

Township of Bridgewater
ORDINANCE NO. 21-2016

AN ORDINANCE REQUIRING ALL PERSONS,
PARTNERSHIPS, BUSINESSES, AND CORPORATIONS TO
OBTAIN A PERMIT FOR ANY CONSTRUCTION OR
DEVELOPMENT WITHIN AN IDENTIFIED FLOODPLAIN
AREA; PROVIDING FOR THE ISSUANCE OF SUCH
PERMITS; SETTING FORTH CERTAIN MINIMUM
REQUIREMENTS FOR NEW CONSTRUCTION AND
DEVELOPMENT WITHIN AREAS OF THE TOWNSHIP OF
BRIDGEWATER WHICH ARE SUBJECT TO FLOODING;
AND ESTABLISHING PENALTIES FOR ANY PERSONS
WHO FAIL, OR REFUSE TO COMPLY WITH, THE
REQUIREMENTS OR PROVISIONS OF THIS ORDINANCE.

ARTICLE I. STATUTORY AUTHORIZATION

The Legislature of the Commonwealth of Pennsylvania has, by the passage of the Pennsylvania Flood Plain Management Act of 1978, delegated the responsibility to local governmental units to adopt floodplain management regulations to promote public health, safety, and the general welfare of its citizenry. Therefore, the Board of Supervisors of the Township of Bridgewater do hereby order as follows.

ARTICLE II. GENERAL PROVISIONS

Section 2.01 Intent

The intent of this Ordinance is to:

- A. Promote the general health, welfare, and safety of the community.
- B. Encourage the utilization of appropriate construction practices in order to prevent or minimize flood damage in the future.
- C. Minimize danger to public health by protecting water supply and natural drainage.
- D. Reduce financial burdens imposed on the community, its governmental units, and its residents, by preventing excessive development in areas subject to flooding.
- E. Comply with federal and state floodplain management requirements.

Section 2.02 Applicability

- A. It shall be unlawful for any person, partnership, business or corporation to undertake, or cause to be undertaken, any construction or development within a designated flood plain

area within the Township of Bridgewater unless a Permit has been obtained from the Floodplain Administrator.

Section 2.03 Abrogation and Greater Restrictions

This ordinance supersedes any other conflicting provisions which may be in effect in identified floodplain areas. However, any other ordinance provisions shall remain in full force and effect to the extent that those provisions are more restrictive. If there is any conflict between any of the provisions of this Ordinance, the more restrictive shall apply.

Section 2.04 Severability

If any section, subsection, paragraph, sentence, clause, or phrase of this Ordinance shall be declared invalid for any reason whatsoever, such a decision shall not affect the remaining portions of the Ordinance, which shall remain in full force and effect, and for this purpose the provisions of this Ordinance are hereby declared to be severable.

Section 2.05 Warning and Disclaimer of Liability

The degree of flood protection sought by the provisions of this Ordinance is considered reasonable for regulatory purposes and is based on accepted engineering methods of study. Larger floods may occur or flood heights may be increased by man-made or natural causes, such as ice jams and bridge openings restricted by debris. This Ordinance does not imply that areas outside any identified floodplain areas, or that land uses permitted within such areas will be free from flooding or flood damages.

This Ordinance shall not create liability on the part of the Township of Bridgewater or any officer or employee thereof for any flood damages that result from reliance on this Ordinance or any administrative decision lawfully made thereunder.

ARTICLE III. ADMINISTRATION

Section 3.01 Designation of the Floodplain Administrator

The Chairman of the Board of Supervisors within the Township is hereby appointed to administer and enforce this ordinance and is referred to herein as the Floodplain Administrator. The Floodplain Administrator may: (A) Fulfill the duties and responsibilities set forth in these regulations, (B) Delegate duties and responsibilities set forth in these regulations to qualified technical personnel, plan examiners, inspectors, and other employees, or (C) Enter into a written agreement or written contract with another agency or private sector entity to administer specific provisions of these regulations. Administration of any part of these regulations by another entity shall not relieve the community of its responsibilities pursuant to the participation requirements of the National Flood Insurance Program as set forth in the Code of Federal Regulations at 44 C.F.R. Section 59.22.

In the absence of a designated Floodplain Administrator, the Floodplain Administrator duties are to be fulfilled by the Township of Bridgewater Chief Executive Officer.

Section 3.02 Permits Required

A Permit shall be required before any construction or development is undertaken in an identified flood plain area of the Township of Bridgewater

Section 3.03 Duties and Responsibilities of the Floodplain Administrator

- A. The Floodplain Administrator shall issue a Permit only after it has been determined that the proposed work to be undertaken will be in conformance with the requirements of this and all other applicable codes and ordinances.
- B. Prior to the issuance of any permit, the Floodplain Administrator shall review the permit application to determine if all other necessary government permits required by state and federal laws have been obtained, such as those required by the Pennsylvania Sewage Facilities Act (Act 1966-537, as amended); the Pennsylvania Dam Safety and Encroachments Act (Act 1978-325, as amended); the Pennsylvania Clean Streams Act (Act 1937-394, as amended); and the U.S. Clean Water Act, Section 404, 33, U.S.C. 1344. No permit shall be issued until this determination has been made.
- C. In the case of existing structures, prior to the issuance of any Development/Permit, the Floodplain Administrator shall review the history of repairs to the subject building, so that any repetitive loss issues can be addressed before the permit is issued.
- D. During the construction period, the Floodplain Administrator or other authorized official shall inspect the premises to determine that the work is progressing in compliance with the information provided on the permit application and with all applicable municipal laws and ordinances. He/she shall make as many inspections during and upon completion of the work as are necessary.
- E. In the discharge of his/her duties, the Floodplain Administrator shall have the authority to enter any building, structure, premises or development in the identified floodplain area, upon presentation of proper credentials, at any reasonable hour to enforce the provisions of this ordinance.
- F. In the event the Floodplain Administrator discovers that the work does not comply with the permit application or any applicable laws and ordinances, or that there has been a false statement or misrepresentation by any applicant, the Floodplain Administrator shall revoke the Permit and report such fact to the Board for whatever action it considers necessary.
- G. The Floodplain Administrator shall maintain all records associated with the requirements of this ordinance including, but not limited to, finished construction elevation data, permitting, inspection and enforcement.
- H. The Floodplain Administrator is the official responsible for submitting a biennial report to the FEMA concerning community participation in the National Flood Insurance Program.
- I. The responsibility, authority and means to implement the commitments of the Floodplain Administrator can be delegated from the person identified. However, the ultimate responsibility lies with the person identified in the floodplain ordinance as the floodplain

