



VEGETATED RIPARIAN BUFFERS

MODEL ORDINANCE

Riparian Buffers Protect Water Quality and Provide Drought, Flow, and Flood Protections, as well as Economic Benefits

Riparian vegetation is effective at protecting streams. Moreover, vegetated riparian buffers perform an irreplaceable function in the hydrologic/water cycle for flood, drought, and stream protection. Vegetated riparian buffers allow water to be taken up by vegetation, encourage infiltration through the soil, slow the velocity of runoff, reduce flood peaks, and provide flood storage. Vegetated riparian buffers also help provide flood control, reduce flood damages, and prevent erosion. Healthy riparian buffers provide ecosystem services such as natural purification of water; regulation of water supply for municipal, industrial, and agricultural users; storm and flood protection; recreational opportunities; and habitat for fish and wildlife. Healthy riparian buffers can also enhance property values.

The removal of vegetated riparian buffers contributes to increases in water temperatures as well as nutrient and sediment inputs, bank and channel erosion, and other degradation. Development on streamside lands has cumulative effects on flooding by increasing the volume of water that is passed into the stream, reducing the space available for floodwaters to spread out, and lessening the ability of streamside lands to absorb and slow down floodwaters. When we protect and restore riparian buffers, we are protecting both stream ecosystems and local communities.

Local governments may reap the benefits that vegetated buffers provide by enacting their own land use regulations that protect and restore buffers. The Delaware Riverkeeper Network is making available this model riparian buffer ordinance to help Pennsylvania communities protect our vulnerable water resources and our communities through the protection and restoration of riparian buffers. This model ordinance was prepared for the Delaware Riverkeeper Network by the law firm of Curtin Heefner LLC which has extensive experience in General Municipal Law, Zoning and Land Use Law, and Municipal Finance.

Model riparian buffer ordinances, like the Delaware Riverkeeper Network's, can be readily integrated with existing zoning. Our model ordinance addresses protection of existing buffers and restoration of impaired buffers, as well as exemptions, variances, inspections, enforcement, appeals, and penalties.

In addition to water quality, water quantity and economic benefits, enacting a riparian buffer ordinance would potentially qualify a community for credits through the Community Rating System (CRS), a program of voluntary incentives offered by the National Flood Insurance Program (NFIP) which is administered by the Federal Emergency Management Agency (FEMA). Residents of communities that qualify for CRS credit may be eligible for reduced flood insurance rates.

Not all riparian buffer ordinances will qualify a community for CRS credit, however the Delaware Riverkeeper Network's model ordinance has been reviewed by FEMA staff. In providing feedback, FEMA staff offered some comments that municipal officials may want to consider to better the chances that FEMA will award CRS credits for enacting and implementing a riparian buffer ordinance (see Appendix A for some of the comments provided by FEMA). Municipalities may also want to contact FEMA directly for further guidance.

ORDINANCE NO. _____

**AN ORDINANCE OF THE TOWNSHIP OF PUREWATER,
HEALTHY COUNTY, PENNSYLVANIA, AMENDING
CHAPTER X OF THE PUREWATER TOWNSHIP CODE OF
ORDINANCES PERTAINING TO SUBDIVISION AND LAND
DEVELOPMENT AND RIPARIAN BUFFERS.**

WHEREAS, Section 1516 (53 P.S. Section 66516) of the Pennsylvania Second Class Township Code provides that the corporate powers of the Board of Supervisors of Purewater Township (the “Board of Supervisors”) include the ability to plan for the development of the Township through Zoning, Subdivision, and Land Development Regulations under the Act of July 13, 1968 (P.L. 805, No. 247), known as the “Pennsylvania Municipalities Planning Code”;

WHEREAS, the Purewater Township Subdivision and Land Development Ordinance, as amended, is codified in Chapter X of the Code of Ordinances of Purewater (The Code);

WHEREAS, Section 1601 of the Second Class Township Code provides that the Board of Supervisors may adopt Ordinances in which general or specific powers of the Township may be exercised, and, by the enactment of subsequent Ordinances, the Board of Supervisors may amend, repeal, or revise existing Ordinances (53 P.S. Section 66601);

