

ARTICLE XI

WELLHEAD PROTECTION DESIGN REQUIREMENTS

1101. Purpose

The purpose of the Wellhead Protection District is to safeguard the public health, safety and welfare, by providing regulation of land use and the manufacture, use, storage, transport, or disposal of hazardous and other substances which pose a threat to the quality and quantity of groundwater being extracted from the South Middleton Township municipal wells. It is the further intent of this District to recognize and protect a uniquely vulnerable groundwater resource area, defined by a carbonate geologic formation which is prone to the development of sinkholes and fractures that allow rapid infiltration of contaminants to these wells.

1102. The objective of this District as it applies to delineated wellhead protection areas are:

- a. To limit land uses and activities involving the generation, use, transport, or storage of hazardous substances;
- b. To regulate other land uses and activities with the potential to pollute groundwater;
- c. To assure appropriate nutrient management practices;
- d. To establish siting standards to guide development onto the least environmentally-sensitive portions of property;
- e. To preserve vegetated buffer areas and establish setbacks for uses around streams, water bodies, springs, and sinkholes;
- f. To provide for maximum lot coverage standards to minimize impervious surfaces and reduce storm water runoff;
- g. To provide for storm water management that maximizes groundwater recharge;
- h. To protect and enhance surface and groundwater quality from the impacts of development on storm water quality with Best Management Practices;

- i. To establish disturbance standards for wetlands, woodlands and steep slopes to minimize sedimentation of waters and to maximize water recharge;
- j. To require the regular maintenance of on-lot sewage disposal systems to minimize the potential for contamination of groundwater; and,
- k. To alert landowners, potential buyers, appraisers, assessors and lessees of the legal restrictions inherent in certain land uses and activities in this Overlay District.

1103. Statutory Authority

Section 1428 of the Federal Safe Drinking Water Act Amendments of 1986 requires the States to establish Wellhead Protection Programs to protect groundwater from contamination. In Pennsylvania, the responsibilities for development and implementation of Wellhead Protection Programs is shared between water suppliers, the Commonwealth and local municipal governments. The Pennsylvania Department of Environmental Protection (DEP) recognizes that, in Pennsylvania, DEP is responsible for regulating water suppliers and discharges of contaminants. DEP also recognizes that it is the responsibility of local governments to regulate land use. South Middleton Township is empowered, under the provisions of the Pennsylvania Municipalities Planning Code (MPC), as amended, 53 P.S. § 10101, to enact ordinances regulating development and land uses.

1104. General Provisions

No area within the Wellhead Protection District shall hereafter be used without full compliance with the terms of this Article and other applicable regulations.

1105. Abrogation and Greater Restrictions

The provisions hereof relating to the Wellhead Protection District shall not repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where the provisions relating to the Wellhead Protection District impose greater restrictions, such provisions shall prevail.

1106. Intent

The intent of the design standards set forth below is to minimize impervious surfaces and reduce storm water runoff; to provide for storm water management practices that maintain groundwater recharge; and, protect and enhance surface and groundwater quality from the impacts of development on storm water quality utilizing Best Management Practices. Where there may be conflict or confusion as to the application of these design standards, the governing body shall resolve such conflicts or confusion in the manner most consistent with the intent set forth above.

1107. Application

- a. The design standards herein are applicable to all land development in the Wellhead Protection District, WHPA Zones 1, 2 and 3, except as set forth below in subparagraphs (b.) and (c.).
- b. The design standards herein do not apply to land development outside of Zone 3 of the WHPAs. Nothing herein shall be construed to relieve such land development from the requirements of the Subdivision and Land Development Ordinance.
- c. Since an existing use may contemplate expansion as part of its long-term plan, it is not the intent of this Section to impose new requirements or standards on an existing use that expands provided that:
 - (1) The expansion does not require the existing use to acquire additional land beyond its property boundary(ies) existing on the date this Article was adopted. If the existing use changes, or is expanded beyond its property boundary(ies) existing on the date this Article was adopted, then the use change or use expansion is subject to the requirements and standards contained herein; and,
 - (2) All expansions of existing uses must comply with the requirements of the Subdivision and Land Development Ordinance, and the requirements of any other applicable Ordinance, or imposed by the common law of the Commonwealth.
 - (3) The governing body may, at its discretion, require the installation of a groundwater monitoring well for expansions of existing uses to serve as advance warning of potential adverse water quality impacts.