administrator/manager.

- J. The Floodplain Administrator shall consider the requirements of the 34 PA Code and the 2009 IBC and the 2009 IRC or latest revisions thereof.

Section 3.04 Application Procedures and Requirements

- A. Application for such a Permit shall be made, in writing, to the Floodplain Administrator on forms supplied by the Township of Bridgewater. Such application shall contain the following:
1. Name and address of applicant.
 2. Name and address of owner of land on which proposed construction is to occur.
 3. Name and address of contractor.
 4. Site location including address.
 5. Listing of other permits required.
 6. Brief description of proposed work and estimated cost, including a breakout of flood-related cost and the market value of the building before the flood damage occurred where appropriate.
 7. A plan of the site showing the exact size and location of the proposed construction as well as any existing buildings or structures.
- B. If any proposed construction or development is located entirely or partially within any identified floodplain area, applicants for Permits shall provide all the necessary information in sufficient detail and clarity to enable the Floodplain Administrator to determine that:
1. all such proposals are consistent with the need to minimize flood damage and conform with the requirements of this and all other applicable codes and ordinances;
 2. all utilities and facilities, such as sewer, gas, electrical and water systems are located and constructed to minimize or eliminate flood damage;
 3. adequate drainage is provided so as to reduce exposure to flood hazards;
 4. structures will be anchored to prevent floatation, collapse, or lateral movement;
 5. building materials are flood-resistant;
 6. appropriate practices that minimize flood damage have been used; and
 7. electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities have been designed and located to prevent water entry or

accumulation.

C. Applicants shall file the following minimum information plus any other pertinent information as may be required by the Floodplain Administrator to make the above determination:

1. A completed Permit Application Form.
2. A plan of the entire site, clearly and legibly drawn at a scale of one (1) inch being equal to one hundred (100) feet or less, showing the following:
 - a. north arrow, scale, and date;
 - b. topographic contour lines, if available;

All Property and lot lines including dimensions, size of site expressed in acres or square feet
 - c. the location of all existing and proposed buildings, structures, and other improvements, including the location of any existing or proposed subdivision and development;
 - d. the location of all existing streets, drives, and other access ways; and
 - e. the location of any existing bodies of water or watercourses, identified floodplain areas, and, if available, information pertaining to the floodway, and the flow of water including direction and velocities.
3. Plans of all proposed buildings, structures and other improvements, drawn at suitable scale showing the following:
 - a. the proposed lowest floor elevation of any proposed building based upon North American Vertical Datum of 1988;
 - b. the elevation of the base flood; and
 - c. supplemental information as may be necessary under 34 PA Code, the 2009 IBC or the 2009 IRC.
4. The following data and documentation:
 - a. if available, information concerning flood depths, pressures, velocities, impact and uplift forces and other factors associated with a base flood; and
 - b. detailed information concerning any proposed floodproofing measures and corresponding elevations.
 - c. a document, certified by a registered professional engineer or architect,

which states that the proposed construction or development has been adequately designed to withstand the pressures, velocities, impact and uplift forces associated with the base flood.

Such statement shall include a description of the type and extent of flood proofing measures which have been incorporated into the design of the structure or the development.

- d. detailed information needed to determine compliance with Section 5.03 F., Storage, and Section 5.04, Development Which May Endanger Human Life, including:
 - i. the amount, location and purpose of any materials or substances referred to in Sections 5.03 F. and 5.04 which are intended to be used, produced, stored or otherwise maintained on site.
 - ii. a description of the safeguards incorporated into the design of the proposed structure to prevent leaks or spills of the dangerous materials or substances listed in Section 5.04 during a base flood.
- e. the appropriate component of the Department of Environmental Protection's "Planning Module for Land Development."
- f. where any excavation or grading is proposed, a plan meeting the requirements of the Department of Environmental Protection, to implement and maintain erosion and sedimentation control.

D. Applications for Permits shall be accompanied by a fee, payable to the municipality, based upon the estimated cost of the proposed construction as determined by the Floodplain Administrator.

Section 3.05 Review by County Conservation District

A copy of all applications and plans for any proposed construction or development in any identified floodplain area to be considered for approval shall be submitted by the Floodplain Administrator to the County Conservation District for review and comment prior to the issuance of a Permit. The recommendations of the Conservation District shall be considered by the Floodplain Administrator for possible incorporation into the proposed plan.

Section 3.06 Review of Application by Others

A copy of all plans and applications for any proposed construction or development in any identified floodplain area to be considered for approval may be submitted by the Floodplain Administrator to any other appropriate agencies or individuals (e.g. planning commission, municipal engineer, etc.) for review and comment.

