

**BOARD OF SUPERVISORS
TOWNSHIP OF WILLIAMS
NORTHAMPTON COUNTY, PENNSYLVANIA**

SINKHOLE/CARBONATE REGULATIONS ORDINANCE

ORDINANCE # 2005-1

AN ORDINANCE OF WILLIAMS TOWNSHIP, NORTHAMPTON COUNTY PENNSYLVANIA TO CREATE NEW SINKHOLE/CARBONATE REGULATIONS TO PROVIDE FOR REGULATIONS PERTAINING TO SUBDIVISION AND LAND DEVELOPMENT ORDINANCE IN AREAS PRONE TO SINKHOLES.

WHEREAS, The Williams Township Board of Supervisors believes it necessary to promote safe development, and

WHEREAS, a substantial amount of the land in Williams Township has been found to be susceptible to the development of sinkholes; and

WHEREAS, The Board of Supervisors is of the belief that the susceptibility of a property to the development of sinkholes is an important issue for the property owners and/or developers to address and provide relevant information pertaining to identification and remediation or problems associated with the same when filing applications for subdivision and land development approvals to the Township, and

WHEREAS, The Board of Supervisors believes it is in the best interest of the health, safety and welfare of the residents to take a proactive approach to minimize the risk of sinkhole occurrences in the areas of new development and to the lands adjacent to these developments, and

NOW AND THEREFORE, BE IT ENACTED AND ORDAINED,
by the Township of Williams, Northampton County, Pennsylvania.

Sinkhole/Carbonate Regulations

Section 1. Purpose

Williams Township's topography may be defined as a karst topography due to the presence of carbonate rock that generally consists of dolomite and limestone. These formations are susceptible to the development of solution cavities and sinkhole development. Therefore anyone considering developing property within the Township be aware of the potential geological hazards. The regulations contained herein are intended to minimize the risk of sinkhole occurrence in areas of new development and on lands adjacent to these developments.

Section 2. Governance

The regulations established by this ordinance shall apply to all land development or subdivision applications pertaining to commercial, governmental (except those owned by Williams Township) and industrial/office structures, apartment complexes and residential developments.

Section 3. Exemptions

All single family homes and the alteration of single family homes to include detached structures such as garages, barns and swimming pools shall be exempt from the regulations established in this section.

Section 4. Definitions

1. Carbonate rock – rock types that are affected by dissolution weathering process caused by slightly acidic groundwater. The most common types of rock that are categorized as carbonate rock are limestone (calcium carbonate and dolomite calcium magnesium carbonate.)
2. Cavern – interconnected solution features within the bedrock surface.
3. Clay liner – fine grained soil that is used in the construction of a liner that limits the rate of surface water intrusion into the subsurface.
4. Closed Depression – a bowl shaped depression in the land surface characterized by internal drainage. A ghost lake is a closed depression which has visible standing water after a heavy rainfall event.
5. Fault – a fracture in bedrock along which movement has taken place.
6. Fine Grained Soil – materials that predominantly consist of silt and clay size particles.
7. Hazardous Materials (chemical or bio-hazard) – as defined and regulated by the PADEP or EPA.
8. Impermeable Liners – a liner system that prohibits the infiltration or surface water into the subsurface.
9. Karst – the terrain that results from the dissolution of carbonate rock.
10. Karst Process – the dissolution of carbonate rock by slightly acidic groundwater. Dissolution weathering – the removal of soluble materials from intact carbonate rock by slightly acidic groundwater.
11. Lineaments – aligned topographic features that locate faults and fractures.

12. Residual Soil – soils derived from the in-place weathering of the underlying bedrock.
13. Sinkhole – localized land surface subsidence or collapse due to karst processes. Sinkholes are categorized as solution sinkholes, collapse sinkholes and subsidence sinkholes.
14. Spring – where water flows naturally out of the bedrock or the overlying soil mantle on to the land surface.
15. Toxic and/or biological or Chemical Hazardous Materials – biological species or chemical compounds which are deemed to be toxic or hazardous by the Pennsylvania Department of Environmental Protection.