WHEREAS, natural riparian buffers are the most cost-effective means of addressing multiple threats to surface water quality and aquatic health, including streambank erosion, nutrient, sediment, thermal, and other forms of pollution, rapid fluctuations in flow due to stormwater influxes, ecosystem impairment, and habitat loss;

WHEREAS, natural riparian buffers contribute to citizens’ quality of life by maintaining and protecting water quality and aquatic life, reducing flooding, preventing property damage, conserving scenic areas in the Township, improving property values, and providing places for passive recreation;

WHEREAS, the proposed amendments are consistent with the Township’s obligations under Article I, Section 27 of the Pennsylvania Constitution;

WHEREAS, the proposed amendments will improve surface water quality, reduce adverse aquatic health impacts, improve and maintain water quality for a variety of uses, manage stormwater, conserve natural features, help the Township qualify for “community rating system” (CRS)¹ credit regarding floodplains and flood insurance;

WHEREAS, the proposed amendments are protective of the public health, safety, and welfare of Township citizens and businesses; and

WHEREAS, the proposed amendments have been advertised, considered, and reviewed in accordance with Municipalities Planning Code Sections 505 and 506 (53 P.S. Section 10505, 10506) and the Township’s Code of Ordinances;

NOW THEREFORE, in consideration of the foregoing, be it **ENACTED** and **ORDAINED** by the Board of Supervisors of Purewater Township, Healthy County, Pennsylvania, as follows:

1 The CRS program is administered by the Federal Emergency Management Agency (“FEMA”).



I. Chapter X of the Purewater Township Code of Ordinances is hereby AMENDED as follows:

ADD a new Section X-### as follows:

§ X-###. Riparian Buffers.

A. Definitions. The definitions set forth below shall apply only to this Section X-### unless otherwise indicated or unless the context clearly indicates otherwise.

“Department.” The Department of Environmental Protection of the Commonwealth.

“Earth disturbance.” A construction or other human activity which disturbs the surface of the land, including land clearing and grubbing, grading, excavations, embankments, land development, agricultural plowing or tilling, operation of animal heavy use areas, timber harvesting activities, road maintenance activities, oil and gas activities, well drilling, mineral extraction, and the moving, depositing, stockpiling, or storing of soil, rock or earth material.

“Earth disturbance activity.” An act or activity that comprises, facilitates or results in earth disturbance.

“Exceptional value water.” Surface water of exceptional value that satisfies the provisions of 25 Pa. Code § 93.4b(b) (relating to qualifying as high quality or exceptional value waters).

“Floodplain.” Any land area susceptible to flooding, that has at least a 1% probability of flooding occurring in any calendar year based on the basin being fully developed as shown on a current land use plan. For areas that do not have a mapped 100-year floodplain, the 100-year floodplain is considered to extend for a horizontal distance of 50 feet from the top of the streambank.

“High quality water.” Surface water having quality that exceeds levels necessary to support propagation of fish, shellfish and wildlife and recreation in and on the water by satisfying the provisions of 25 Pa. Code § 93.4b(a) (relating to qualifying as high quality or exceptional value waters).

“Impaired riparian buffer.” A riparian buffer that, as a result of land development activity, contains impervious cover or no longer meets the definition of “natural riparian buffer.”

“Impervious cover.” Those surfaces which do not readily absorb precipitation and surface water. The term includes but is not limited to buildings, parking areas, driveways, roads, sidewalks, swimming pools, and any areas in concrete, asphalt, packed stone, or other equivalent surfaces, including those with a coefficient of runoff of 0.7 or higher. Impervious surfaces also include disturbed soils with a bulk density of 95 percent of the value at which plant growth limitation is expected for average plant material.

“Land development.” Any land change, including, but not limited to, clearing, grubbing, stripping, removal of vegetation, dredging, grading, excavating, transporting and filling of land, construction, subdivision, paving, or any other increase in impervious cover.

“Land development activity.” An act or activity that comprises, facilitates or results in land development.