Section 3.07 Changes

After the issuance of a Permit by the Floodplain Administrator, no changes of any kind shall be made to the application, permit or any of the plans, specifications or other documents submitted

with the application without the written consent or approval of the Floodplain Administrator. Requests for any such change shall be in writing, and shall be submitted by the applicant to Floodplain Administrator for consideration.

Section 3.08 Placards

In addition to the Permit, the Floodplain Administrator shall issue a placard which shall be displayed on the premises during the time construction is in progress. This placard shall show the number of the Permit, the date of its issuance, and be signed by the Floodplain Administrator.

Section 3.09 Start of Construction

Work on the proposed construction or development shall begin within 180 days after the date of issuance and shall be completed within twelve (12) months after the date of issuance of the Permit or the permit shall expire unless a time extension is granted, in writing, by the Floodplain Administrator. The actual start of construction means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufacture home on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first, alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

Time extensions shall be granted only if a written request is submitted by the applicant, which sets forth sufficient and reasonable cause for the Floodplain Administrator to approve such a request.

Section 3.10 Enforcement

A. Notices

Whenever the Floodplain Administrator or other authorized municipal representative determines that there are reasonable grounds to believe that there has been a violation of any provisions of this Ordinance, or of any regulations adopted pursuant thereto, the Floodplain Administrator shall give notice of such alleged violation as hereinafter provided. Such notice shall:

1. be in writing;
2. include a statement of the reasons for its issuance;
3. allow a reasonable time not to exceed a period of thirty (30) days for the performance of any act it requires;
4. be served upon the property owner or his agent as the case may require; provided, however, that such notice or order shall be deemed to have been

properly served upon such owner or agent when a copy thereof has been served with such notice by any other method authorized or required by the laws of this State; and

5. contain an outline of remedial actions which, if taken, will effect compliance with the provisions of this Ordinance.

B. Penalties

Any person who fails to comply with any or all of the requirements or provisions of this Ordinance or who fails or refuses to comply with any notice, order or direction of the Floodplain Administrator or any other authorized employee of the municipality shall be guilty of a summary offense to Township of Bridgewater, of not less than One Hundred (100.00) nor more than One Thousand (\$1000.00) plus costs of prosecution. In addition to the above penalties all other actions are hereby reserved including an action in equity for the proper enforcement of this Ordinance. The imposition of a fine or penalty for any violation of, or noncompliance with this Ordinance shall not excuse the violation or noncompliance or permit it to continue. All such persons shall be required to correct or remedy such violations and noncompliance within a reasonable time. Any development initiated or any structure or building constructed, reconstructed, enlarged, altered, or relocated, in noncompliance with this Ordinance may be declared by the Board to be a public nuisance and abatable as such.

Section 3.11 Appeals

- A. Any person aggrieved by any action or decision of the Floodplain Administrator concerning the administration of the provisions of this Ordinance, may appeal to the Board. Such appeal must be filed, in writing, within thirty (30) days after the decision, determination or action of the Floodplain Administrator.
- B. Upon receipt of such appeal the Board shall set a time and place, within not less than ten (10) or not more than thirty (30) days, for the purpose of considering the appeal. Notice of the time and place at which the appeal will be considered shall be given to all parties.
- C. Any person aggrieved by any decision of the Board may seek relief therefrom by appeal to court, as provided by the laws of this State including the Pennsylvania Flood Plain Management Act.

Section 3.12 Fees

The fees for activities and services performed by Township of Bridgewater or their agents in carrying out its responsibilities under this code shall be as indicated by a schedule to be determined by the Township which shall be amended by Resolution from time to time. Fee schedule will be on file at the Township.

ARTICLE IV. IDENTIFICATION OF FLOODPLAIN AREAS

Section 4.01 Identification

The identified floodplain area shall be:

- A. any areas of Township of Bridgewater, classified as Special Flood Hazard Areas (SFHAs) in the Flood Insurance Study (FIS) and the accompanying Flood Insurance Rate Maps (FIRMs) dated April 2, 2013 and issued by the Federal Emergency Management Agency (FEMA) or the most recent revision thereof, including all digital data developed as part of the Flood Insurance Study and,
- B. any Community Identified Flood Hazard Areas.

The above referenced FIS and FIRMs, and any subsequent revisions and amendments are hereby adopted by Township of Bridgewater and declared to be a part of this ordinance.

Section 4.02 Description and Special Requirements of Identified Floodplain Areas

The identified floodplain area shall consist of the following specific areas/districts:

- A. The A Area/District shall be those areas identified as Zone A on the FIRM included in the FIS prepared by FEMA and for which no one-percent (1%) annual chance flood elevations have been provided. For these areas, elevation and floodway information from other Federal, State, or other acceptable source shall be used when available. Where other acceptable information is not available, the elevation shall be determined by using the elevation of a point on the boundary of the identified floodplain area which is nearest the construction site.

In lieu of the above, the municipality may require the applicant to determine the elevation with hydrologic and hydraulic engineering techniques. Hydrologic and hydraulic analyses shall be undertaken only by professional engineers or others of demonstrated qualifications, who shall certify that the technical methods used correctly reflect currently accepted technical concepts. Studies, analyses, computations, etc., shall be submitted in sufficient detail to allow a thorough technical review by the municipality.

- B. The Shallow Flooding Area/ District shall be those areas identified as Zones AO and AH on the FIRM and in the FIS. These areas are subject to inundation by 1-percent-annual-chance shallow flooding where average depths are between one and three feet. In Zones AO and AH, drainage paths shall be established to guide floodwaters around and away from structures on slopes.
- C. Community Identified Flood Hazard Areas shall be those areas where Township of Bridgewater has identified local flood hazard or ponding areas, as delineated and adopted on a "Local Flood Hazard Map" using best available topographic data and locally derived information such as flood of record, historic high water marks, soils or approximate study methodologies.

