions exist (e.g., karst) that prohibit the proper pretreatment of stormwater

#### **6.5. Treatment/Geometry Conditions**

All stormwater management practices shall be designed to capture and treat stormwater runoff according to the specifications outlined in the Stormwater Design Manual. These specifications will designate the water quantity and quality treatment criteria that apply to an approved stormwater management practice.

#### **6.6. Landscaping Plans Required**

All stormwater management practices must have a landscaping plan detailing both the vegetation to be in the practice and how and who will manage and maintain this

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vegetation. This plan must be prepared by a registered landscape architect or soil conservation district.

#### **6.7. Maintenance Agreements**

All stormwater treatment practices shall have an enforceable operation and maintenance agreement to ensure the system functions as designed. This agreement will include any and all maintenance easements required to access and inspect the stormwater treatment practices, and to perform routine maintenance as necessary to ensure proper functioning of the stormwater treatment practice. In addition, a legally binding covenant specifying the parties responsible for the proper maintenance of all stormwater treatment practices shall be secured prior to issuance of any permits for land disturbance activities.

#### **6.8. Non-Structural Stormwater Practices**

The use of non-structural stormwater treatment practices is encouraged in order to minimize the reliance on structural practices. Credit in the form of reductions in the amount of stormwater that must be managed can be earned through the use of non-structural practices that reduce the generation of stormwater from the site. These non-structural practices are explained in detail in the current design manual and applicants wishing to obtain credit for use of non-structural practices must ensure that these practices are documented and remain unaltered by subsequent property owners.

### **Section 7. Requirements for Stormwater Management Plan Approval**

#### **7.1. Stormwater Management Plan Required for All Developments.**

No application for development will be approved unless it includes a stormwater management plan detailing in concept how runoff and associated water quality impacts resulting from the development will be controlled or managed. This plan must be prepared by an individual approved by the (jurisdictional stormwater authority) and must indicate whether stormwater will be managed on-site or off-site and, if on-site, the general location and type of practices.

The stormwater management plan(s) shall be referred for comment to all other interested agencies, and any comments must be addressed in a final stormwater management plan. This final plan must be signed by a licensed professional engineer (PE), who will verify that the design of all stormwater management practices meet the submittal requirements outlined in the Submittal Checklist found in the

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stormwater design manual. No building, grading, or sediment control permit shall be issued until a satisfactory final stormwater management plan, or a waiver thereof, shall have undergone a review and been approved by the (jurisdictional stormwater authority) after determining that the plan or waiver is consistent with the requirements of this ordinance.

*One way to handle the submittal requirements for both the concept plan and the final design plan is to place Submittal Checklists in the stormwater design manual and require that they are used for submission of any plan. The benefit of this is that changes in submittal requirements can be made as needed without needing to revisit and alter the original ordinance. Attached are three model checklists that local communities may wish to review for ideas on requirements in their own submittal checklist.*

#### **7.2. Stormwater Management Concept Plan Requirements**

A stormwater management concept plan shall be required with all permit applications and will include sufficient information (e.g., maps, hydrologic calculations, etc) to evaluate the environmental characteristics of the project site, the potential impacts of all proposed development of the site, both present and future, on the water resources, and the effectiveness and acceptability of the measures proposed for managing stormwater generated at the project site. The intent of this conceptual planning process is to determine the type of stormwater management measures necessary for the proposed project, and ensure adequate planning for management of stormwater runoff from future development. To accomplish this goal the following information shall be included in the concept plan:

- A map (or maps) indicating the location of existing and proposed buildings, roads, parking areas, utilities, structural stormwater management and sediment control facilities. The map(s) will also clearly show proposed land use with tabulation of the percentage of surface area to be adapted to various uses; drainage patterns; locations of utilities, roads and easements; the limits of clearing and grading; A written description of the site plan and justification of proposed changes in natural conditions may also be required.

*This project description and site plan requirement includes information normally found in an Erosion and Sediment Control plan. For local governments that do not currently have ESC plan requirements or are looking to upgrade their ESC ordinance language, there is a model Erosion and Sediment Control ordinance located at this website.*

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- Sufficient engineering analysis to show that the proposed stormwater management measures are capable of controlling runoff from the site in compliance with this ordinance and the specifications of the Stormwater Design Manual.
- A written or graphic inventory of the natural resources at the site and surrounding area as it exists prior to the commencement of the project and a description of the watershed and its relation to the project site. This description should include a discussion of soil conditions, forest cover, topography, wetlands, and other native vegetative areas on the site. Particular attention should be paid to environmentally sensitive features that provide particular opportunities or constraints for development.
- A written description of the required maintenance burden for any proposed stormwater management facility.
- The (jurisdictional stormwater authority) may also require a concept plan to consider the maximum development potential of a site under existing zoning, regardless of whether the applicant presently intends to develop the site to its maximum potential.

For development or redevelopment occurring on a previously developed site, an applicant shall be required to include within the stormwater concept plan measures for controlling existing stormwater runoff discharges from the site in accordance with the standards of this Ordinance to the maximum extent practicable.

### **7.3. Final Stormwater Management Plan Requirements**

After review of the stormwater management concept plan, and modifications to that plan as deemed necessary by the (jurisdictional stormwater authority), a final stormwater management plan must be submitted for approval. The final stormwater management plan, in addition to the information from the concept plan, shall include all of the information required in the Final Stormwater Management Plan checklist found in the Stormwater Design Manual. This includes:

#### **1. Contact Information**

The name, address, and telephone number of all persons having a legal interest in the property and the tax reference number and parcel number of the property or properties affected.

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#### 2. Topographic Base Map

A 1" = 200' topographic base map of the site which extends a minimum of feet beyond the limits of the proposed development and indicates existing surface water drainage including streams, ponds, culverts, ditches, and wetlands; current land use including all existing structures; locations of utilities, roads, and easements; and significant natural and manmade features not otherwise shown.

#### 3. Calculations

Hydrologic and hydraulic design calculations for the pre-development and post-development conditions for the design storms specified in this ordinance. Such calculations shall include (i) description of the design storm frequency, intensity and duration, (ii) time of concentration, (iii) Soil Curve Numbers or runoff coefficients, (iv) peak runoff rates and total runoff volumes for each watershed area, (v) infiltration rates, where applicable, (vi) culvert capacities, (vii) flow velocities, (viii) data on the increase in rate and volume of runoff for the design storms referenced in the Stormwater Design Manual, and (ix) documentation of sources for all computation methods and field test results.

#### 4. Soils Information

If a stormwater management control measure depends on the hydrologic properties of soils (e.g., infiltration basins), then a soils report shall be submitted. The soils report shall be based on on-site boring logs or soil pit profiles. The number and location of required soil borings or soil pits shall be determined based on what is needed to determine the suitability and distribution of soil types present at the location of the control measure.

#### 5. Maintenance and Repair Plan

The design and planning of all stormwater management facilities shall include detailed maintenance and repair procedures to ensure their continued function. These plans will identify the parts or components of a stormwater management facility that need to be maintained and the equipment and skills or training necessary. Provisions for the periodic review and evaluation of the effectiveness of the maintenance program and the need for revisions or additional maintenance procedures shall be included in the plan.

- Landscaping plan

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The applicant must present a detailed plan for management of vegetation at the site after construction is finished, including who will be responsible for the maintenance of vegetation at the site and what practices will be employed to ensure that adequate vegetative cover is preserved. This plan must be prepared by a registered landscape architect or by the soil conservation district.

- Maintenance Easements

The applicant must ensure access to all stormwater treatment practices at the site for the purpose of inspection and repair by securing all the maintenance easements needed on a permanent basis. These easements will be recorded with the plan and will remain in effect even with transfer of title to the property.

- Maintenance Agreement

The applicant must execute an easement and an inspection and maintenance agreement binding on all subsequent owners of land served by an on-site stormwater management measure in accordance with the specifications of this ordinance.

- Erosion and Sediment Control Plans for Construction of Stormwater Management Measures

The applicant must prepare an erosion and sediment control plan for all construction activities related to implementing any on-site stormwater management practices.

- Other Environmental Permits

The applicant shall assure that all other applicable environmental permits have been acquired for the site prior to approval of the final stormwater design plan.

#### **7.4. Performance Bond/Security.**

The (jurisdictional stormwater authority) may, at its discretion, require the submittal of a performance security or bond prior to issuance of a permit in order to insure that the stormwater practices are installed by the permit holder as required by the approved stormwater management plan. The amount of the installation performance security shall be the total estimated construction cost of the stormwater management practices approved under the permit, plus 25%. The performance security shall contain forfeiture provisions for failure to complete work specified in the stormwater management plan.

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The installation performance security shall be released in full only upon submission of "as built plans" and written certification by a registered professional engineer that the stormwater practice has been installed in accordance with the approved plan and other applicable provisions of this ordinance. The (jurisdictional stormwater authority) will make a final inspection of the stormwater practice to ensure that it is in compliance with the approved plan and the provisions of this ordinance. Provisions for a partial pro-rata release of the performance security based on the completion of various development stages can be done at the discretion of the (jurisdictional stormwater authority).

*Some communities elect to also require a maintenance performance security. This bond typically is set at the maintenance costs estimated in the stormwater plan for the period during which the permit holder has maintenance responsibility and is released when the responsibility for practice maintenance is passed on to another party, via an approved maintenance agreement.*

### **Section 8. Construction Inspection**

#### **8.1. Notice of Construction Commencement**

The applicant must notify the (jurisdictional stormwater authority) in advance before the commencement of construction. Regular inspections of the stormwater management system construction shall be conducted by the staff of the (jurisdictional stormwater authority) or certified by a professional engineer or their designee who has been approved by the jurisdictional stormwater authority. All inspections shall be documented and written reports prepared that contain the following information:

- The date and location of the inspection;
- Whether construction is in compliance with the approved stormwater management plan
- Variations from the approved construction specifications
- Any violations that exist

If any violations are found, the property owner shall be notified in writing of the nature of the violation and the required corrective actions. No added work shall proceed until any violations are corrected and all work previously completed has received approval by the (jurisdictional stormwater authority).