“Natural riparian buffer.” A riparian buffer that is dominated by native vegetation, including trees, shrubs and/or herbaceous plants, and provides any of the following functions:

- (1) Maintains the integrity of adjacent stream channels and shorelines or helps stabilize stream banks including reducing erosion;
- (2) Reduces the impact of upland sources of pollution by trapping, filtering or converting sediments, nutrients or other contaminants;
- (3) Supplies food, cover, shelter, habitat or thermal protection to fish, other aquatic life, or other wildlife;
- (4) Protects or benefits the ecological and absorptive capacity of soils, floodplains and/or wetland areas; or
- (5) Increases storage and infiltration of floodwaters and reduces floodwater velocities; or
- (6) Reduces impacts of climate change by absorbing greenhouse gases.

“Nonconforming uses or structures.” Any uses or structures that were legally established prior to the effective date of this section, but which do not comply with the provisions of this act.

“Nontidal wetlands.” Those areas not influenced by tidal fluctuations that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

“One hundred-year flood plain.” The area of land adjacent to a stream that is subject to inundation during a storm event that has a probability of occurrence of 1% in any given year.

“Ordinance.” An ordinance adopted by a municipality for riparian buffers.

“Permit.” A final permit issued by a municipality for undertaking any land development activity.

“Person.” An individual, partnership, firm, association, joint venture, public or private corporation, trust, estate, commission, board, public or private institution, utility, cooperative, city, county or other political subdivision of this Commonwealth and an interstate body or other legal entity.

“Pollution.” Contamination of any waters of this Commonwealth -- including, but not limited to, such contamination by alteration of the physical, chemical or biological properties of such waters, or change in temperature, taste, color or odor thereof, or the discharge of any liquid, gaseous, radioactive, solid or other substances into such waters – that does, will or is likely to:

- (1) Create a degradation of water quality; or
- (2) Create a nuisance; or
- (3) Render waters harmful, detrimental or injurious to:
 - (a) public health, safety or welfare;
 - (b) domestic, municipal, commercial, industrial, agricultural, recreational or other legitimate beneficial uses; or

(c) livestock, wild animals, birds, fish or other aquatic life, or

(4) Cause or contribute to the failure of a waterbody to meet applicable water quality standards or criteria enacted by the Commonwealth of Pennsylvania or any of the River Basin Commissions of which it is a voting member.

“Riparian.” Belonging or related to the bank of a waterbody, river, stream, wetland, lake, pond or impoundment.

“Riparian buffer area.” An area adjacent to a waterbody.

“Riparian buffer restoration.” Returning an impaired riparian buffer to being a naturally functioning riparian buffer dominated by native vegetation, including trees, shrubs and/or herbaceous plants. No concrete, armoring, levees, rip rap, dams, beach nourishment, or other forms of human structural stream bank or shoreline stabilization methods may be employed as a component of riparian buffer restoration.

“Special protection waters.” Any waterbody that qualifies as exceptional value water or high quality water, or is subject to other special protections for water quality, including standards set by interstate river basin commissions.

“Stream.” A perennial or intermittent watercourse with a defined channel, bed and banks.

“Stream bank.” Sloping land that contains a stream channel and the normal flows of the stream.

“Stream channel.” The part of a watercourse either naturally or artificially created that contains an intermittent or perennial base flow of groundwater origin. Base flows of groundwater origin can be distinguished by any of the following physical indicators:

(1) Hydrophytic vegetation, hydric soil or other hydrologic indicators in the area where groundwater enters the stream channel in the vicinity of the stream headwaters, channel bed or channel banks.

(2) Flowing water not directly related to a storm event.

(3) Historical records of a local high groundwater table, such as well and stream gauge records.

“Vernal pond.” A small body of standing water that forms in the spring from meltwater and is often dry by mid-summer or may even be dry before the end of the spring growing season.

“Waterbody.” Any natural or manmade pond, lake, wetland, impoundment, stream or watercourse. This shall not include any pond or facility designed and constructed solely to contain stormwater.