Section 4.03 Changes in Identification of Area

The identified floodplain area may be revised or modified by the Board where studies or information provided by a qualified agency or person documents the need for such revision. However, prior to any such change to the Special Flood Hazard Area, approval must be obtained from the FEMA. Additionally, as soon as practicable, but not later than six (6) months after the date such information becomes available, a community shall notify FEMA of the changes to the Special Flood Hazard Area by submitting technical or scientific data.

Section 4.04 Boundary Disputes

Should a dispute concerning any identified floodplain boundary arise, an initial determination shall be made by the Township of Bridgewater Planning Commission/or Board and any party aggrieved by this decision or determination may appeal to the Board. The burden of proof shall be on the appellant.

Section 4.05 Jurisdictional Boundary Changes

Prior to development occurring in areas where annexation or other corporate boundary changes are proposed or have occurred, the community shall review flood hazard data affecting the lands subject to boundary changes. The community shall adopt and enforce floodplain regulations in areas subject to annexation or corporate boundary changes which meet or exceed those in CFR 44 60.3.

ARTICLE V. TECHNICAL PROVISIONS

Section 5.01 General

A. Alteration or Relocation of Watercourse

1. No encroachment, alteration, or improvement of any kind shall be made to any watercourse until all adjacent municipalities which may be affected by such action have been notified by the municipality, and until all required permits or approvals have first been obtained from the Department of Environmental Protection Regional Office.
2. No encroachment, alteration, or improvement of any kind shall be made to any watercourse unless it can be shown that the activity will not reduce or impede the flood carrying capacity of the watercourse in any way.
3. In addition, FEMA and the Pennsylvania Department of Community and Economic Development, shall be notified prior to any alteration or relocation of any watercourse.

B. Technical or scientific data shall be submitted by the applicant to FEMA for a Letter of Map Revision (LOMR) as soon as practicable but within six (6) months of any new construction, development, or other activity resulting in changes in the BFE. The situations when a LOMR or a Conditional Letter of Map Revision (CLOMR) are required are:

1. Any development occurring in Zone A which will cause a rise of more than one

foot in the base flood elevation (as determined using methodology in Section 4.02);
or

2. Alteration or relocation of a stream (including but not limited to installing culverts and bridges).
- C. Any new construction, development, uses or activities allowed within any identified floodplain area shall be undertaken in strict compliance with the provisions contained in this Ordinance and any other applicable codes, ordinances and regulations.
- D. Within any Identified Floodplain Area (See Section 4.02), no new construction or development shall be located within the area measured fifty (50) feet landward from the top-of-bank of any watercourse, unless a permit is obtained from the Department of Environmental Protection Regional Office.

Section 5.02 Elevation and Floodproofing Requirements

A. Residential Structures

1. In A Zones, where there are no Base Flood Elevations specified on the FIRM, any new construction or substantial improvement shall have the lowest floor (including basement) elevated up to, or above, the regulatory flood elevation determined in accordance with Section 4.02 (A) of this ordinance.
2. The design and construction standards and specifications contained in the 2009 International Building Code (IBC) and in the 2009 International Residential Code (IRC) or the most recent revisions thereof and ASCE 24 and 34 PA Code (Chapters 401-405 as amended) shall be utilized.

B. Non-residential Structures

1. In A Zones, where there are no Base Flood Elevations specified on the FIRM, any new construction or substantial improvement shall have the lowest floor (including basement) elevated or completely floodproofed up to, or above, the regulatory flood elevation determined in accordance with Section 4.02 (A) of this ordinance.
2. Any non-residential structure, or part thereof, made watertight below the regulatory flood elevation shall be floodproofed in accordance with the WI or W2 space classification standards contained in the publication entitled "Flood-Proofing Regulations" published by the U.S. Army Corps of Engineers (June 1972, as amended March 1992) or with some other equivalent standard. All plans and specifications for such floodproofing shall be accompanied by a statement certified by a registered professional engineer or architect which states that the proposed design and methods of construction are in conformance with the above referenced standards.
3. The design and construction standards and specifications contained in the 2009

International Building Code (IBC) and in the 2009 International Residential Code (IRC) or the most recent revisions thereof and ASCE 24 and 34 PA Code (Chapters 401-405 as amended) shall be utilized.

C. Space below the lowest floor

1. Fully enclosed space below the lowest floor (excluding basements) which will be used solely for the parking of a vehicle, building access, or incidental storage in an area other than a basement, shall be designed and constructed to allow for the automatic entry and exit of flood waters for the purpose of equalizing hydrostatic forces on exterior walls. The term "fully enclosed space" also includes crawl spaces.
2. Designs for meeting this requirement must either be certified by a registered professional engineer or architect, or meet or exceed the following minimum criteria:
 - a. a minimum of two openings having a net total area of not less than one (1) square inch for every square foot of enclosed space.
 - b. the bottom of all openings shall be no higher than one (1) foot above grade.
 - c. openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

D. Historic Structures

See Section 9.02 (36) for requirements for the substantial improvement of any historic structures.

E. Accessory structures In An Identified Floodplain Area

Structures accessory to a principal building need not be elevated or floodproofed to remain dry, but shall comply, at a minimum, with the following requirements:

1. the structure shall not be designed or used for human habitation, but shall be limited to the parking of vehicles, or to the storage of tools, material, and equipment related to the principal use or activity.
2. floor area shall not exceed 300 square feet.
3. The structure will have a low damage potential.
4. the structure will be located on the site so as to cause the least obstruction to the flow of flood waters.
5. power lines, wiring, and outlets will be elevated to the regulatory flood elevation.