#### **8.2. As Built Plans**

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All applicants are required to submit actual "as built" plans for any stormwater management practices located on-site after final construction is completed. The plan must show the final design specifications for all stormwater management facilities and must be certified by a professional engineer. A final inspection by the (jurisdictional stormwater authority) is required before the release of any performance securities can occur.

#### **8.3. Landscaping and Stabilization Requirements**

Any area of land from which the natural vegetative cover has been either partially or wholly cleared or removed by development activities shall be revegetated within ten (10) days from the substantial completion of such clearing and construction. The following criteria shall apply to revegetation efforts:

Reseeding must be done with an annual or perennial cover crop accompanied by placement of straw mulch or its equivalent of sufficient coverage to control erosion until such time as the cover crop is established over ninety percent (90%) of the seeded area.

Replanting with native woody and herbaceous vegetation must be accompanied by placement of straw mulch or its equivalent of sufficient coverage to control erosion until the plantings are established and are capable of controlling erosion.

Any area of revegetation must exhibit survival of a minimum of seventy-five percent (75%) of the cover crop throughout the year immediately following revegetation. Revegetation must be repeated in successive years until the minimum seventy-five percent (75%) survival for one (1) year is achieved.

In addition to the above requirements, a landscaping plan must be submitted with the final design describing the vegetative stabilization and management techniques to be used at a site after construction is completed. This plan will explain not only how the site will be stabilized after construction, but who will be responsible for the maintenance of vegetation at the site and what practices will be employed to ensure that adequate vegetative cover is preserved. This plan must be prepared by a registered landscape architect or by the soil conservation district, and must be approved prior to receiving a permit.

#### **Section 9. Maintenance and Repair of Stormwater Facilities**

*A model operation and maintenance ordinance for stormwater facilities is available at this website. This ordinance goes into greater detail on the elements needed to create*

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*an effective stormwater maintenance ordinance. Requirements for inspection are also included in the model.*

#### **9.1. Maintenance Easement**

Prior to the issuance of any permit that has an stormwater management facility as one of the requirements of the permit, the applicant or owner of the site must execute a maintenance easement agreement that shall be binding on all subsequent owners of land served by the stormwater management facility. The agreement shall provide for access to the facility at reasonable times for periodic inspection by the (jurisdictional stormwater authority), or their contractor or agent, and for regular or special assessments of property owners to ensure that the facility is maintained in proper working condition to meet design standards and any other provisions established by this ordinance. The easement agreement shall be recorded by the (jurisdictional stormwater authority) in the land records.

#### **9.2. Maintenance Covenants**

Maintenance of all stormwater management facilities shall be ensured through the creation of a formal maintenance covenant that must be approved by the (jurisdictional stormwater authority) and recorded into the land record prior to final plan approval. As part of the covenant, a schedule shall be developed for when and how often maintenance will occur to ensure proper function of the stormwater management facility. The covenant shall also include plans for periodic inspections to ensure proper performance of the facility between scheduled cleanouts.

The (jurisdictional stormwater authority), in lieu of an maintenance covenant, may accept dedication of any existing or future stormwater management facility for maintenance, provided such facility meets all the requirements of this chapter and includes adequate and perpetual access and sufficient area, by easement or otherwise, for inspection and regular maintenance.

#### **9.3. Requirements for Maintenance Covenants**

All stormwater management facilities must undergo, at the minimum, an annual inspection to document maintenance and repair needs and ensure compliance with the requirements of this ordinance and accomplishment of its purposes. These needs may include; removal of silt, litter and other debris from all catch basins, inlets and drainage pipes, grass cutting and vegetation removal, and necessary replacement of landscape vegetation. Any maintenance needs found must be addressed in a timely manner, as determined by the (jurisdictional stormwater authority), and the

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inspection and maintenance requirement may be increased as deemed necessary to ensure proper functioning of the stormwater management facility.

#### **9.4. Inspection of Stormwater Facilities**

Inspection programs may be established on any reasonable basis, including but not limited to: routine inspections; random inspections; inspections based upon complaints or other notice of possible violations; inspection of drainage basins or areas identified as higher than typical sources of sediment or other contaminants or pollutants; inspections of businesses or industries of a type associated with higher than usual discharges of contaminants or pollutants or with discharges of a type which are more likely than the typical discharge to cause violations of state or federal water or sediment quality standards or the NPDES stormwater permit; and joint inspections with other agencies inspecting under environmental or safety laws. Inspections may include, but are not limited to: reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and material or water in drainage control facilities; and evaluating the condition of drainage control facilities and other stormwater treatment practices.

#### **9.5. Right-of-Entry for Inspection**

When any new drainage control facility is installed on private property, or when any new connection is made between private property and a public drainage control system, sanitary sewer or combined sewer, the property owner shall grant to the (jurisdictional stormwater authority) the right to enter the property at reasonable times and in a reasonable manner for the purpose of inspection. This includes the right to enter a property when it has a reasonable basis to believe that a violation of this ordinance is occurring or has occurred, and to enter when necessary for abatement of a public nuisance or correction of a violation of this ordinance.

#### **9.6. Records of Installation and Maintenance Activities.**

Parties responsible for the operation and maintenance of a stormwater management facility shall make records of the installation and of all maintenance and repairs, and shall retain the records for at least        years. These records shall be made available to the (jurisdictional stormwater authority) during inspection of the facility and at other reasonable times upon request.

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#### **9.7 Failure to Maintain Practices**

If a responsible party fails or refuses to meet the requirements of the maintenance covenant, the (jurisdictional stormwater authority), after reasonable notice, may correct a violation of the design standards or maintenance needs by performing all necessary work to place the facility in proper working condition. In the event that the stormwater management facility becomes a danger to public safety or public health, the (jurisdictional stormwater authority) shall notify the party responsible for maintenance of the stormwater management facility in writing. Upon receipt of that notice, the responsible person shall have days to effect maintenance and repair of the facility in an approved manner. After proper notice, the (jurisdictional stormwater authority) may assess the owner(s) of the facility for the cost of repair work and any penalties; and the cost of the work shall be a lien on the property, or prorated against the beneficial users of the property, and may be placed on the tax bill and collected as ordinary taxes by the county.

#### **Section 10. Enforcement and Penalties.**

##### **10.1. Violations**

Any development activity that is commenced or is conducted contrary to this Ordinance, may be restrained by injunction or otherwise abated in a manner provided by law.

##### **10.2. Notice of Violation.**

When the (jurisdictional stormwater authority) determines that an activity is not being carried out in accordance with the requirements of this Ordinance, it shall issue a written notice of violation to the owner of the property. The notice of violation shall contain :

- (1) the name and address of the owner or applicant;
- (2) the address when available or a description of the building, structure or land upon which the violation is occurring;
- (3) a statement specifying the nature of the violation;
- (4) a description of the remedial measures necessary to bring the development activity into compliance with this Ordinance and a time schedule for the completion of such remedial action;

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(5) a statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed;

(6) a statement that the determination of violation may be appealed to the municipality by filing a written notice of appeal within fifteen (15) days of service of notice of violation.

**10.3. Stop Work Orders**

Persons receiving a notice of violation will be required to halt all construction activities. This "stop work order" will be in effect until the (jurisdictional stormwater authority) confirms that the development activity is in compliance and the violation has been satisfactorily addressed. Failure to address a notice of violation in a timely manner can result in civil, criminal, or monetary penalties in accordance with the enforcement measures authorized in this ordinance.

**10.4. Civil and Criminal Penalties**

In addition to or as an alternative to any penalty provided herein or by law, any person who violates the provisions of this Ordinance shall be punished by a fine of not less than Dollars (\$xx) or by imprisonment for a period not to exceed (xx) days, or both such fine and imprisonment. Such person shall be guilty of a separate offense for each day during which the violation occurs or continues.

**10.4. Restoration of lands**

Any violator may be required to restore land to its undisturbed condition. In the event that restoration is not undertaken within a reasonable time after notice, the (jurisdictional stormwater authority) may take necessary corrective action, the cost of which shall become a lien upon the property until paid.

**10.5. Holds on Occupation Permits**

Occupation permits will not be granted until a corrections to all stormwater practices have been made and accepted by the (jurisdictional stormwater authority).