“Watercourse.” Any channel of conveyance of surface water having a defined bed and banks, such as a stream, river, brook, or creek, whether natural or artificial, with perennial, intermittent or seasonal flow. This shall not include any channel or ditch designed and constructed solely to carry stormwater.

“Watershed.” The land area that drains into a particular stream, waterbody or watercourse.

B. Protection of Existing Riparian Buffers.

(1) Prohibited activity. -- No land development shall be permitted within a riparian buffer area, except as otherwise provided below.

(2) General Width of Riparian Buffer Area. -- Except as otherwise required under subsection (3), the width of the riparian buffer area protected under subsection (1) shall be a minimum of one hundred (100) feet on each side of the stream as measured from the top of the bank.

(3) Additional Width Requirements.

(a) If the waterbody is designated as special protection waters, high quality water, or exceptional value water, the minimum width shall be a minimum of three hundred (300) feet on each side of the waterbody as measured from the top of the bank.

(b) In the case of the presence of a nontidal wetland or vernal pond wholly or partially within the riparian buffer area, an additional twenty-five (25) feet shall be added to the otherwise required widths from the wetland or vernal pond boundary.

(c) Steep Slopes. The following additional distances will be added to the minimum width provided above based on the following formula:

- i) ten (10) feet if slope is 10-15%;
- ii) twenty (20) feet if slope 16-17%;
- iii) thirty (30) feet if slope is 18-20%;
- iv) fifty (50) feet if slope is 21-23%;
- v) sixty (60) feet if slope is 24-25%; and
- vi) seventy (70) feet if slope exceeds 25%.

(d) If the waterbody has been identified as impaired in accordance with Section 303 of the Clean Water Act and implementing state regulations, an additional fifty (50) feet shall be added to the minimum one hundred (100) foot width. In the case of a waterbody that has been identified as impaired by the Department, the developer shall have the option of either choosing to extend the riparian buffer area an additional fifty (50) feet from the top of the bank beyond the other requirements **or** to implement the following improvements in the riparian buffer area **and** in the developed area adjacent to it:

i) Improvements to the buffer area:

- Fifty percent (50%) or more of trees planted in the riparian buffer area must be of two inch caliper or greater, and tree species composition shall consist of a diverse mix of native tree species planted in the proper hydrologic zone as listed in Appendix B of the Pennsylvania Stormwater Best Management Practice (“BMP”) Manual.
- Applicants shall develop and implement an operation and maintenance plan for the riparian buffer to be

approved by the Department. The operation and maintenance plan shall require maintenance activities for a minimum of five (5) years, include measures to control invasive species, deer and rodent damage, and require replacement of all deceased trees for a minimum of the first three (3) years.

- Applicants shall provide permanent protection of riparian buffer area by placing a conservation easement on the property.

ii) Improvements to adjacent area:

- Achieve no net increase in pre-development to post-development volume, rate, peak and concentration of pollutants using alternative site design, low impact development principles such as limiting disturbance, infiltration BMPs and other environmentally sound stormwater BMPs.
- Through deed restriction for all lots sold and as a condition of any final land development plan approval, ban the use of fertilizers, pesticides, herbicides or other chemicals on lawns and other portions of the property, except that herbicides may be used for invasive species control in riparian buffer areas if part of an operation and maintenance plan approved by the Department.
- Developments shall replace any and all trees removed during the development process with the caliper of removed trees approximately matched by the sum of the caliper of replacement trees (i.e. four (4) three (3) inch trees replace one 12 inch tree).

(4) Condition of Other Approvals and Permits. Full compliance with the provisions of this section shall be a condition of any and all approvals and permits by the Township, including but not limited to the following:

- (a) Approval of land development activity;
- (b) Building permit;
- (c) Zoning hearing board approval;
- (d) Conditional use approval;
- (e) Subdivision approval;
- (f) Grading permit; or
- (g) Sewage facilities (Act 537) planning module approval.

C. Restoration of Impaired Riparian Buffers.

(1) General Rule. For a property with an impaired riparian buffer, riparian buffer restoration shall be a condition of any and all governmental approvals and permits, including but not limited to any:

- (a) Approval of land development activity;
- (b) Building permit;
- (c) Zoning hearing board approval;
- (d) Conditional use approval;
- (e) Subdivision approval;
- (f) Grading permit; or
- (g) Sewage facilities (Act 537) planning module approval.