6. permanently affixed utility equipment and appliances such as furnaces, heaters, washers, dryers, etc. are prohibited.
7. sanitary facilities are prohibited.
8. the structure shall be adequately anchored to prevent flotation or movement and shall be designed to automatically provide for the entry and exit of floodwater for the purpose of equalizing hydrostatic forces on the walls. Designs for meeting this requirement must either be certified by a registered professional engineer or architect, or meet or exceed the following minimum criteria:
 - a. a minimum of two openings having a net total area of not less than one (1) square inch for every square foot of enclosed space.
 - b. the bottom of all openings shall be no higher than one (1) foot above grade.
 - c. openings may be equipped with screens, louvers, etc. or other coverings or devices provided that they permit the automatic entry and exit of flood waters.

Section 5.03 Design and Construction Standards

The following minimum standards shall apply for all construction and development proposed within any identified floodplain area:

A. Fill

If fill is used, it shall:

1. extend laterally at least fifteen (15) feet beyond the building line from all points;
2. consist of soil or small rock materials only - Sanitary Landfills shall not be permitted;
3. be compacted to provide the necessary permeability and resistance to erosion, scouring, or settling;
4. be no steeper than one (1) foot vertical to two (2) feet horizontal unless substantiated data justifying steeper slopes are submitted to, and approved by the Floodplain Administrator; and
5. be used to the extent to which it does not adversely affect adjacent properties.
6. Begin a minimum of 15 feet from adjoining property

B. Drainage Facilities

Storm drainage facilities shall be designed to convey the flow of storm water runoff in a safe and efficient manner. The system shall ensure proper drainage along streets, and

provide positive drainage away from buildings. The system shall also be designed to prevent the discharge of excess runoff onto adjacent properties.

C. Water and Sanitary Sewer Facilities and Systems

1. All new or replacement water supply and sanitary sewer facilities and systems shall be located, designed and constructed to minimize or eliminate flood damages and the infiltration of flood waters.
2. Sanitary sewer facilities and systems shall be designed to prevent the discharge of untreated sewage into flood waters.
3. No part of any on-site sewage system shall be located within any identified floodplain area except in strict compliance with all State and local regulations for such systems. If any such system is permitted, it shall be located so as to avoid impairment to it, or contamination from it, during a flood.
4. The design and construction provisions of the "UCC and FEMA #348, Protecting Building Utilities from Flood Damages" and "The International Private Sewage Disposal Code" shall be utilized.

D. Other Utilities

All other utilities such as gas lines, electrical and telephone systems shall be located, elevated (where possible) and constructed to minimize the chance of impairment during a flood.

E. Streets

The finished elevation of all new streets shall be a minimum of two (2) feet above the Regulatory Flood Elevation.

F. Storage

All materials that are buoyant, flammable, explosive, or in times of flooding, could be injurious to human, animal, or plant life, and not listed in Section 5.04, Development Which May Endanger Human Life, shall be stored at or above the Regulatory Flood Elevation or floodproofed to the maximum extent possible.

G. Placement of Buildings and Structures

All buildings and structures shall be designed, located, and constructed so as to offer the minimum obstruction to the flow of water and shall be designed to have a minimum effect upon the flow and height of flood water.

H. Anchoring

1. All buildings and structures shall be firmly anchored in accordance with accepted

engineering practices to prevent flotation, collapse, or lateral movement.

2. All air ducts, large pipes, storage tanks, and other similar objects or components located below the regulatory flood elevation shall be securely anchored or affixed to prevent flotation.

I. Floors, Walls and Ceilings

1. Wood flooring used at or below the Regulatory Flood Elevation shall be installed to accommodate a lateral expansion of the flooring, perpendicular to the flooring grain without causing structural damage to the building.
2. Plywood used at or below the regulatory flood elevation shall be of a "marine" or "water-resistant" variety.
3. Walls and ceilings at or below the regulatory flood elevation shall be designed and constructed of materials that are "water-resistant" and will withstand inundation.
4. Windows, doors, and other components at or below the regulatory flood elevation shall be made of metal or other "water-resistant" material.

J. Paints and Adhesives

1. Paints and other finishes used at or below the regulatory flood elevation shall be of "marine" or "water-resistant" quality.
2. Adhesives used at or below the regulatory flood elevation shall be of a "marine" or "water-resistant" variety.
3. All wooden components (doors, trim, cabinets, etc.) used at or below the regulatory flood elevation shall be finished with a "marine" or "water-resistant" paint or other finishing material.

K. Electrical Components

1. Electrical distribution panels shall be at least three (3) feet above the base flood elevation.
2. Separate electrical circuits shall serve lower levels and shall be dropped from above.

L. Equipment

Water heaters, furnaces, air conditioning, ventilating units, and other electrical, mechanical or utility equipment or apparatus shall not be located below the Regulatory Flood Elevation.

M. Fuel Supply Systems

All gas and oil supply systems shall be designed to prevent the infiltration of flood waters into the system and discharges from the system into flood waters. Additional provisions shall be made for the drainage of these systems in the event that flood water infiltration occurs.

N. Uniform Construction Code Coordination

The Standards and Specifications contained 34 PA Code (Chapters 401-405), as amended and not limited to the following provisions shall apply to the above and other sections and sub-sections of this ordinance, to the extent that they are more restrictive and supplement the requirements of this ordinance.