Approved by: \_\_\_\_\_

Date \_\_\_\_\_

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**Example Checklist for Preliminary/Concept**

**Stormwater Management Plan Preparation and Review**

**DRAFT**

- Applicant information
- Name, legal address, and telephone number
- Common address and legal description of site
- Vicinity map
- Existing and proposed mapping and plans (recommended scale of 1" = 50'.)  
which illustrate at a minimum:

Existing and proposed topography (minimum of 2-foot contours recommended)

Perennial and intermittent streams

Mapping of predominant soils from USDA soil surveys

Boundaries of existing predominant vegetation and proposed limits of clearing

Location and boundaries of resource protection areas such as wetlands, lakes, ponds,  
and other setbacks (e.g., stream buffers, drinking water well setbacks, septic setbacks)

Location of existing and proposed roads, buildings, and other structures

Existing and proposed utilities (e.g., water, sewer, gas, electric) and easements

Location of existing and proposed conveyance systems such as grass channels, swales,  
and storm drains

Flow paths

Location of floodplain/floodway limits and relationship of site to upstream and  
downstream properties and drainages

Preliminary location and dimensions of proposed channel modifications, such as  
bridge or culvert crossings

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Preliminary location, size, and limits of disturbance of proposed structural stormwater management practices

- Hydrologic and hydraulic analysis including:

Existing condition analysis for runoff rates, volumes, and velocities presented showing methodologies used and supporting calculations

Proposed condition analysis for runoff rates, volumes, and velocities showing the methodologies used and supporting calculations

Preliminary analysis of potential downstream impact/effects of project, where necessary

Preliminary selection and rationale for structural stormwater management practices

Preliminary sizing calculations for structural stormwater management practices including, contributing drainage area, storage, and outlet configuration

- Preliminary landscaping plans for structural stormwater management practices and any site reforestation or revegetation
- Preliminary erosion and sediment control plan that at a minimum meets the requirements outlined in local Erosion and Sediment Control guidelines
- Identification of preliminary waiver requests

### **Example Checklist for Final**

#### **Stormwater Management Plan Preparation and Review**

##### **DRAFT**

- Applicant information

Name, legal address, and telephone number

- Common address and legal description of site
- Signature and stamp of registered engineer/surveyor and design/owner certification
- Vicinity map
- Existing and proposed mapping and plans (recommended scale of 1" = 50' or greater detail) which illustrate at a minimum:

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Existing and proposed topography (minimum of 2-foot contours recommended)

Perennial and intermittent streams

Mapping of predominant soils from USDA soil surveys as well as location of any site-specific borehole investigations that may have been performed.

Boundaries of existing predominant vegetation and proposed limits of clearing

Location and boundaries of resource protection areas such as wetlands, lakes, ponds, and other setbacks (e.g., stream buffers, drinking water well setbacks, septic setbacks)

Location of existing and proposed roads, buildings, and other structures

Location of existing and proposed utilities (e.g., water, sewer, gas, electric) and easements

Location of existing and proposed conveyance systems such as grass channels, swales, and storm drains

Flow paths

Location of floodplain/floodway limits and relationship of site to upstream and downstream properties and drainages

Location and dimensions of proposed channel modifications, such as bridge or culvert crossings

Location, size, maintenance access, and limits of disturbance of proposed structural stormwater Management practices

- Representative cross-section and profile drawings and details of structural stormwater Management practices and conveyances (i.e., storm drains, open channels, swales, etc.) which include:

Existing and proposed structural elevations (e.g., invert of pipes, manholes, etc.)

Design water surface elevations

Structural details of outlet structures, embankments, spillways, stilling basins, grade control structures, conveyance channels, etc.

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### Upper Rabbit River Watershed Implementation Project

Logs of borehole investigations that may have been performed along with supporting geotechnical report.

- Hydrologic and hydraulic analysis for all structural components of stormwater system (e.g., storm drains, open channels, swales, Management practices, etc.) for applicable design storms including:

Existing condition analysis for time of concentrations, runoff rates, volumes, velocities, and water surface elevations showing methodologies used and supporting calculations

Proposed condition analysis for time of concentrations, runoff rates, volumes, velocities, water surface elevations, and routing showing the methodologies used and supporting calculations

Final sizing calculations for structural stormwater Management practices including, contributing drainage area, storage, and outlet configuration

Stage-discharge or outlet rating curves and inflow and outflow hydrographs for storage facilities (e.g., stormwater ponds and wetlands)

Final analysis of potential downstream impact/effects of project, where necessary

Dam breach analysis, where necessary

- Final landscaping plans for structural stormwater Management practices and any site reforestation or revegetation
- Structural calculations, where necessary
- Applicable construction specifications
- Erosion and sediment control plan that at a minimum meets the requirements of the local Erosion and Sediment Control Guidelines
- Sequence of construction
- Maintenance plan which will include:

Name, address, and phone number of responsible parties for maintenance.

Description of annual maintenance tasks

Description of applicable easements

Description of funding source

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Minimum vegetative cover requirements

Access and safety issues

Testing and disposal of sediments that will likely be necessary

- Evidence of acquisition of all applicable local and non-local permits
- Evidence of acquisition of all necessary legal agreements (e.g., easements, covenants, land trusts)
- Waiver requests
- Review agency should have inspector's checklist identifying potential features to be inspected on site visits

### **Example Checklist for Incorporation of Better Site Design Techniques in Stormwater Management Plan**

#### **DRAFT**

- Applicant information

Name, legal address, and telephone number

- Common address and legal description of site
- Vicinity map
- Existing and proposed mapping and plans (recommended scale of 1" = 50'.) which illustrate at a minimum:

Existing and proposed topography (minimum of 2-foot contours recommended)

Perennial and intermittent streams

Mapping of predominant soils from USDA soil surveys as well as location of any site-specific borehole investigations that may have been performed.

Boundaries of existing predominant vegetation and proposed limits of clearing

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Location and boundaries of resource protection areas such as wetlands, lakes, ponds, and other setbacks (e.g., stream buffers, drinking water well setbacks, septic setbacks)

Grading plan with location of existing and proposed roads, buildings, and other structures

Location of existing and proposed utilities (e.g., water, sewer, gas, electric) and easements

Location of existing and proposed conveyance systems such as grass channels, swales, and storm drains

Flow paths

Location of floodplain/floodway limits and relationship of site to upstream and downstream properties and drainages

Location and dimensions of proposed channel modifications, such as bridge or culvert crossings

Location, size, maintenance access, and limits of disturbance of proposed structural stormwater management practices

Location of proposed community recreation/open space areas

Landscape plan

- Narrative and supporting calculations describing:

Zoning, acreage, types and amounts of land uses (e.g., parking spaces, density, green areas, building footprint areas, etc.)

Traffic analysis estimating average daily trips for street network and parking requirements

Site impervious area

Reforestation and/or resource conservation protection measures

Comparison of proposed development data with allowable density, land use, etc.

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Representative low-impact development techniques (with supporting evidence that technique is compatible with site characteristics) such as on-lot bioretention, tree clearing minimization, minimizing directly connected impervious surfaces, open section roads (also called roadside swales), etc.

Development phasing or implementation sequence

\_\_\_\_\_ TOWNSHIP  
COUNTY OF ALLEGAN, MICHIGAN

ORDINANCE NO. \_\_\_\_  
AN ORDINANCE TO AMEND THE ZONING ORDINANCE  
OF \_\_\_\_\_ TOWNSHIP

AN ORDINANCE TO AMEND THE “ZONING ORDINANCE” FOR THE TOWNSHIP OF \_\_\_\_\_ TO ADD PROVISIONS PERTAINING TO THE REGULATION OF THE NUMBER OF USERS AND TYPES OF USES OF LAKE FRONTAGE, TO PRESERVE THE QUALITIES OF THE WATERS, MINIMIZE CONFLICTING LAND USES, PROMOTE SAFETY AND HELP PRESERVE THE QUALITY OF RECREATIONAL USE OF LANDS AND WATERS WITHIN THE TOWNSHIP, BY ADDING A NEW SECTION ESTABLISHING REGULATIONS THAT LIMIT CAMPING ON RESIDENTIAL LOTS AND THE CAMPING AND STORAGE OF CAMPERS AND RECREATION VEHICLES ON VACANT RESIDENTIAL LOTS AND BY CHANGING THE SPECIAL USE PROVISIONS OF THE ZONING ORDINANCE TO ESTABLISH TWO CLASSES OF SPECIAL USES AND TO ESTABLISH A CLASS I SPECIAL USE REVIEW COMMITTEE.

**Lake / Riparian Access**

***Article 1. The \_\_\_\_\_ Township Zoning Ordinance is hereby amended by adding the following definitions to Chapter III***

*Boat or watercraft* shall mean any vessel as defined in Public Act 451 of the Public Acts of 1994, Public Act 58 of the Public Acts of 1995 and Public Act 102 of the public acts of 1997 as amended.

*Single unit boat access site* shall mean a facility which extends into or over a lake, or provides dry-docking space, for mooring or docking of boats and watercraft for not more than one, single family residential parcel, lot or unit.

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*Multi-unit boat access site* shall mean a facility which extends into or over a lake, or provides dry-docking space, for mooring or docking of boats and watercraft for use by more than one family (as defined herein), parcel, lot, unit or apartment. A facility for the mooring or docking of a boat or boats owned and operated exclusively by one family (as defined herein), residing in one dwelling unit and which supports the docking or mooring of six or fewer vessels shall not be included within the definition and meaning of *multi-unit boat access site* where the docking or mooring facility is property which is owned exclusively by such family and which is a contiguous part of the property on which the dwelling is situated. Any situation involving multiple or divided ownership and interest in the riparian property or boat access site including but not limited to family trusts, corporations, condominium associations, and co-ops is considered a multi-unit boat access site and shall be subject to the limitations and regulations for such facilities contained herein.

*Public access* shall mean a multi-boat access site operated by a governmental entity, including access from a public road authorized expressly or impliedly by a governmental entity.

**Article 2.** *The \_\_\_\_\_ Township/City Zoning Ordinance is hereby amended by adding the following and shall read in its entirety as follows:*

**15.147 Sec. 12.17 LAKE / RIPARIAN ACCESS**

The following restrictions are intended to limit and regulate the number of users and types of uses of lake frontage in order to preserve the qualities of the waters, minimize conflicting land uses, promote safety and help preserve the quality of recreational use of lands and waters within the Township. For the purpose of this Section (12.17) a lake shall mean any natural or man made body of water having a surface area greater than five acres and over which riparian access has been extended to more than one parcel, lot, unit, or person.