(2) Riparian buffer restoration shall conform to the width requirements set forth in subsection B. above.

(3) As part of riparian buffer restoration, fifty percent (50%) or more of trees planted in the riparian buffer area must be of two inch caliper or greater, and plant species composition shall consist of a diverse mix of native species planted in the proper hydrologic zone as listed in Appendix B of the Pennsylvania Stormwater Best Management Practice (“BMP”) Manual.

(4) No concrete, armoring, levees, rip rap, dams, beach nourishment, or other forms of human structural stream bank or shoreline stabilization methods may be employed as a component of riparian buffer restoration.

D. Exemptions.

(1) Land Development Activity Allowed within Riparian Buffer Areas.—The following land uses shall be exempt from the prohibitions and requirements set forth in subsections B and C:

- (a) Land uses existing as of the effective date of this section, except as follows:
 - (i) when the existing land use, or any building or structure involved in that use, is enlarged, increased or extended to occupy a greater area of land;
 - (ii) when the existing land use, or any building or structure involved in that use, is moved, in whole or in part, to any other portion of the property; or
 - (iii) when the existing land use ceases for a period of more than one (1) year.
- (b) Agricultural production that is consistent with all Federal and State laws, regulations promulgated by the Department and best management practices established by the State Conservation Commission and the Department of Agriculture of the Commonwealth.
- (c) Selective logging provided that the logging practices comply with the best management practices set forth by the Bureau of Forestry, provided, however, that no logging shall occur within 100 feet of any stream.
- (d) Crossings by transportation facilities and utility lines. Issuance of permits for these uses or activities is contingent upon the completion of a:

(i) Feasibility study that identifies alternative routing strategies that do not impact a riparian buffer area.

(ii) Mitigation plan to minimize impacts on the riparian buffer area utilizing natural channel design practices to the greatest degree possible.

(e) Temporary stream restoration projects, stream bank restoration projects and vegetation restoration projects to restore the stream or riparian zone to an ecologically healthy state utilizing natural channel design practices to the greatest degree possible. No concrete, armoring, levees, rip rap, dams, beach nourishment, or other forms of human structural stream bank or shoreline stabilization methods may be employed as a component of restoration.

(f) Structures that, by their nature, cannot be located anywhere except within the riparian buffer area. These structures shall include docks, boat launches, public water supply intake structures, facilities for natural water quality treatment and purification and public wastewater treatment plant sewer lines and outfalls. The structures shall provide for the minimum practicable disturbance of the riparian buffer area by minimizing size and location and by taking advantage of collocation, if possible. Stormwater conveyance structures and outfalls are not included in this group and shall be located outside of the buffer area.

(g) Wildlife and fisheries management activities consistent with the purposes of, but not limited to:

(i) 30 Pa.C.S (relating to fish).

(ii) 34 Pa.C.S. (relating to game).

(iii) The act of December 5, 1972 (P.L.1277, No.283), known as the Pennsylvania Scenic Rivers Act.

(iv) The act of April 28, 1978 (P.L.87, No.41), known as the Pennsylvania Appalachian Trail Act.

(v) The act of June 23, 1982 (P.L.597, No.170), known as the Wild Resource Conservation Act.

(h) Construction of a single-family residence, including the usual appurtenances, provided that:

(i) Based on the size, shape or topography of the property, as of the effective date of this section, it is not reasonably possible to construct a single-family dwelling without encroaching upon the riparian buffer area.

(ii) The land development conforms with all other zoning and land use regulations.

(iii) The dwelling is not located in whole or part in a 100 year floodplain.

(iv) No septic tanks, septic drain fields, or other sewage management facilities shall be located within the riparian buffer area.

(v) The dwelling avoids, to the maximum extent practicable, disturbance of the riparian buffer area.

(vi) Any encroachment into the riparian buffer area is offset by an equal amount of wider riparian buffer width elsewhere on the same property so that the average width and total area of the riparian buffer meets the requirements as set forth in subsection B.