International Building Code (IBC) 2009 or the latest edition thereof:
Secs. 801, 1202, 1403, 1603, 1605, 1612, 3402, and Appendix G.

International Residential Building Code (IRC) 2009 or the latest edition thereof:
Secs. R104, R105, R109, R323, Appendix AE101, Appendix E and Appendix J.

Section 5.04 Development Which May Endanger Human Life

A. In accordance with the Pennsylvania Flood Plain Management Act, and the regulations adopted by the Department of Community and Economic Development as required by the Act, any new or substantially improved structure which:

1. will be used for the production or storage of any of the following dangerous materials or substances; or,
2. will be used for any activity requiring the maintenance of a supply of more than 550 gallons, or other comparable volume, of any of the following dangerous materials or substances on the premises; or,
3. will involve the production, storage, or use of any amount of radioactive substances;

shall be subject to the provisions of this section, in addition to all other applicable provisions. The following list of materials and substances are considered dangerous to human life: This List may be revised to include additional material and substances determined to be dangerous to human life.

- Acetone
- Ammonia
- Benzene
- Calcium carbide
- Carbon disulfide
- Celluloid
- Chlorine
- Hydrochloric acid
- Hydrocyanic acid

- Magnesium
- Nitric acid and oxides of nitrogen
- Petroleum products (gasoline, fuel oil, etc.)
- Phosphorus
- Potassium
- Sodium
- Sulphur and sulphur products
- Pesticides (including insecticides, fungicides, and rodenticides)
- Radioactive substances, insofar as such substances are not otherwise regulated.
- Trichlorethylene
- Ethylenes
- Carbon Tetrachloride

- B. Within any Identified Floodplain Area, any new or substantially improved structure of the kind described in Subsection A., above, shall be prohibited.

Section 5.05 Special Requirements for Subdivisions

All subdivision proposals and development proposals containing at least 50 lots or at least 5 acres, whichever is the lesser, in flood hazard areas where base flood elevation data are not available, shall be supported by hydrologic and hydraulic engineering analyses that determine base flood elevations and floodway information. The analyses shall be prepared by a licensed professional engineer in a format required by FEMA for a Conditional Letter of Map Revision or Letter of Map Revision. Submittal requirements and processing fees shall be the responsibility of the applicant.

Section 5.06 Special Requirements for Manufactured Homes

- A. Within any Identified Floodplain Area, manufactured homes/structures shall be prohibited within the area measured fifty (50) feet landward from the top-of-bank of any watercourse.
- B. Where permitted within any Identified Floodplain Area, all manufactured homes/structures, and any improvements thereto, shall be:
1. placed on a permanent foundation.
 2. elevated so that the lowest floor of the manufactured home is at least one and one half (1 ½) feet above the Base Flood Elevation .
 3. anchored to resist flotation, collapse, or lateral movement.
- C. Installation of manufactured homes/structures shall be done in accordance with the manufacturers' installation instructions as provided by the manufacturer. Where the applicant cannot provide the above information, the requirements of Appendix E of the 2009 International Residential Building Code or the U.S. Department of Housing and Urban Development's Permanent Foundations for Manufactured Housing, 1984 Edition, draft or latest revision thereto shall apply and 34 PA Code Chapter 401-405.

- D. Consideration shall be given to the installation requirements of the 2009 IBC, and the 2009 IRC or the most recent revisions thereto and 34 PA Code, as amended where appropriate and applicable to units where the manufacturers' standards for anchoring cannot be provided or were not established for the proposed unit(s) installation.

Section 5.07 Special Requirements for Recreational Vehicles

- A. Recreational vehicles in Zones A, A1-30, AH and AE must either:
1. be on the site for fewer than 180 consecutive days, and
 2. be fully licensed and ready for highway use, or
 3. meet the permit requirements for manufactured homes/structures in Section 5.06.

ARTICLE VI. PROHIBITED ACTIVITIES

Section 6.01 General

In accordance with the administrative regulations promulgated by the Department of Community and Economic Development to implement the Pennsylvania Flood Plain Management Act, the following activities shall be prohibited within any identified floodplain area.

- A. The commencement of any of the following activities; or the construction, enlargement, or expansion of any structure used, or intended to be used, for any of the following activities:
1. Hospitals
 2. Nursing homes
 3. Jails or prisons
- B. The commencement of, or any construction of, a new manufactured home park or manufactured home subdivision, or substantial improvement to an existing manufactured home park or manufactured home subdivision.

ARTICLE VII. EXISTING STRUCTURES IN IDENTIFIED FLOODPLAIN AREAS

Section 7.01 Existing Structures

The provisions of this Ordinance do not require any changes or improvements to be made to lawfully existing structures. However, when an improvement is made to any existing structure, the provisions of Section 7.02 shall apply.

Section 7.02 Improvements

The following provisions shall apply whenever any improvement is made to an existing structure located within any identified floodplain area:

- A. Any modification, alteration, reconstruction, or improvement of any kind to an existing structure to an extent or amount of fifty (50) percent or more of its market value, shall constitute a substantial improvement and shall be undertaken only in full compliance with the provisions of this Ordinance.
- B. Within any Identified Floodplain Area (See Section 4.01), no new construction or development shall be located within the area measured fifty (50) feet landward from the top-of-bank of any watercourse, unless a permit is obtained from the Department of Environmental Protection Regional Office.
- C. The above activity shall also address the requirements of the 34 PA Code, as amended and the 2009 IBC and the 2009 IRC.
- D. Any modification, alteration, reconstruction, or improvement of any kind to an existing structure, to an extent or amount of less than fifty (50) percent of its market value, shall be elevated and/or floodproofed to the greatest extent possible.
- E. Any modification, alteration, reconstruction, or improvement of any kind that meets the definition of "repetitive loss" shall be undertaken only in full compliance with the provisions of this ordinance.