(a) Development Parcels

In all zoning districts, for any new lot supporting a single family dwelling unit or any other form of residential development there shall be at least seventy five (75) feet of water frontage, as measured along the ordinary high water mark of the lake and each lot or parcel shall otherwise meet the minimum dimensional requirements for such lots in the zoning district in which it is located.

(b) Access (Keyhole) Parcels

(1) In any zoning district where there is an existing parcel of record having water frontage of less than seventy five (75) feet, which by intent of the

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owner or by its dimensional or physical limitations will not support building development, such parcel or lot may be used or conveyed as a riparian access parcel for not more than one (1) other parcel, lot, unit, or person.

- (2) In any zoning district where there is an intent to create and use a new lot, parcel, easement or common area for the purpose of providing riparian rights by deeded access, the new lot, parcel, easement or common area shall have at least seventy five (75) lineal feet of water frontage and a depth of at least 100 feet. The number of parcels, lots, units or persons permitted to have deeded riparian access over the lot, parcel, easement or common area shall be one (1) for the first seventy five (75) feet of water frontage, plus one (1) additional lot, parcel, unit, apartment, or person for each additional seventy five (75) feet of frontage that the access parcel has on the body of water.
- (c) In all zoning districts where multiple unit residential development is permitted, any multiple-unit residential development shall have not more than one (1) boat access for each seventy five (75) feet of water frontage, as measured along the normal high water mark of the lake.
- (d) In all zoning districts, no lake access, boat ramp, shore station, dock, boat launch or shoreline abutting a lake shall be utilized for commercial, business, outdoor recreational (or entertainment) facilities, institutional, nonresidential or nonagricultural uses or purposes unless such use complies with the requirements of the zoning district in which it is located and is also approved as a special land use.
- (e) In addition to the above limitations, no easement, private park, common area, condominium arrangement, lake access device or lot or access property abutting or adjoining a lake shall be used to permit access to the lake for more than one (1) single-family, property, dwelling unit, condominium unit, site condominium unit or apartment unit unless such use is also approved as a special land use.
- (f) No new channel or canal shall be created abutting, enlarging or tied into a lake, nor shall existing canals or channels be enlarged. Canals or channels which touch or abut a lake and were lawfully in existence as of the date of enactment of this ordinance may be cleaned and dredged, so long as they are not enlarged beyond their original dimensions.
- (g) The restrictions of this Section shall apply to all lots and parcels on or abutting any lake, regardless of whether access to the lake shoreline or waters shall be

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by easement, park, common-fee ownership, single-fee ownership, condominium arrangement, license, or lease.

- (h) Although the owner of a property with frontage on a lake may permit family members and occasional invitees to use the water frontage, dock and watercraft owned by the owner as incidental to the residential use of the property, the owner shall not permit anyone other than a family member of a person co-owning or residing on the property fronting on the water to moor a watercraft overnight at the dock on the property or in the waters adjacent to the property. Nor shall the owner of such a property enter into an agreement to permit anyone to use the shoreline (or dock thereof) of water unless such person is leasing a residence on the property and is in possession of the entire waterfront property.
- (i) The nonconforming use provisions of Chapter XIV of this Zoning Ordinance shall be applicable to this Section except the following shall be permissible notwithstanding the provisions of Chapter XIV of this Zoning Ordinance:
  - (1) Any lot of record having frontage on a body of water may have one (1) dock even though the lot has less than seventy five (75) feet of frontage on the water. This Section (Section 12.17) shall not be construed to prevent docks, even if docks have not been installed, where recorded vested rights were granted prior to the adoption of this zoning ordinance amendment.
  - (2) Any easement, park, common area or access property having frontage on a body of water which lawfully exists as of the date of the adoption of this Section (Section 12.17) may have one (1) dock even though it has less than (75) feet of frontage on the water.
  - (3) If a given property, easement, park, common area or access property has a right to have a dock under this Section (Section 12.17) or Chapter IV, that right to utilize a dock shall continue even if the dock is seasonal in nature, has to be repaired or replaced or is not utilized every year.

***Article 3. Amend general provisions by adding a new section establishing regulations that limits of camping on residential lots and the storage of campers and recreation vehicles on vacant residential lots. New Sections 15.448 [Section 12.18] Section 15.449 [Section 12.19] and Section 15.450 [Section 12.20] shall be added in their entirety to read as follows:***

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**15.448 Sec.12.18 INCIDENTAL CAMPING ON OCCUPIED RESIDENTIAL PROPERTIES**

Incidental camping or the occupancy or use of tents, motor homes or campers for occasional periods is permitted on occupied residential lots or parcels under the following conditions:

- (a) Not more than 4 camping units consisting of any combination of tents, motor homes, travel trailers or campers shall be permitted on the lot or parcel at any given time.
- (b) The camping activity shall be limited to the residents of the lot and to guests of the lot owner/residents.
- (c) No period of occupancy may exceed 14 consecutive days. Unless the camping unit is owned or licensed by the property owner, the unit shall be removed from the premises after each period of permitted occupancy. Each period of use or permitted occupancy must be separated from the next by at least 14 days.
- (d) All tents, campers and motor homes must be located in the rear or side yard, behind the line of the principal structure facing any street and at least 20 feet from all property lines.
- (e) The camping unit shall not have fixed connections to electricity, water, gas or sanitary sewerage.
- (f) The above provisions shall not be construed to permit organized day camps or boarding camps for short visitation, wilderness campgrounds or any form of campground that is open to the public charging daily rates.

**15.449 Sec.12.19 CAMPING ON VACANT PROPERTIES**

- (a) Camping On Vacant, Non-Riparian Properties Camping or the occupancy or use of tents, motor homes or campers, or the storage thereof is prohibited on vacant non-riparian lots or parcels of record within the AG, R-1, R-1A, R-2 or R-3 Districts, except under the following circumstances:
  - (1) The lot is adjacent to a lot or parcel on which there is an occupied dwelling and both lots are under the same ownership or,
  - (2) The camping, use or storage is located within a campground as permitted and authorized under the provisions of this ordinance or,

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- (3) On vacant non-riparian parcel or tract in excess of 10 acres in size, camping is permitted under the following provisions except that camping is permitted without interruption during deer hunting seasons established by the State of Michigan for any state wide or special Zone 3 archery or firearm deer hunting season.
- (a) Not more than 4 camping units consisting of any combination of tents, motor homes, travel trailers or campers shall be permitted on the lot or parcel at any given time.
  - (b) The camping activity shall be limited to the owner of the parcel and to guests of the parcel owner, without remittance.
  - (c) Camping is permitted without interruption during deer hunting seasons established by the State of Michigan for any state-wide or special Zone 3 archery or firearm deer hunting season. During all other times of the year no period of occupancy may exceed 14 consecutive days. Unless the camping unit is owned or licensed by the property owner, the unit shall be removed from the premises after each period of permitted occupancy. Each period of use or permitted occupancy must be separated from the next by at least 14 days.
  - (d) All tents, campers and motor homes must be located behind the line of any nearby structures and at least 20 feet from all property lines.
  - (e) The camping unit shall not have fixed connections to electricity, water, gas or sanitary sewerage.
- (b) Camping On Vacant Lots Having Lake Frontage (Riparian Lands)
- It is recognized that certain vacant riparian lots within the township have an intrinsic outdoor recreational quality and character that makes seasonal camping an attractive interim or alternative use for the lot. Care must be taken however, to ensure that any such allowed activity, whether temporary or permanent, would not diminish the character and value of adjacent and nearby traditional single family residential home sites.

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Camping on vacant lots having lake frontage may therefore only be authorized as a special use by the Planning Commission. In such cases and if approved by the Planning Commission, the Planning Commission shall limit the number, location, and duration of camping and RV storage activity commensurate with the size and character of the site and the use and character of the surrounding residential lots and area.

In reviewing an application to allow the use of a vacant lot for such use the Planning Commission may not approve an activity that exceeds the limiting standards contained in Section 15.448 [15.18] and shall consider the following in deciding whether to authorize the special use permit:

- (1) The number and location of proposed campsites or recreation vehicles on the site.
- (2) The size width and depth of the parcel lot or parcel.
- (2) Setbacks and screening.
- (3) The existence of nearby developed residential dwellings, the distances to adjacent developed home sites.
- (4) Accessibility and parking constraints.
- (5) Potential impacts on adjoining property values.
- (6) The duration of the proposed camping activity.
- (7) Whether or not the activity will entail the prolonged storage of recreation vehicles on the site and whether such storage would have a negative impact on adjoining properties.
- (8) The existence or non-existence of similar camping or storage activity on nearby non-riparian lots as remitted under Sub-section (a) of this Section.

***Article 4 Section 1521 [12B.01] Special Use permits shall be amended in its entirety to read as follows:***

**1521 SECTION 12B.01 INTENT AND PURPOSE:**

The provisions of this Chapter are intended to set forth the procedures and standards that are applicable to certain land uses, structures or activities classified as Special Uses. Due to their unique characteristics relative to other uses, special uses shall not be permitted without review and may warrant restrictions or conditions by reasons of

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their uniqueness or the special problems presented by the use in a particular location or in relation to neighboring properties and/or the community as a whole.

*Article 5 Existing Section 15.523 [12B.03] Contents of Application shall be renumbered Section 15.524 [12B.04], Existing Section 15.524 [12B.04] Procedures For Issuance of Special Use Permit shall be deleted and new Sections 15.522 [12B.02] and 15.522 [12B.03] shall be inserted to read in their entirety as follows:*

**15.522 SECTION 12B.02 SPECIAL USE CLASSIFICATIONS/REVIEW AND APPROVAL AUTHORITY:**

Within this Section, individual types of special uses are categorized within one of two classes. Class I and Class II, special uses are created for the purpose of grouping individual special uses based upon their degree of potential impacts upon adjacent property and the surrounding community. Provisions applicable to each class as outlined in this Chapter shall govern each class of special use.