(vii) The construction, dwelling and/or property is not, nor was originally presented for approval, following the effective date of this section, as part of a multi-lot subdivision.

(i) Other uses permitted by the Department under the act of June 22, 1937 (P.L.1987, No.394), known as The Clean Streams Law, and the act of November 26, 1978 (P.L.1375, No.325), known as the Dam Safety and Encroachments Act.

(2) All exempted uses, structures and activities shall comply with the requirements of 25 Pa. Code Ch. 102 (relating to erosion and sediment control) and all applicable best management practices and shall not diminish water quality except as otherwise permitted by the Department.

(3) All exempted uses shall be located as far from the stream bank as reasonably possible.

E. Variances.

(1) Criteria. -- The Township may grant a variance if the applicant demonstrates any of the following:

(a) Strict compliance would prevent all economic use of the property or constitute a legally defined taking.

(b) The project would serve a compelling public need and no feasible alternative is available.

(c) The project consists of the repair and maintenance of public improvements where avoidance and minimization of adverse impacts to the riparian buffer area have been addressed.

(2) Least Intrusive Variance Necessary. -- No variance shall be granted unless the buffer intrusion is the least intrusive means necessary to satisfy the criteria set forth in subsection 1 above.

(3) Procedures.

(a) An applicant must submit a written request for a variance to the Township. The application shall include specific reasons justifying the variance and any other information necessary to evaluate the proposed variance request.

(b) The Township may require an alternatives analysis clearly demonstrating that no other feasible alternatives exist and that minimal impact will occur as a result of the project or development.

(c) In granting a request for a variance, the Township may require additional site design, landscape planting, fencing, the placement of signs and the establishment of water quality best management practices in order to reduce impacts on water quality, wetlands and floodplains.

Optional Variance Provisions:

(4) In granting a variance, the Township may allow the buffer width to be relaxed and the permitted buffer area to become narrower at some points, as long as the average width and total area meet the requirements set forth in subsection B. This averaging of the buffer area may be used to allow for the presence of an existing structure or to recover a lost lot; however, the buffer width may be narrowed by no more than 25%, and no new land development activity may take place within the 100-year floodplain.

(5) The Township may offer credit for additional density elsewhere on the site to offset for the loss of developable land due to the requirements of this section. This offset may increase the total number of dwelling units on the site up to the amount permitted under the base zoning requirements.

F. Inspections.

(1) General rule. -- The Township may conduct investigations as it may reasonably deem necessary to carry out its authority as prescribed in this section and for this purpose shall have the power to and may enter at reasonable time upon any property, public or private, for the purpose of investigating and inspecting property that contains riparian buffers.

(2) Prohibited conduct.--No person shall refuse entry or access to any authorized representative or agent who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper or interfere with any such representative while in the process of carrying out official duties.

G. Enforcement.

(1) General rule.--The zoning officer or other authorized agent of the Township shall enforce the requirements of this section in accordance with this subsection.

(2) Violations.--If, upon inspection or investigation, the zoning officer or other authorized agent of the Township determines that an activity violates the requirements of this section, the activity shall be considered to be in violation of this section.

(3) Notice of violation.--Upon determination of a violation, the Township shall issue a notice of violation to the permit holder, property owner or party in charge of the activity on the property. The notice shall be in writing and require the immediate stoppage of all work on the property. The notice shall include:

(a) The name and address of the owner.

(b) The address or description and location of the property where the violation occurred.

(b) A description of the violation or violations.

(d) A description of the corrective actions needed to return to compliance and a time schedule to complete the corrective actions.

(4) Emergency.--Where an emergency exists, no written notice shall be required to stop work. Written notice of the stop-work order shall be presented to the appropriate responsible parties within three (3) business days of the emergency order.

H. Appeals.

(1) General rule.--Any person who is aggrieved by a decision or order of the Township imposed under this section may appeal the decision or order in writing to the Zoning Hearing Board in accordance with the time limitations and requirements in the Municipalities Planning Code.