ARTICLE VIII. VARIANCES

Section 8.01 General

If compliance with any of the requirements of this Ordinance would result in an exceptional hardship to a prospective builder, developer or landowner, the Township of Bridgewater may, upon request, grant relief from the strict application of the requirements.

Section 8.02 Variance Procedures and Conditions

Requests for variances shall be considered by the Township of Bridgewater in accordance with the procedures contained in Section 3.11 and the following:

- A. Except for a possible modification of the regulatory flood elevation requirement involved, no variance shall be granted for any of the other requirements pertaining specifically to development regulated by Prohibited Activities (Article VI) or to Development Which May Endanger Human Life (Section 5.04).
- B. If granted, a variance shall involve only the least modification necessary to provide relief.
- C. In granting any variance, the Township of Bridgewater shall attach whatever reasonable conditions and safeguards it considers necessary in order to protect the public health, safety, and welfare, and to achieve the objectives of this Ordinance.

D. In reviewing any request for a variance, the Township of Bridgewater shall consider, at a minimum, the following:

1. That there is good and sufficient cause.
2. That failure to grant the variance would result in exceptional hardship to the applicant.
3. That the granting of the variance will:
 - a. neither result in an unacceptable or prohibited increase in flood heights, additional threats to public safety, or extraordinary public expense,
 - b. nor create nuisances, cause fraud on, or victimize the public, or conflict with any other applicable state or local ordinances and regulations.

F. Whenever a variance is granted, the Township of Bridgewater shall notify the applicant in writing that:

1. The granting of the variance may result in increased premium rates for flood insurance.
2. Such variances may increase the risks to life and property.

G. A complete record of all variance requests and related actions shall be maintained by the Township of Bridgewater. In addition, a report of all variances granted during the year shall be included in the annual report to the FEMA.

Notwithstanding any of the above, however, all structures shall be designed and constructed so as to have the capability of resisting the one-percent (1%) annual chance flood.

ARTICLE IX. DEFINITIONS

Section 9.01 General

Unless specifically defined below, words and phrases used in this Ordinance shall be interpreted so as to give this Ordinance it's most reasonable application.

Section 9.02 Specific Definitions

1. Accessory use or structure - a use or structure on the same lot with, and of a nature customarily incidental and subordinate to, the principal use or structure.
2. Base flood - a flood which has a one percent chance of being equaled or exceeded in any given year (also called the "100-year flood" or one-percent (1%) annual chance flood).
3. Base Flood Discharge - the volume of water resulting from a Base Flood as it passes a given location within a given time, usually expressed in cubic feet per second (cfs).
4. Base flood elevation (BFE) - the elevation shown on the Flood Insurance Rate Map (FIRM)

for Zones AE, AH, A1-30 that indicates the water surface elevation resulting from a flood that has a 1-percent or greater chance of being equaled or exceeded in any given year.

5. Basement - any area of the building having its floor below ground level on all sides.
6. Building - a combination of materials to form a permanent structure having walls and a roof. Included shall be all manufactured homes and trailers to be used for human habitation.
7. Development - any man-made change to improved or unimproved real estate, including but not limited to the construction, reconstruction, renovation, repair, expansion, or alteration of buildings or other structures; the placement of manufactured homes; streets, and other paving; utilities; filling, grading and excavation; mining; dredging; drilling operations; storage of equipment or materials; and the subdivision of land.
8. Existing manufactured home park or subdivision - a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the floodplain management regulations adopted by a community.
9. Expansion to an existing manufactured home park or subdivision - the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).
10. Flood - a temporary inundation of normally dry land areas.
11. Flood Insurance Rate Map (FIRM) - the official map on which the Federal Emergency Management Agency has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.
12. Flood Insurance Study (FIS) - the official report provided by the Federal Emergency Management Agency that includes flood profiles, the Flood Insurance Rate Map, the Flood Boundary and Floodway Map, and the water surface elevation of the base flood.
13. Floodplain area - a relatively flat or low land area which is subject to partial or complete inundation from an adjoining or nearby stream, river or watercourse; and any area subject to the unusual and rapid accumulation of surface waters from any source.
14. Floodproofing - any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.
15. Floodway - the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

16. Highest Adjacent Grade: The highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.
17. Historic structures – any structure that is:
- a. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
 - b. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
 - c. Individually listed on a state inventory of historic places in states which have been approved by the Secretary of the Interior; or
 - d. Individually listed on a local inventory of historic places in communities with historic preservation that have been certified either:
 - i. By an approved state program as determined by the Secretary of the Interior or
 - ii. Directly by the Secretary of the Interior in states without approved programs.
18. Lowest floor - the lowest floor of the lowest fully enclosed area (including basement). An unfinished, flood resistant partially enclosed area, used solely for parking of vehicles, building access, and incidental storage, in an area other than a basement area is not considered the lowest floor of a building, provided that such space is not designed and built so that the structure is in violation of the applicable non-elevation design requirements of this ordinance.
19. Manufactured Home/Structure- A structure, transportable in one or more sections, which may or may not be built on a permanent chassis and is designed for use with or without a permanent foundation when attached to required utilities. The term includes mobile, homes, park trailers, travel trailers, recreational and other similar vehicles which are placed on a site for more than 180 consecutive days. The term also includes modular structures that are intended to be permanent residences, commercial buildings, offices, etc.
20. Manufactured home park or subdivision – a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.
21. Minor repair - the replacement of existing work with equivalent materials for the purpose of its routine maintenance and upkeep, but not including the cutting away of any wall, partition or portion thereof, the removal or cutting of any structural beam or bearing support, or the removal or change of any required means of egress, or rearrangement of parts of a structure affecting the exitway requirements; nor shall minor repairs include addition to, alteration of, replacement or relocation of any standpipe, water supply, sewer,

drainage, drain leader, gas, oil, waste, vent, or similar piping, electric wiring, mechanical or other work affecting public health or general safety.