- (a) Class I Special Uses: A Class I Special Use Review Committee shall be appointed to review and decide all requests for Class I special use permits as applied for under this Chapter. The Committee shall consist of two members of Planning Commission and the Township Zoning Administrator. Two alternate members of the Committee shall be appointed by the Chairperson of the Planning Commission from the remaining membership of the Planning Commission. Said appointments shall be made at the first official meeting of the Planning Commission each year.

The Committee shall select from its members its own chairperson and select a secretary for the purpose of recording minutes and keeping records of its actions. A quorum of two members of the Committee must be present in order to take any formal action on an application submitted for Class I special use permit approval. All meetings of the Committee shall conform to the provisions of the Open Meetings Act being Act 267 of the Michigan Public Acts of 1976 as amended.

Class I Special Uses include:

- (1) Home occupations.
- (2) **Camping or the occupancy and use of tents, motor homes and campers on vacant waterfront residential lots.**

- (b) Class II Special Uses: Class II Special Uses include the following special uses and shall be approved by the Planning Commission.

- (1) Amusement enterprises in the C-2 Districts

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- (2) Sexually oriented businesses in the C-2 District
- (3) Keeping of livestock in the R-1A District.
- (4) Kennels in the R-1,
- (5) Nursing homes, senior citizen housing and similar group housing in the R-3 Zone.
- (6) Churches, private and public schools, libraries, museums art galleries, parks, playgrounds, community centers, government service buildings and similar uses when owned by a government agency or non-profit or non-commercial organization.
- (7) Any other commercial or industrial use requiring authorization by the Planning Commission as special use n the C-1, C-2 and I-1 Districts as indicated in Sections 9.02, 10.02, and 11.02.
- (8) Expansion, restoration and repair of legal non-conforming buildings and structures as indicated under Sections 14.02 and 14.03
- (9) Removal and processing of topsoil, sand, gravel and other such minerals, in the AG and R-1 Districts.
- (10) Cellular and other Wireless Communications Towers
- (11) **Multi-unit boat access sites and facilities as defined herein**

#### 15.522 SECTION 20.03 PROCEDURES:

An application shall be submitted to the Zoning Administrator on a form for that purpose together with a site plan prepared to the specifications contained in this chapter. Each application shall be accompanied by the payment of a fee or determined by the Township Board. In the event that the allowance of a proposed use requires both a rezoning and a special use permit, the application for rezoning shall be processed in its entirety prior to final action on the special use.

- (a) NOTIFICATION OF REQUEST - Upon receipt of an application for a Special Use Permit, notice shall be given that a request for special use approval has been received. The notice shall be published in a newspaper which circulates in the township, and sent by mail or personal delivery to the owners of property for which approval is being considered, to all persons to whom real property is assessed within three hundred (300) feet of the boundary of the property in question, and to the occupants of all structures within three hundred (300) feet. The notice shall be given not less than five (5) or more than fifteen (15) days before the date of the meeting that the application will be considered.

If the name of the occupant is not known, the term "occupant" may be used in making notification. Notification need not be given to more than one (1) occupant of a structure, except that if a structure contains more than one (1)

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dwelling unit or spatial area owned or leased by different individuals, partnerships, businesses, or organizations, one (1) occupant of each unit or spatial area shall receive notice. In the case of a single structure containing more than four (4) dwelling units or other distinct spatial areas owned or leased by different individuals, partnerships, businesses, or organizations, notice may be given to the manager or owner of the structure who shall be requested to post the notice at the primary entrance to the structure. The notice shall:

- (1) Describe the nature of the special use request;
  - (2) Indicate the property which is the subject of the special use request;
  - (3) State when and where the special use request will be considered and the body that will be considering the application;
  - (4) Indicate when and where written comments will be received concerning the request; and
  - (5) In the case of a Class I Special Use, the notice shall indicate that a public hearing on the application may be requested by any property owner or the occupant of any structure located within three hundred (300) feet of the boundary of the property being considered for a special use.
  - (6) In the case of a Class II Special Use, the notice shall state when and where the public hearing will be held and that the Planning Commission will hold it.
- (b) PUBLIC HEARING. A public hearing shall be held by the Planning Commission prior to a final decision being made regarding any Class II Special Use. A public hearing may be held by the Review Committee regarding any Class I special use. A public hearing shall be held upon request of the applicant or a property owner or the occupant of a structure located within 300 feet of the boundary of the property being considered for a Type I special use. If a request for public hearing is made by a property owner or occupant of property within 300 feet, on or prior to the date specified in the first notice, a public hearing shall be scheduled and notified with a second notice. The notice shall be published and delivered and shall contain the same indications as the notification of a request for special use as provided in subsection (a) herein with the added indication of the time and place for the public hearing.
- The public hearing whether on the initiative of the reviewing body or upon request, shall be held before a decision is made by the approving body.

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- (c) DECISIONS - The review body shall, within a reasonable time after review or after the public hearing, deny, approve or approve with conditions the request.

**Article 6** *Existing Section 15.525 [12B.05] SPECIAL USES ON NON NON-CONFORMING PARCELS shall be renumbered as Section 15.526 [12B.06] and a new Section 15.525 [12B.05] shall be inserted to read in its entirety as follows:*

**15.525 SECTION 12B.05 GENERAL STANDARDS**

In addition to specific standards which may be applicable, the following set of standards shall serve as the basis for decisions involving the issuance of special use permits, and other discretionary decisions required to be passed under this Ordinance. The proposed use shall:

- (1) Be compatible with adjacent uses of land;
- (2) Be consistent with, and promote the intent, and purposes of this Ordinances;
- (3). Be compatible with the natural environment;
- (4) Be consistent with the capacities of public services and facilities affected b) the proposed use; and
- (5) Protect the public health, safety and welfare.

**WETLAND AND WATERCOURSE PROTECTION**

(COMMUNITY NAME), MICHIGAN  
Ordinance No. \_\_\_\_\_

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

(COMMUNITY NAME) HEREBY ORDAINS:

**SECTION 1. GENERAL**

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**Section 1.1 - Findings**

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

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

To achieve these goals, and with authority from Section 30307(4) of the Natural Resources and Environmental Protection Act (Act 451 Of 1994 [previously Section 8 (4) of the Goemaere

**Section 1.2 - Purposes**

The purposes of this Ordinance are to provide for:

A. The protection, preservation, replacement, proper maintenance, restoration, and use in accordance with the character, adaptability, and stability of the (Township/Municipality)'s wetlands, in order to prevent their pollution or contamination; minimize their disturbance and disturbance to the natural habitat therein; and prevent damage from erosion, siltation, and flooding.

B. The coordination of and support for the enforcement of applicable federal, state, and county statutes, ordinances and regulations including, but not limited to, the:

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1. Wetland Protection Act, enforced by the Michigan Department of Environmental Quality which is hereinafter referred to as the MDEQ;
2. Inland Lakes and Streams Act, Section 30101 et seq. of the Natural Resources and Environmental Protection Act (Act 451 of 1994 [previously Act 346, Public Acts of 1972, as amended]) enforced by the MDEQ;
3. Soil Erosion and Sedimentation Control Act, Section 9101 et seq. of the Natural Resources and Environmental Protection Act (Act 451 of 1994 [previously Act 347, Public Acts of 1972, as amended]), enforced by the County of Livingston;
4. Floodplain Regulatory Authority, incorporated into the Natural Resources and Environmental Protection Act (Act 451 of 1994 [previously Act 245, Public Acts of 1929, as amended]), enforced by the MDEQ.

C. Compliance with the Michigan Environmental Protection Act which imposes a duty on government agencies and private individuals and organizations to prevent or minimize degradation of the environment which is likely to be caused by their activities.

D. The establishment of standards and procedures for the review and regulation of the use of wetlands and watercourses.

E. The establishment of penalties for violation of this Ordinance.

F. A procedure for appealing decisions.

G. The establishment of enforcement procedures and penalties for the violation of this Ordinance.

H. Assurance that the right to reasonable use of private property is maintained.

### **Section 1.3 - Construction and Application**

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

A. In the case of a difference of meaning or implication between the text of this Ordinance and any caption or illustration, the text shall control.

B. Particulars provided by way of illustration or enumeration shall not control general language.

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

The provisions of this Ordinance, including wetland use permit requirements and criteria for wetland use permit approval, shall apply to activities and operations proposed by federal, state, local and other public agencies as well as private organizations and individuals.

#### **SECTION 2 - DEFINITIONS**

##### **Section 2.1 - Definition of Terms**

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

CONTIGUOUS shall mean any of the following:

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

DEPOSIT means to fill, place or dump.

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

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

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

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

PROTECTED WETLANDS shall mean any of the following:

A. All wetlands subject to regulation by the MDEQ including:

1. Wetlands, regardless of size, which are contiguous to any lake, stream, river, or pond whether partially or entirely contained within the project site.
2. Wetlands, regardless of size, which are partially or entirely within five hundred (500) feet of the ordinary high water mark of any lake, stream, river or pond unless it is determined by the MDEQ that there is no surface water or groundwater connection between the wetland and the water body.
3. Wetlands which are larger than five (5) acres, whether partially or entirely contained within the project site, and which are not contiguous to any lake, stream, river, or pond.
4. Wetlands, regardless of size, which are not contiguous to any lake, stream, river, or pond, if the MDEQ determines the protection of the wetland is essential to the preservation of the natural resources of the state from pollution, impairment or destruction.