Section 5. Specific Carbonate Ordinance Regulations

1. All of the following specific requirements shall apply to land developments and/or subdivisions covered by this ordinance:
 - a. No buildings, structures or stormwater management basin or shall be placed in or over the following features if unremediated in accordance with the terms of this ordinance. Sinkholes, closed depressions, lineaments, or faults.
 - b. Building structures and stormwater management basins shall be located no closer than 100 feet from the rim of unremediated sinkholes, and no closer that 50 feet from lineaments, faults or closed depressions.
 - c. Outflow from a stormwater management basin and/or post development stormwater flows shall no be directed to any of the following carbonate features: Sinkholes, closed depressions, lineaments, or caverns.
 - d. Lagoons containing substances defined as toxic and/or hazardous by the Pennsylvania Department of Environmental Protection are not permitted.
 - e. Storage and handling areas for hazardous materials must have impermeable surfaces designed to contain materials stores/handled from which they shall be directed to a predetermined collection point.
2. The Township Board of Supervisors shall not entertain requests for waivers from the requirements listed above until a Carbonate Ordinance Assessment Report, as required by the ordinance, has been supplied to the Planning Commission and the Township Engineer for their review and comment.

Section 6. Carbonate Ordinance Assessment Report

1. All land developments and/or subdivisions covered by this ordinance shall be evaluated by a Licensed Professional Civil Engineer with expertise in Geotechnical Engineering or a Licensed Professional Geologist. Each of said experts being licensed in their field of expertise by the Commonwealth of Pennsylvania. A list of the engineers/geologist qualifications shall be submitted to the Township prior to the commencement of the sites evaluation. The Township reserves the right to reject any report that in their opinion was authored by an individual or firm which does not possess the background to properly assess the site conditions as they relate to this ordinance. Further the Carbonate Ordinance Assessment Report submitted to the Township must be signed by the licensed professional civil engineer with expertise in geotechnical engineering and/or a licensed professional geologist.

2. The format and content of the Carbonate Ordinance Assessment Report shall include, but not be limited to the following:

- a. Statement of Purpose: This section shall indicate those specific Carbonate Ordinance standards being addressed in the Report and whether the applicant is attempting to demonstrate compliance or justify noncompliance with those specific Carbonate Ordinance Standards.
- b. Description of Existing conditions: This section shall present a description of existing characteristics of the property with respect to geology, topography, ground and surface water hydrology, soils, vegetation, and existing improvements and uses of property.
- c. A map, at scale no smaller than 1 inch = 100 feet and a contour interval of two feet indicating the location of the property and all proposed improvements.
- d. The Developer/Applicant shall submit information for the effected properties indicating the presence of any of the following carbonate features: depressions, fissures, lineaments, faults, ghost lakes, bedrock, outcrops, sinkholes, seasonal high water levels, soil mottling, springs, surface drainage entering the ground, disappearing lakes or streams and caverns.
- e. A recommended plan for the repair or remediation of surface or subsurface features that may impact the proposed development as well as the adjacent improved or unimproved properties.
- f. The information requested above shall be based upon previously published data and field surveys which may include test boring, excavation of test pits, air-track probes, and geophysical methods.

3. In addition to the Carbonate Ordinance Assessment Report the developer shall also be required to provide the following information:

- a. A plan indicating the existing and proposed drainage conditions, locations of all proposed private and public sewage disposal systems, and the location of existing private and public water supplies on adjoining properties (within 1000 ft. of applicant property).
- b. Type, location and phasing of proposed site disturbance and construction, as well as proposed future ownership, utilization and maintenance of the property and the proposed improvements.
- c. Proposed measures to control potential adverse environmental impacts on groundwater quality and stormwater management resulting from the development and utilization of the property.
- d. Plans describing the design and construction of the proposed stormwater management facilities proposed for the project. A description of the minimum requirements are outlined below.