22. New construction - structures for which the start of construction commenced on or after April 2, 2013 and includes any subsequent improvements to such structures. Any construction started after May 1, 1986 and before April 2, 2013 is subject to the ordinance in effect at the time the permit was issued, provided the start of construction was within 180 days of permit issuance.
23. New manufactured home park or subdivision – a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of floodplain management regulations adopted by a community.
24. Person - an individual, partnership, public or private association or corporation, firm, trust, estate, municipality, governmental unit, public utility or any other legal entity whatsoever, which is recognized by law as the subject of rights and duties.
25. Post-FIRM Structure - is a structure for which construction or substantial improvement occurred after December 31, 1974 or on or after the community's initial Flood Insurance Rate Map (FIRM) dated May 1, 1986, whichever is later, and, as such, would be required to be compliant with the regulations of the National Flood Insurance Program..
26. Pre-FIRM Structure - is a structure for which construction or substantial improvement occurred on or before December 31, 1974 or before the community's initial Flood Insurance Rate Map (FIRM) dated May 1, 1986, whichever is later, and, as such, would not be required to be compliant with the regulations of the National Flood Insurance Program.
27. Recreational vehicle - a vehicle which is:
 - a. built on a single chassis;
 - b. not more than 400 square feet, measured at the largest horizontal projections;
 - c. designed to be self-propelled or permanently towable by a light-duty truck; and
 - d. not designed for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.
28. Regulatory flood elevation - the base flood elevation (BFE) or estimated flood height as determined using simplified methods plus a freeboard safety factor of one and one-half (1 ½) feet.
29. Repetitive loss – flood related damages sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event,

on average, equals or exceeds 25 percent of the market value of the structure before the damages occurred.

30. Special permit - a special approval which is required for hospitals, nursing homes, jails, and new manufactured home parks and subdivisions and substantial improvements to such existing parks, when such development is located in all, or a designated portion of a floodplain.
31. Special flood hazard area (SFHA) - means an area in the floodplain subject to a 1 percent or greater chance of flooding in any given year. It is shown on the FIRM as Zone A, AO, A1-A30, AE, A99, or, AH.
32. Start of construction - includes substantial improvement and other proposed new development and means the date the Permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement was within 180 days from the date of the permit and shall be completed within twelve (12) months after the date of issuance of the permit unless a time extension is granted, in writing, by the Floodplain Administrator. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufacture home on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.
33. Structure - a walled and roofed building, including a gas or liquid storage tank that is principally above ground, as well as a manufactured home.
34. Subdivision - the division or redivision of a lot, tract, or parcel of land by any means into two or more lots, tracts, parcels or other divisions of land including changes in existing lot lines for the purpose, whether immediate or future, of lease, partition by the court for distribution to heirs, or devisees, transfer of ownership or building or lot development: Provided, however, that the subdivision by lease of land for agricultural purposes into parcels of more than ten acres, not involving any new street or easement of access or any residential dwelling, shall be exempted.
35. Substantial damage - damage from any cause sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed fifty (50) percent or more of the market value of the structure before the damage occurred.
36. Substantial improvement - any reconstruction, rehabilitation, addition, or other improvement of a structure, of which the cost equals or exceeds fifty (50) percent of the

market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage" or "repetitive loss" regardless of the actual repair work performed. The term does not, however, include any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions.

Historic structures undergoing repair or rehabilitation that would constitute a substantial improvement as defined in this ordinance, must comply with all ordinance requirements that do not preclude the structure's continued designation as a historic structure. Documentation that a specific ordinance requirement will cause removal of the structure from the National Register of Historic Places or the State Inventory of Historic places must be obtained from the Secretary of the Interior or the State Historic Preservation Officer. Any exemption from ordinance requirements will be the minimum necessary to preserve the historic character and design of the structure.

37. Uniform Construction Code (UCC) – The statewide building code adopted by The Pennsylvania General Assembly in 1999 applicable to new construction in all municipalities whether administered by the municipality, a third party or the Department of Labor and Industry. Applicable to residential and commercial buildings, The Code adopted The International Residential Code (IRC) and the International Building Code (IBC), by reference, as the construction standard applicable with the State floodplain construction. For coordination purposes, references to the above are made specifically to various sections of the IRC and the IBC.
38. Violation - means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in 44 CFR §60.3(b)(5), (c)(4), (c)(10), (d)(3), (e)(2), (e)(4), or (e)(5) is presumed to be in violation until such time as that documentation is provided.

ARTICLE X. ENACTMENT

Section 10.01 Adoption

This Ordinance shall be effective on April 2, 2013 and shall remain in force until modified, amended or rescinded by Township of Bridgewater, Susquehanna, Pennsylvania.

ENACTED AND ADOPTED by the Board this 19 day of DECEMBER
2016.

ATTEST: BOARD OF THE TOWNSHIP OF BRIDGEWATER.

Connie J. Ely
Township of Bridgewater Secretary

By: Charles Reed
Board President

APPROVED, this 19th day of December, 2016, by Bridgewater Township Supervisors

ATTEST:

Connie J. Ely
Township of Bridgewater Secretary