(2) Judicial review.--Any person aggrieved by a decision or order of the Township imposed under this section shall have the right to appeal to the Court of Common Pleas of Healthy County in accordance with the Municipalities Planning Code.

I. Penalties, Civil Action and Liability for Costs.

(1) Penalties. -- The penalties that may be assessed for a violation of this section may include:

(a) If, through inspection, it is determined the corrective measures specified in a stop-work order have not been completed within the specified time, the responsible party shall be deemed to be in violation, and, in addition to other penalties, any performance bond shall be subject to forfeiture.

(b) Any permit issued by the Township may be suspended, revoked or modified if, through inspection, it is determined the corrective measures specified in a stop-work order have not been completed within the specified time.

(c) Any person who violates any provision of this section, permitting conditions or stop-work order, and also the owner of the land where the violation occurs shall be liable for a civil penalty of no more than \$500, plus all court costs, including reasonable attorney fees incurred by the Township as a result of the violation. Each day the violation continues shall constitute a separate offense.

(2) Civil action for recovery of damages.

(a) In addition to any other sanction authorized under this Section, a person who fails to comply with the provisions of this section shall be liable to the Township in a civil action for damages in an amount equal to one and one-half times the cost of restoring the buffer.

(b) Damages that are recovered under this subsection shall be used for the restoration of buffer systems or for the administration of programs for the protection and restoration of water quality, streams, wetlands and floodplains.

(c) Liability for costs.--Any person who violates a provision of this section may be liable for any cost or expenses incurred as a result thereof by the municipality.

J. Conflicts with Laws, Regulations, or Ordinances.

(1) Where the standards of this section are in conflict with other laws, regulations, or ordinances regarding waterbodies, streams, steep slopes, erodible

soils, wetlands, floodplains, timber harvesting, earth disturbance activities or other environmental protective measures, the more restrictive shall apply.

(2) Where any provision of this section is in conflict with another law, regulation, or ordinance, the more restrictive shall apply.

II. Partial Repealer

All other provisions of the Purewater Township Subdivision and Land Development Ordinance, as amended, shall remain in full force and effect. All other Ordinances or provisions of the Subdivision and Land Development Ordinance inconsistent herewith or in conflict with any of the terms hereof are, to the extent of said inconsistencies or conflicts, hereby specifically repealed.

III. Severability

The provisions of this Ordinance are severable. If any section, clause, sentence, part or provision thereof shall be held illegal, invalid, or unconstitutional by a court of competent jurisdiction, such decision of the court shall not affect or impair any of the remaining sections, clauses, sentences, parts or provisions of this Ordinance. It is hereby declared to be the intent of the Board of Supervisors that this Ordinance would have been adopted if such illegal, invalid, or unconstitutional section, clause, sentence or part of a provision had not been included herein.

IV. Effective Date

All provisions of this Ordinance shall be in full force and effect five (5) days after the approval and adoption.

ENACTED AND ORDAINED this __the day of _____, 2015.

ATTEST:

PUREWATER TOWNSHIP
BOARD OF SUPERVISORS

By:

, Secretary

, Chair

Appendix A

In providing input on the Delaware Riverkeeper Network’s model ordinance, FEMA staff offered the comments below for municipal officials to consider to better the chances that FEMA will award CRS credits for enacting and implementing a riparian buffer ordinance. Municipalities may also want to contact FEMA directly for further guidance.