Section 7. Stormwater Management:

- a. All submissions for proposed developments must include a stormwater management plan prepared in accordance with adopted regulations and which limits surface water runoff and the intrusion of concentrated flow of surface water into the subsurface. Facilities that are required as part of the stormwater management plan include the collection of all runoff from commercial, office and industrial building roofs into storm drains by water tight gasketed joint conduits or adequately lined drainage swales and the collection of surface water flow on pavements into drop inlets connected to a water tight gasketed joint storm water conduit or adequate lined drainage swales. The stormwater conduit must discharge into lined detention basins.
- b. Approved storm water conduits include HDPE, PVC, concrete, steel and cast iron pipe all with water tight rubber gaskets at each joint. The use of corrugated metal pipe is not permitted. Construction of the piping system must follow all other applicable ordinances. Where rock is encountered at or above the planned conduit design grade the rock shall be undercut and over excavated a minimum of one foot and backfilled with a compacted fine grained soil.

- c. All detention basins in areas of sinkhole prone soil shall be lined. The liner used in a detention basin may consist of a clay liner, a composite synthetic and soil liner or a synthetic liner. The type of liner required shall depend on the condition of the detention basin bottom and the probability of sinkhole occurrence resulting from the construction of the detention basin. The use of low flow channel may also be required depending on the duration and frequency of storm water discharge into the detention basin. Subsurface detention systems must be in leak proof tanks or piping which follows the same standards as in F.4.b. The Township Engineer shall make the final determination as to what is an acceptable form of liner for the proposed detention basins.

Additional items that must be included in the stormwater management plan include details with regard to the sealing of all pavement curbs and gutters, manholes and drop inlets.

Section 8. Review Process.

1. The Carbonate Ordinance Assessment Report must be received by the Township when a plan is submitted at the time of a sketch plan review. Four copies of the Report shall be submitted to the Township. The Report shall be reviewed by the Township Engineer and other consultants as designated by the Township. Based on this review the Township may require additional information to be submitted if the Township concludes that such information would be instrumental in assessing the proposed development as it relates to the Carbonate Ordinance.

2. Approvals Required – Where compliance with this section is required as part of an application for subdivision or land development approval. The Township’s decision on whether compliance has been achieved shall be made as part of its review of the subdivision or land development application.

Where the application is part of a request for zoning permit, the zoning officer shall issue no permit until he/she receives adequate written substantiation from the appropriate designated experts referred to above, the terms of this section, and any conditions imposed upon the use of the property at the time of subdivision or land development approval are satisfied.

Section 9. Limitations.

In carbonate areas, alteration and development of land may be hazardous with respect to foundation safety of structures, the creation of unstable land as a result of changes in drainage, and the contamination of ground and surface waters. Within the limitations of the information available at the time of the review of individual applications, the Township shall attempt to make reasonable judgements as to the applicant’s compliance with the Carbonate Ordinance. Under no circumstances shall the Township of Williams or any officer or employee of the Township or Consultant to the Township assume any liability for any damages that may result from an Applicant’s or any interested party’s reliance upon the regulations of the Carbonate Ordinance or any

decisions made by the Township in the administration of such regulations by an applicant, developer, and/or any interested party.

Section 10. ENFORCEMENT AND PENALTIES

Section 10.1. Right of Entry

Upon presentation of proper credentials, duly authorized representatives of the municipality may enter at reasonable times upon any property within the municipality to inspect the condition of the stormwater structures and facilities in regard to any aspect regulated by this ordinance.

Section 10.2. Notification

In the event that a person fails to comply with the requirements of this ordinance, or fails to conform to the requirements of any permit issued hereunder, the municipality shall provide written notification of the violation. Such notification shall set forth the nature of the violation(s) and establish a time limit for correction of these violations(s). Failure to comply within the time specified shall subject such person to the penalty provision of this ordinance. All such penalties shall be deemed cumulative. In addition, the municipality may pursue any and all other remedies. It shall be the responsibility of the owner of the real property on which any regulated activity is proposed to occur, is occurring, or has occurred, to comply with the terms and conditions of this ordinance.

Section 10.3. Enforcement

The municipal governing body is hereby authorized and directed to enforce all of the provisions of this ordinance. All inspections regarding compliance with the stormwater management site plan shall be the responsibility of the Municipal Engineer or other qualified persons designated by the municipality.