B. All wetlands subject to regulation by the (Township/Municipality) including:

1. Wetlands two (2) to five (5) acres in size, whether partially or entirely contained within the project site, which are not contiguous to any lake stream, river or pond.
2. Wetlands smaller than two (2) acres in size which are not contiguous to any lake, stream, river or pond and are determined to be essential to the preservation of the natural resources of the (Township/Municipality) as provided for in Section 7.6 of this Ordinance.

RUNOFF shall mean the surface discharge of precipitation to a watercourse, drainageway, swale, or depression.

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

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RESTORATION means to return from a disturbed or totally altered condition to a previously

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

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

(TOWNSHIP/MUNICIPALITY) BOARD shall mean the legislative body of (Community Name)(Township/Municipality), Livingston County, Michigan.

(TOWNSHIP/MUNICIPALITY) WETLAND MAP refers to the (Community Name)(Township/Municipality) Wetland Map, based on the National Wetland Inventory Map of the U.S. Fish and Wildlife Service; the Michigan Resource Information System Mapping (MIRIS) of the Michigan Department of Environmental Quality; the soils maps of the Soil Conservation Service; aerial photography; and on site inspections.

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

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

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

WETLAND USE PERMIT shall mean the (Township/Municipality) approval required for activities in wetlands and watercourses described in Section 7 of this Ordinance.

WETLAND VEGETATION shall mean plants, including but not limited to, trees,

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shrubs, and herbaceous plants, that exhibit adaptations to allow, under normal conditions, germination or propagation and to allow growth with at least their root systems in water or saturated soil.

#### **SECTION 3 - RELATIONSHIP TO STATE AND FEDERAL PERMIT REQUIREMENTS**

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

A. The (Township/Municipality) shall have jurisdiction for the regulation of wetlands under this Ordinance concurrent with the jurisdiction of the Michigan Department of Environmental Quality.

B. Approvals under this Ordinance shall not relieve a person of the need to obtain a permit from the MDEQ and/or the U.S. Army Corps of Engineers, if required.

C. Issuance of a permit by the MDEQ and/or the U.S. Army Corps of Engineers shall not relieve a person of the need to obtain approval under this Ordinance, if applicable.

#### **SECTION 4. ADMINISTRATION**

##### **Section 4.1 - (Township/Municipality) Wetland Map**

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

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

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

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

A. Wetland Verification Process

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

B. Wetland Delineation Process

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

1. To establish actual wetland boundaries on a property, the applicant shall provide a survey or dimensional site plan, drawn at an appropriate scale, showing property lines, buildings and any points of reference along with the wetland boundaries, according to one of the following:
  - (a) Wetland delineation by the Michigan Department of Environmental

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Quality (MDEQ).

- (b) Wetland delineation by the applicant's wetland consultant subject to review and approval by the (Township/Municipality)'s Wetland Consultant.
2. Where a wetland delineation is required by this Section, the (Township/Municipality) Wetland Consultant shall establish wetland boundaries following receipt of the above required information and after conducting a field investigation.
3. The applicant shall pay fees for the Wetland Delineation Process as established in Section 9.1.

#### C. Map Amendment

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

## **SECTION 5 - ACTIVITIES IN A PROTECTED WETLAND OR WATERCOURSE**

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

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

A. Deposit or permit to be deposited any material or structures into any watercourse or within or upon any protected wetlands.

B. Remove or permit to be removed any material from any watercourse or from any

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protected wetland.

C. Dredge, fill or land balance watercourses or protected wetlands.

D. Create, enlarge, diminish or alter a lake, pond, creek, stream, river, drain or protected wetland.

E. Construct, operate or maintain any development in or upon protected wetlands or watercourses.

F. Erect or build any structure, including but not limited to, buildings, roadways, bridges, tennis courts, paving, utilities, or private poles or towers in or upon protected wetlands or watercourses.

G. Construct, extend or enlarge any pipe, culvert, or open or closed drainage facility which discharges silt, sediment, organic or inorganic materials, chemicals, fertilizers, flammable liquids or any other pollutants to any lake, stream, pond, creek, river, protected wetland, or watercourse, except through a retention area, settling basin, or treatment facility designed to control and eliminate the pollutant. This Subsection shall apply to all land uses except single family uses.

H. Construct, enlarge, extend or connect any private or public sewage or waste treatment plant discharge to any lake, stream, river, pond, watercourse, or protected wetland except in accordance with the requirements of Livingston County, State of Michigan and/or the United States, to the extent that such entities have jurisdiction.

I. Drain, or cause to be drained, any water from a protected wetland or watercourse.

J. Fill or enclose any ditch which would result in a significant reduction of storm water absorption and filtration into the ground or would otherwise have an adverse impact on receiving watercourses or wetlands.

#### **Section 5.2 - Permitted Activities**

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

A. Fishing, trapping, or hunting.

B. Swimming or boating.

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- C. Hiking.
- D. Grazing of animals.
- E. Farming, horticulture, silviculture, lumbering, and ranching activities, including plowing, irrigation, irrigation ditching, seeding, cultivating, minor drainage, harvesting for the production of food, fiber, and forest products, or upland soil and water conservation practices. Wetland altered under this subdivision shall not be used for a purpose other than a purpose described in this subsection without a permit from the department.
- F. Maintenance or operation of serviceable structures in existence on October 1, 1980 or constructed pursuant to this part of former Act No. 203 of the Public Act of 1979.
- G. Construction or maintenance of farm or stock ponds.
- H. Maintenance, operation, or improvement which includes straightening, widening, or deepening of the following which is necessary for the production or harvesting of agricultural products:
  - 1. An existing private agricultural drain.
  - 2. That portion of a drain legally established pursuant to the drain code of 1956, Act No. 203 of the Public Acts of 1956, being sections 280.1 to 280.630 of the Michigan Compiled Laws, which has been constructed or improved for drainage purposes.
  - 3. A drain constructed pursuant to other provisions of this part or former Act No. 203 of the Public Acts of 1979.
- I. Construction or maintenance of farm roads, forest roads, or temporary roads for moving mining or forestry equipment, if the roads are constructed and maintained in a manner to assure that any adverse effect on the wetland will be otherwise minimized.
- J. Drainage necessary for the production and harvesting of agricultural products if the wetland is owned by a person who is engaged in commercial farming and the land is to be used for the production and harvesting of agricultural products. Except as otherwise provided in this part, wetland improved under this subdivision after October 1, 1980 shall not be used for non-farming purposes without a permit from the department. This subdivision shall not

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- apply to a wetland which is contiguous to a lake or stream, or to a tributary of a lake or stream, or to a wetland that the department has determined by clear and convincing evidence to be a wetland that is necessary to be preserved for the public interest, in which case a permit is required.
- K. Maintenance or improvement of public streets, highways, or roads, within the right-of-way and in which in such a manner as to assure that any adverse effect on the wetland will be otherwise minimized. Maintenance or improvement does not include adding extra lanes, increasing the right-of-way, or deviating from the existing location of the street, highway, or road.
  - L. Maintenance, repair, or operation of gas or oil pipelines and construction of gas or oil pipelines having a diameter of 6 inches or less, if the pipelines are constructed, maintained, or repaired in a manner to assure that any adverse effect on the wetland will be otherwise minimized.
  - M. Maintenance, repair, or operation of electric transmission and distribution power lines and construction of distribution power lines, if the distribution power lines are constructed, maintained, to repaired in a manner to assure that any adverse effect on the wetland will be otherwise minimized.
  - N. Operation or maintenance, including reconstruction of recently damaged parts, of serviceable dikes and levees in existence on October 1, 1980 or construction pursuant to this part or former Act No. 203 of the Public Acts of 1979.
  - O. Construction of iron and copper mining tailings basins and water storage areas.
- 2) An activity in a wetland that was effectively drained for farming before October 1, 1980 and that on and after October 1, 1980 has been continued to be effectively drained as part of an ongoing farming operation is not subject to regulation under his part.
- 3) A wetland that is incidentally created as a result of 1 or more of the following activities is not subject to regulation under his part:
- A. Excavation for material or sand mining, if the area was not a wetland before excavation. This exemption does not include a wetland on a adjacent to a water body of 1 acre or more in size.
  - B. Construction and operation of a water treatment pond or lagoon in compliance with the requirements of state or federal water pollution control regulations.

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- C. A dike area associated with a landfill if the landfill complies with the terms of the landfill construction permit and if the dike area was not a wetland before diking.

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

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

A. Plats that have received tentative preliminary or later approval and site plans and condominium plans approved prior to the effective date of this Ordinance shall be entitled by right to all uses authorized by those approvals according to the zoning district in which the property is located, and provided that said lots have buildable sites outside of the wetland. Lots which do not have a buildable site outside of the wetland shall require a wetland use permit prior to any construction on said lot.

B. Any activity, structure, or use lawfully existing prior to the effective date of this Ordinance, but not in conformity with the provisions of this Ordinance, may be continued, maintained and operated.

C. Any structure lawfully existing prior to the effective date of this Ordinance damaged by fire, explosion, act of God, or other causes beyond the control of the owner, may be restored, rebuilt, or repaired without obtaining a wetland use permit.