Sample Ordinance Section	Language in Sample Ordinance	FEMA Staff Comment
Improvements to the buffer area – B.(d)(i), third bullet point	“Applicants shall provide permanent protection of riparian buffer area by placing a conservation easement on the property.”	Once this easement is established, the land could qualify as Naturally functioning open space.
Sec. C.(4)	“No concrete, armoring, levees, rip rap, dams, beach nourishment, or other forms of human structural stream bank or shoreline stabilization methods may be employed as a component of riparian buffer restoration.”	This language could qualify a length of shoreline for NSP – Natural Shoreline Protection Credit
Exemptions – D.(h)(iii) (on single family residences)	“The dwelling is not located in whole or in part in a 100 year floodplain.”	Potentially DL2 – development limitations credit
Variance section as a whole	Variance section as a whole	By allowing variances, the buffer area will not be treated as open space until it is placed in a permanent easement preserving the buffer as a natural riparian area.
Variances - Section E.1.	(1) Criteria. — The Township may grant a variance if the applicant demonstrates any of the following: (a) Strict compliance would prevent all economic use of the property or constitute a legally defined taking. (b) The project would serve a compelling public need and no feasible alternative is available. (c) The project consists of the repair and maintenance of public improvements where avoidance and minimization of adverse impacts to the riparian buffer area have been addressed.	Re: Section (1)(a): Since the meaning of the phrase “constitute a legally defined taking” varies by state, it may negate much of the potential credit. Record of easements would result in credit in all cases. Re: Section (1)(b): may result in reduction of credit depending on how often such variances are granted.
Optional Variance Provisions – (4)	“In granting a variance, the Township may allow the buffer width to be relaxed and the permitted buffer area to become narrower at some points, as long as the average width and total area meet the requirements set forth in subsection B. This averaging of the buffer area may be used to allow for the presence of an existing structure or to recover a lost lot; however, the buffer width may be narrowed by no more than 25%, and no new land development activity may take place within the 100-year floodplain.”	This prohibition on new land development, if strictly enforced, may result in credit for DL2 and, if fill is prohibited, DL1. DL1 credit can result in bonus credit for freeboard, FRB.
Optional Variance Provisions – (5)	“The Township may offer credit for additional density elsewhere on the site to offset for the loss of developable land due to the requirements of this section. This offset may increase the total number of dwelling units on the site up to the amount permitted under the base zoning requirements.”	This is analogous to a transfer of development rights, or clustering. Both credited as Open Space Incentives (OSI).

This model ordinance is a part of the Delaware Riverkeeper Network's vegetated riparian buffers information series. Other documents in the series include:

- ***Vegetated Riparian Buffers: Flood Protectors & Stream Flow Regulators White Paper***
In order to protect against floods and regulate streams, buffers perform an irreplaceable function in the water cycle for flood, drought, and stream protection. Well designed vegetated riparian buffers influence the volume, rate, and timing of floodwaters. These added controls assist in the protection of both stream ecosystems and communities from the adverse impacts of high flows and flooding.
- ***Vegetated Riparian Buffers: Flood Protectors & Stream Flow Regulators Quick Facts***
- ***Vegetated Riparian Buffers: Water Quality Protectors White Paper***
As water quality protectors, vegetated riparian buffers play an important role in maintaining a healthy ecosystem. The vegetated riparian corridors made by buffers protect and restore the functionality and integrity of streams. In doing so, they help protect us from pollution, flooding, and erosion, while providing us clean drinking water, healthy fish, recreation and associated jobs.
- ***Vegetated Riparian Buffers: Water Quality Protectors Quick Facts***
- ***Vegetated Riparian Buffers: Economic Service Providers White Paper***
In addition to providing ecological benefits, vegetated riparian buffers also provide important economic benefits that shouldn't be overlooked. The implementation of buffers helps to mitigate costs linked to water quality, storm and flood protection, erosion control, and health issues.
- ***Vegetated Riparian Buffers: Economic Service Providers Quick Facts***
- ***Vegetated Riparian Buffers: Biodiversity & Habitat Protectors White Paper***
When vegetated riparian buffers are added to waterways, they act as biodiversity and habitat protectors and hotspots for aquatic and terrestrial wildlife. These biologically critical ecosystems provide core habitat for many species. Riparian vegetation also connects lower portions of watersheds to headwater and upland areas, thus enabling wildlife movement
- ***Vegetated Riparian Buffers: Biodiversity & Habitat Protectors Quick Facts***

Contact the Delaware Riverkeeper Network for more information or to request any of the Vegetated Riparian Buffer White Papers or Quick Facts.



DELAWARE RIVERKEEPER NETWORK
925 CANAL STREET, SUITE 3701 | BRISTOL, PA 19007
215-369-1188 | drn@delawareriverkeeper.org | www.delawareriverkeeper.org