- A. A set of design plans approved by the municipality shall be on file at the site throughout the duration of the construction activity. Periodic inspections may be made by the municipality or designee during construction.
- B. Adherence to approved plan

It shall be unlawful for any person, firm, or corporation to undertake any activity under Section 104 on any property except as provided for in the approved stormwater management site plan and pursuant to the requirements of this ordinance. It shall be unlawful to alter or remove any control structure required by the stormwater management site plan pursuant to this ordinance or to allow the property to remain in a condition which does not conform to the approved stormwater management site plan.

- C. At the completion of the project, and as a prerequisite for the release of the performance guarantee, the owner or his representatives shall:
 - 1. Provide certification of completion from an engineer, architect, surveyor or other qualified person verifying that all permanent facilities have been constructed according to the plans and specifications and approved revisions thereto.
 - 2. Provide a set of as built drawings.
- D. After receipt of the certification by the municipality, a final inspection shall be conducted by the governing body or its designee to certify compliance with this ordinance.
- E. Prior to revocation or suspension of a permit, the governing body will schedule a hearing to discuss the non-compliance if there is not immediate danger to life, public health or property.
- F. Suspension and revocation of permits
 - 1. Any permit issued under this ordinance may be suspended or revoked by the governing body for:
 - a. Noncompliance with or failure to implement any provision of the permit.
 - b. A violation of any provision of this ordinance or any other applicable law, ordinance, rule or regulation relating to the project.
 - c. The creation of any condition or the commission of any act during construction or development which constitutes or creates a hazard of nuisance, pollution or which endangers the life or property of others.
 - 2. A suspended permit shall be reinstated by the governing body when:
 - a. The municipal engineer or his designee has inspected and approved the corrossions to the stormwater management and erosion and sediment pollution control measure(s) or the elimination of the hazard or nuisance, and/or;
 - b. The governing body is satisfied that the violation of the ordinance, law, or rule and regulation has been corrected.
 - c. A permit revoked by the governing body cannot be reinstated. The applicant may apply for new permit under the procedures outlined in this ordinance.

G. Occupancy Permit

An occupancy permit shall not be issued unless the certification of compliance has been secured. The occupancy permit shall be required for each lot owner, and/or developer for all subdivisions and land development in the municipality.

Section 10.4. Public Nuisance

- A. The violation of any provision of this ordinance is hereby deemed a public nuisance.
- B. Each day that a violation continues shall constitute a separate violation.
- C. Any person found to be in violation of this Ordinance shall be guilty of a summary offense and shall upon conviction be sentenced to pay a fine not to exceed One Thousand (\$1,000.00) Dollars per violation and may also be sentenced to incarceration to the extent allowed by the law for punishment upon conviction of a summary offense. Each day that a violation continues may be a separate offense. The Williams Township Zoning Officer shall have jurisdiction for the enforcement of this Ordinance. Each separate offense shall arise for each day or portion thereof in which a violation was found to exist or for each section of the Ordinance, which is found to have been violated. The Williams Township Solicitor may assume charge of the prosecution of any action brought before a District Justice without the consent of the District Attorney pursuant to Title 53 P S. Section 6601(2), as amended.

In addition, any person found to be in violation of this Ordinance shall be subject to any and all enforcement provisions contained within the Stormwater Management Act, Title 32 P.S. Section 680.15. This Ordinance may be enforced by the Township of Williams through an action in equity brought in the Court of Common Pleas of Northampton County.

- A. In addition, the municipality, though its solicitor, may institute injunctive, mandamus or any other appropriate action or proceeding at law or in equity for the enforcement of this ordinance. Any court of competent jurisdiction shall have the right to issue restraining orders, temporary or permanent injunctions, mandamus or other appropriate forms of remedy or relief.

Section 10.5. Appeals

- A. Any person aggrieved by any action of the municipality or its designee, relevant to the provisions of this ordinance, may appeal to the Municipal Zoning Hearing Board within thirty (30) days of that action.
- B. Any person aggrieved by any decision of the municipal Zoning Hearing Board, relevant to the provisions of this ordinance, may appeal to the County

Court of Common Pleas in the county where the activity has taken place within thirty (30) days of the Zoning Hearing Board's decision.

Section 11. Effective Date

This Ordinance shall be effective five (5) days after the adoption hereof.

ENACTED AND ORDAINED into law by the Township of Williams, Northampton County, Pennsylvania, this 8th day of March, 2005.