#### **SECTION 6 - APPLICATION**

Application for approval, appeal, and issuance of wetland use permits shall be concurrent with the application for approval, appeal, and issuance of other necessary (Township/Municipality) approvals, except that in the case of any such application for another approval which is pending on the effective date of this Ordinance and which has not been approved and which, by the terms of this Ordinance, would require a wetland use permit application, the applicant shall be notified by the Wetland Administrator that an application for a wetland use permit is required, and processing of the other application shall not proceed until the wetland use permit application has been filed. The applicant for a wetland use permit shall submit four copies of the following to the (Township/Municipality):

A. An application completed in full, on a form supplied by the Michigan Department of Environmental Quality.

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B. A wetland delineation including, but not limited to the following information: dominant tree, sapling, shrub and herb vegetation; presence or lack of accepted wetland hydrology indicators; analysis of soil including a description of the soil profile to at least 20 inches and comparison to Livingston County Soil Survey and maps of the wetland(s) mapped. Mapped data shall be represented in a manner that allows comparison to the (Community Name)(Township/Municipality) Wetland Map.

C. Soil drainage and stormwater management plans.

D. A mitigation plan, if the proposed activity will result in the loss of wetland resources.

E. A cover letter signed by the applicant including the following information:

1. Name of project and brief description.
2. Date upon which the activity is proposed to commence.
3. Explanation of why the project meets the wetland use permit standards and criteria contained in this Ordinance.
4. List of all federal, state, county or other local government permits or approvals required for the proposed project including permit approvals or denials already received. In the event of denials, the reasons for denials shall be given. Attach copies of all permits which have been issued.
5. Identification of any present litigation involving the property.

F. The wetland use permit application shall be reviewed, either prior to or concurrent with the review of the site plan, plat or other proposed land use submitted by the applicant, with the understanding that the land use review may not be completed at the time the decision is rendered on the wetland use permit application. Election of this alternative may require a reopening of the wetland use permit application if the land use approval is inconsistent with the wetland use permit approval; or,

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

## **SECTION 7 - REVIEW**

### **Section 7.1 - Method of Review of Wetland Permit Application**

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A. Before a wetland use permit application is submitted, the necessity of the wetland use permit shall be determined by the Wetland Administrator, or designee by reference to the "(Township/Municipality) Wetland Map".

B. Whenever a wetland use permit is required, applicant may request an administrative meeting with the Wetland Administrator to review the proposed activity in light of the purposes of this Ordinance.

C. Upon receipt of an application, the (Township/Municipality) shall ensure that all required information including a wetland determination has been submitted. The receipt of the application shall constitute permission from the owner to complete an on-site investigation. Applicant will pay fees as established in Section 9.1.

D. The (Township/Municipality) Clerk shall transmit one copy of the application and supporting materials to the (Township/Municipality) Wetland Consultant to confirm the boundaries of the wetland and to review the proposal in light of the purpose and review standards of Section 7 and other applicable sections of this Ordinance. If an application is not complete, the applicant may be granted additional time to complete the application provided that the applicant agrees that the additional time shall not be charged against the (Township/Municipality)'s 90-day time limit for making a decision. The receipt of the application shall constitute permission from the owner to conduct an on

E. The (Township/Municipality) Wetland Consultant shall prepare and transmit a report and recommendation to the Wetland Administrator documenting the review required by Section 7.1 D.

F. Upon receipt of an application, the (Township/Municipality) Clerk shall:

1. Transmit one copy of the application to the Michigan Department of Environmental Quality.
2. Advise the applicant of his/her obligation to post the subject property with a sign that shall be no less than two (2) square feet in size. The sign shall be clearly visible from the abutting street(s) and shall state that an application has been filed for a wetland use permit on the property.

### **Section 7.2 - Wetland Use Permit Decisions by the Wetland Administrator**

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

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A. For wetland use permit applications submitted in conjunction with activities that do not require approval by the Planning Commission and/or (Township/Municipality) Board, the Wetland Administrator shall approve, approve with conditions or deny the application within 90 days after receipt of an application.

B. Persons wishing to comment on the application must submit their comments in writing to the Wetland Administrator prior to the date and time set in the notice. Persons wishing to receive notice of the Wetland Administrator's decision must submit a written request to the Wetland Administrator.

C. After completing the review and reviewing the written comments, the Wetland Administrator shall approve, approve with modifications or conditions, or deny the wetland use permit application in accordance with the standards of this Ordinance.

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

#### **Section 7.3 - Wetland Use Permit Decisions by Planning Commission or the (Township/Municipality) Board**

The following process shall apply to wetland use permit decisions by the (Township/Municipality) Planning Commission or by the (Township/ Municipality) Board:

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

B. After review and study of the application materials and the (Township/ Municipality) Wetland Consultant's report and recommendation, the (Township/Municipality) Planning Commission or (Township/Municipality) Board, as

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applicable, may hold one public hearing after publication in a newspaper of general circulation in the (Township/Municipality) not less than five (5) days nor more than fifteen ( 15) days prior to the date of the hearing. Such notice shall indicate the place, time and subject of the hearing and the place and time the proposed wetland use permit may be examined. The wetland use permit hearing may be held in conjunction with a review of the related land use request(s).

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

D. After completing the review and holding one public hearing, if so required, the Planning Commission or (Township/Municipality) Board as applicable shall approve, approve with conditions or deny the application within ninety (90) days after receipt of an application, in accordance with this Ordinance.

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

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

#### **Section 7.4 - Appeals Of Decisions Of The Wetland Administrator, Planning Commission or (Township/Municipality) Board**

The following process shall apply to appeals of decisions made by the Wetland Administrator, the Planning Commission, or the (Township/Municipality) Board, as applicable:

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A. Any person who is aggrieved by the approval, approval with modifications or conditions, or denial of a wetland use permit by the Wetland Administrator, the Planning Commission or by the (Township/Municipality) Board, may appeal the decision to the Community Appeals Commission. A written letter containing the specific reasons for appeal shall be filed with the (Township/Municipality) Clerk within ten (10) calendar days after the date of the decision to be appealed. Timely filing of an appeal shall have the effect of suspending the effect of the permit pending the outcome of the appeal. In the event that the person(s) filing the appeal do not own property within 300 feet of the wetland affected, the Planning Commission shall determine whether the person(s) are aggrieved.

B. After a hearing, the Community Appeals Commission shall determine that the decision of the Wetland Administrator, Planning Commission or (Township/Municipality) Board be affirmed, affirmed with modification, or reversed. The Board's decision shall be based on written findings.

**Section 7.5 - Wetland Use Permit Conditions**

A. The Wetland Administrator, the Planning Commission or the (Township/Municipality) Board, as applicable, shall attach any reasonable conditions considered necessary to ensure that the intent of this Section will be fulfilled, to minimize or mitigate damage or impairment to, encroachment in or interference with natural resources and processes within the protected wetlands or watercourses, or to otherwise improve or maintain the water quality. Any conditions related to wetland mitigation shall follow the provisions of Section 8 of this Ordinance.

B. The Wetland Administrator, the Planning Commission or the (Township/Municipality) Board, as applicable, shall fix a reasonable time to complete the proposed activities.

C. The Wetland Administrator, the Planning Commission or the (Township/Municipality) Board, as applicable, may require the applicant to file with the (Township/Municipality) a cash or corporate surety bond or irrevocable bank letter of credit in an amount, if any, determined necessary to ensure compliance with the wetland use permit approval conditions and this Section.

D. The Wetland Administrator, the Planning Commission or the (Township/Municipality) Board, as applicable, shall require that final approval of a wetland use permit application shall be contingent upon receipt of evidence by the (Township/Municipality) that required state and federal permits, if any, have been

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obtained by the applicant.

E. At no time shall the Wetland Administrator, the Planning Commission or the (Township/Municipality) Board, as applicable, issue a wetland use permit that allows a more extensive alteration of the wetland than permitted by state or federal law.

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

G. Any change that increases the size or scope of the operation and that affects the criteria considered in approving the permit as determined by the Wetland Administrator, the Planning Commission or the (Township/Municipality) Board, as applicable, may require the filing of a new wetland use permit application.

H. Any temporary, seasonal, or permanent operation that is discontinued for two (2) years or two (2) seasons shall be presumed to have been abandoned and the wetland use permit automatically voided.

I. Any permit granted under this Ordinance may be revoked or suspended by the Wetland Administrator, Planning Commission or (Township/Municipality) Board, as applicable, after notice and an opportunity for a hearing, for any of the following causes:

1. A violation of a condition of the permit.
2. Misrepresentation or failure to fully disclose relevant facts in the application.
3. A change in a condition that requires a temporary or permanent change in the activity.

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

1. Maintain soil erosion control structures and measures, including but not limited to, silt fences, straw bale berms, and sediment traps. The permittee shall permit periodic inspections throughout the duration of the project by the (Township/Municipality) or its representatives.
2. Maintain clear delineation of the protected wetlands and wetland setbacks (so marked by the Wetland Administrator or (Township/Municipality) Wetland Consultant during the on
3. Post on the site, prior to commencement of work on the site and continuing throughout the duration of the project, a copy of the approved wetland use

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permit containing the conditions of issuance, in a conspicuous manner such that the wording of said permit is available for public inspection.

K. The wetland use permit shall remain effective for a time period coincidental with any other land use permit reviewed and approved concurrent with the wetland use permit. If applied for prior to the expiration date and concurrent with the expiring land use permit, the applicant may be granted an extension that corresponds to additional time granted for the underlying land use permit. Extensions shall be approved by the same person or body that made the original decision. The maximum number of extensions shall coincide with the maximum number allowed for the underlying land use permit.

L. When there is no other activity or permit involved, the wetland use permit shall remain effective for one (1) year. A maximum of a one (1) year extension may be approved by the granting authority upon request of the applicant.

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

A. A wetland use permit shall be approved with respect to a non-contiguous wetland less than two (2) acres in area unless the Planning Commission or (Township/Municipality) Board determines that the wetland is essential to the preservation of the natural resources of the (Township/Municipality). It shall not be the burden of the property owner to prove that the wetland is not essential to the preservation of the natural resources of the (Township/ Municipality).

B. All non-contiguous wetland areas of less than two (2) acres which appear on the wetlands map, or which are otherwise identified during a field inspection by the (Township/Municipality), shall be analyzed for the purpose of determining whether such areas are essential to the preservation of the natural resources of the (Township/Municipality). If there is to be a denial of a wetland use permit in a non

1. The site supports state or federal endangered or threatened plants, fish, or wildlife appearing on a list specified in Section 36505 of the Natural Resources and Environmental Protection Act (Act 451 of 1994 [previously Section 6 of the Endangered Species Act of 1974, Act No. 203 of the Public Acts of 1974, being Section 299.226 of the Michigan Compiled Laws]).
2. The site represents what is identified as a locally rare or unique ecosystem.
3. The site supports plants or animals of an identified local importance.
4. The site provides groundwater recharge documented by a public agency.

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5. The site provides flood and storm control by the hydrologic absorption and storage capacity of the wetland.
6. The site provides wildlife habitat by providing breeding, nesting, feeding grounds or cover for forms of wildlife, waterfowl, including migratory waterfowl, and rare, threatened, or endangered wildlife species.
7. The site provides protection of subsurface water resources and provision of valuable watersheds and recharging groundwater supplies.
8. The site provides pollution treatment by serving as a biological and chemical oxidation basin.
9. The site provides erosion control by serving as a sedimentation area and filtering basin, absorbing silt and organic matter.
10. The site provides sources of nutrients in water food cycles and nursery grounds and sanctuaries for fish.

C. In connection with the determination whether the wetland is essential to the preservation of the natural resources of the (Township/Municipality), the property owner shall make an election and response under Subsection 1 or 2 below, relative to each non-contiguous wetland area less than two (2) acres.

1. In lieu of having the (Township/Municipality) or its consultant proceed with the analysis and determination, the property owner may acknowledge that one ( 1) or more of the criteria in Subsections (B-1) through (B-10) above, exist on the wetland in question, including a specification of the one or more criteria which do exist; or
2. An election to have the (Township/Municipality) or its consultant proceed with the analysis of whether each of the criteria in Subsections (B-1) through (B-10) exist or do not exist in the wetland in question, including specific reasons for the conclusion in respect to each criteria.

D. If the (Township/Municipality) determines that the wetland is not essential to the preservation of the natural resources of the (Township/Municipality), the (Township/Municipality's) decision shall be so noted on the (Township/Municipality) Wetland Map, at the time it is amended. The requested activity shall be approved subject to all other applicable laws and regulations.

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

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

#### **Section 7.7 - Review Standards for Wetland Use Permits**

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

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

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

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

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B. A wetland use permit shall not be granted unless it is shown that:

1. An unreasonable disruption of aquatic resources will be avoided; and
2. The proposed activity is primarily dependent upon being located in the protected wetland; and
3. A feasible and prudent alternative does not exist; and
4. The manner in which the activity is proposed to be undertaken will result in the minimum negative impact upon protected wetlands, watercourses, and attendant natural resources under all of the circumstances.

C. Following approval of the application, a wetland use permit shall be issued upon determination that all other requirements of ordinance and law have been met, including site plan, plat or land use approval as applicable, and including issuance of a permit by the MDEQ, if required under the Wetland Protection Act. In cases where a MDEQ permit allows activities not permitted by the wetland use permit approval granted under this Section, the restrictions of the approval granted under this Section shall govern.

## **SECTION 8 - WETLAND MITIGATION AND RESTORATION**

### **Section 8.1 - Findings That Wetland And Watercourse Loss Is Unavoidable**

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

A. Prior to considering a proposal for wetland mitigation, the Wetland Administrator, the Planning Commission or the (Township/Municipality) Board, as applicable, shall make all of the following findings:

1. That all feasible and prudent efforts have been made to avoid the loss of protected wetland.
2. That all practical means have been considered to minimize protected wetland impacts.
3. That it is practical to replace the protected wetland which will be unavoidably eliminated.
4. That all alternatives for preserving protected wetlands and water courses have been evaluated and found to be impractical, inappropriate, or ineffective.

B. To ensure no net loss of wetlands in the (Township/Municipality), mitigation shall be required in instances where there are losses of wetland resources and where the

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Wetland Administrator, the Planning Commission or the (Township/Municipality) Board, as applicable have made the findings required in Section 8.1.A.

#### **Section 8.2 - Criteria For Approving Proposals For Wetland Mitigation**

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

- A. That the mitigation plan provides for the substantial replacement of the predominant functional values of the protected wetland to be lost.
- B. That the mitigation plan provides for no net loss of protected wetland resources and watercourses unless the Wetland Administrator, the Planning Commission or the (Township/Municipality) Board, as applicable determines that the net loss will result in a minimum negative impact upon protected wetlands, watercourses, and attendant natural resources under all of the circumstances.
- C. Mitigation shall be provided on
- D. The mitigation plan will comply with all applicable federal, state, and local laws.
- E. A plan to monitor preserved and replacement wetlands over a minimum of five years has been specified.

#### **Section 8.3 - Other Mitigation Requirements**

- A. Wetland mitigation and monitoring plans shall become conditions to the wetland use permit and shall be the responsibility of the applicant.
- B. Financial assurances that mitigation is accomplished as specified by the permit condition may be required by the Wetland Administrator, Planning Commission or (Township/Municipality) Board, as applicable.
- C. Any mitigation activity shall be completed before initiation of other permitted activities, unless a phased concurrent schedule can be agreed upon between the Wetland Administrator, Planning Commission or (Township/Municipality) Board, as applicable, and the applicant.

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D. Wetland mitigation plans that create less than two (2) acre wetlands shall meet one of the conditions listed in Section 7.6 B. 1

## **SECTION 9 - FEES, PENALTIES AND ENFORCEMENT**

### **Section 9.1 - Fees**

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

### **Section 9.2 - Penalties And Enforcement**

A. Restoration Requirements for Illegal Wetland Alteration. In the event of a violation involving illegal alteration of a watercourse or protected wetland under this Section, the (Township/Municipality) shall have the power to order complete restoration of the watercourse or protected wetland area by the person or agent responsible for the violation. If such responsible person or agent does not complete such restoration within a reasonable time following the order, the (Township/Municipality) shall have the authority to restore the affected watercourse or protected wetland to their prior condition wherever possible, and the person or agent responsible for the original violation shall be held liable to the (Township/Municipality) for the cost of restoration. Requirements and watercourse or protected wetland restorations order by the (Township/Municipality) shall be coordinated with state and/or federal agency requirements and specifications for watercourse or wetland restoration.

B. Penalties. In addition to the rights and remedies herein provided to the (Township/Municipality) any person violating any of the provisions of this Ordinance shall be deemed guilty of a misdemeanor and upon conviction thereof shall be fined

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

C. Injunction. Any activity conducted in violation of this Section is declared to be a nuisance per se, and the (Township/Municipality) may commence a civil suit in any court of competent jurisdiction for an order abating or enjoining the violation, and/or requiring restoration of the protected wetland or watercourse as nearly as possible to its condition before the violation.

D. Stop-Work Order. The (Township/Municipality) may also issue a stop-work order or withhold issuance of a Certificate of Occupancy, permits or inspection until the provisions of this Ordinance, including any conditions attached to a wetland use permit, have been fully met. Failure to obey a stop-work order shall constitute a violation of this Ordinance.

E. Appearance Tickets. In all arrests and prosecutions for violation of this Ordinance, appearance tickets and the appropriate procedures set forth in Act 147, Michigan Public Acts of 1968, as amended, may be used.

F. Enforcement. The Wetlands Administrator or his/her agent, officer or employee shall have authority under this Ordinance to enter upon privately

## SECTION 10 - STATE NOTIFICATION

### Section 10.1 - Notice to the Michigan Department of Environmental Quality

The (Township/Municipality) shall notify the MDEQ of the adoption of this Ordinance. The (Township/Municipality) shall cooperate with the MDEQ in the enforcement of the Wetland Protection Act as to wetlands under the MDEQ's jurisdiction as defined under this Ordinance.

## SECTION 11 - ORDINANCE CONFLICT

### Section 11.1 - Abrogation and Conflict of Authority

Nothing in this Ordinance shall be interpreted to conflict with present or future state statutes in the same subject matter; conflicting provisions of this Ordinance shall be

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abrogated to, but only to, the extent of the conflict. Moreover, the provisions of this Ordinance shall be construed, if possible, to be consistent with relevant state regulations and statutes. If any part of this Ordinance is found to be invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct and independent provision. Such holding shall not affect the validity of the remaining portions thereof, and the remainder of the Ordinance shall remain in force. Rights and duties which have matured, penalties which have been incurred, proceedings which have begun (except as set forth in Section 5.3 and Section 6 herein) and prosecutions for violations of law occurring before the effective date of this Ordinance are not affected or abated by this Ordinance.

**SECTION 12 - PROPERTY TAX ASSESSMENT**

If a wetland use permit is denied by the (Township/Municipality), a landowner may appear at the annual Board of Review for the purpose of seeking a reevaluation of the affected property for assessment purposes to determine its fair market value under the use restriction.

**SECTION 13 - EFFECTIVE DATE**

This Ordinance shall take full force and effect upon \_\_\_\_\_ (date), following final publication of said ordinance.

**SECTION 14 - CERTIFICATION**

I, \_\_\_\_\_, Clerk of (Community Name)(Township/Municipality), do hereby certify that the foregoing is a true and correct copy of an ordinance adopted by the (Community Name)(Township/Municipality) Board at a regular meeting on \_\_\_\_\_(date).

Published \_\_\_\_\_(date)