1108. Land Development Design Standards

a. General Requirements

- (1) The subdivision of land within WHPA Zone 1 for any purpose other than for the specific protection of the groundwater within this area shall be prohibited;
- (2) In WHPA Zones 2 and 3, land development projects shall comply with the following requirements:
- (3) A registered professional geologist shall review aerial photographs, soils, geologic and other available related data including the Wellhead Protection Study, as the data relates to the subject property. The geologist shall also conduct a site inspection of the property. Based on the above information, the professional shall prepare a map of the site showing the following:
 - (a) closed depressions
 - (b) open sinkholes
 - (c) outcrops of bedrock
 - (d) surface drainage into ground
 - (e) "ghost lakes" after rainfall
 - (f) lineaments, faults and fracture traces
 - (g) limonite excavations and quarries
- (4) Based on the map prepared pursuant to Section 1108 a.(3.) above, and in conjunction with other mapping and information submitted for compliance with the requirements of the Subdivision and Land Development Ordinance, the geologist shall prepare a report demonstrating compliance with the requirements of this Section, including any recommended mitigating measures designed to ensure compliance;
- (5) The municipal engineer, or other appointed agent, shall review the information and recommendations made by the geologist and shall then report to the planning commission and the governing body whether the proposal meets the design requirements of this Section;
- (6) During construction activity, all excavations shall either be protected against storm water ponding or backfilled daily;

- (7) All buildings, structures, impervious surfaces and utilities shall be situated, designed and constructed so as to minimize the risk of new sinkhole formation and of the accelerated introduction of contaminants and pollution into the wellhead protection area through existing or future sinkholes;
- (8) Buildings, structures, impervious surfaces, utilities and swimming pools shall not be located within fifty feet (50') of any features identified in Section 1108(a.)(3.) unless detailed geotechnical work shows that there will be no negative impact on groundwater recharge or quality;
- (9) Salt or de-icing storage areas, gasoline or other chemical storage areas and blasting shall not be located within one hundred feet (100') of any features identified in Section 1108 a.(3) unless detailed geotechnical work shows that there will be no negative impact on groundwater recharge or quality;
- (10) Storm water facilities, including, but not limited to, detention basins, shall not be located within twenty five feet (25') of any features identified in Section 1108 a.(3.) unless special precautions are taken to protect groundwater recharge and quality, including the installation of lines, impermeable beds and concrete pipe utilizing o-ring joints;
- (11) Storm water retention facilities, french drains, and other areas of concentrated infiltration of storm water shall be prohibited; and
- (12) Storm water shall not be directed into a sinkhole or closed depression.
- (13) All subdivision and land development plans shall include a note holding the South Middleton Township Municipal Authority harmless for any property damages which may be attributable to operation of the production wells.

b. Siting

Proposed development (excluding farm buildings) on properties that extend both inside and outside the WHPA Zone 3 boundary shall meet the following requirements:

- (1) Where sufficient buildable land area exists on the portion of the property outside the WHPA Zone 3 area boundary to

accommodate the proposed development, and where applicable setbacks permit, that area in its entirety shall be utilized before any land within the WHPA Zone 3 shall be used;

- (2) Where insufficient buildable land area exists on the portion of the property outside the WHPA Zone 3 to accommodate the proposed development, as much of the proposed development as possible shall be sited outside the WHPA and the remainder sited just inside the WHPA Zone 3 boundary; and
- (3) Proposed development (excluding farm buildings), located entirely within WHPAs Zones 2 and 3 should be grouped and sited at as great a distance on the subject parcel as possible from the wellhead and from streams, water bodies, sinkholes, and other karst features described in Section 1108 a.(3.) as buildable land area permits.

c. Setback Requirements

- (1) A minimum of fifty percent (50%) of existing live trees and other brushy perennial vegetation within a one hundred foot (100') buffer of the outermost edge of all streams, water bodies, springs, and sinkholes shall be maintained;
- (2) A minimum one hundred foot (100') development setback from the outermost edge of all streams, water bodies and springs shall be maintained; and
- (3) Within WHPA Zones 1 and 2 only, a fifty foot (50') agricultural filter strip from the outermost edge of all streams, water bodies, springs, and sinkholes shall be maintained within which no nutrients or pesticides shall be applied.

d. Lot Coverage - As stated, the intent of these design standards is to minimize impervious surfaces and reduce storm water runoff; to provide for storm water management practices that maintain groundwater recharge; and, to protect and enhance surface and groundwater quality from the impacts of development on storm water quality with Best Management Practices. The Board of Supervisors of South Middleton Township has studied the issue of impervious surface restrictions carefully and thoroughly. The Board believes that the following design requirements are equitable, in that they provide the greatest degree of wellhead protection and

present the lowest potential for affecting existing and future land uses within the Township.

- e. The percentage of the lot that may be covered by impermeable surfaces, including buildings, sidewalks, and parking lots and driveways shall be in accordance with Table 3.

Table 3
Well Number 1

Underlying Zoning District		Maximum Impervious Lot Coverage (Zones 1, 2 and 3)
Woodland Conservation	W-C	7%
Agricultural & Conservation	A&C	15%
Village	V	60%
Industrial	I	60%

Well Number 2

Underlying Zoning District		Maximum Impervious Lot Coverage (Zones 1, 2 and 3)
Agricultural & Conservation	A&C	15%
Moderate Density Residential	RM	40%
High Density Residential	RH	50%
Commercial	C	60%

Well Number 3

Underlying Zoning District		Maximum Impervious Lot Coverage (Zones 1, 2 and 3)
Agricultural & Conservation	A&C	15%
High Density Residential	RH	40%
Moderate Density Residential	RM	50%
Neighborhood	N	60%
Commercial	C	60%
Industrial	I	60%

- f. Ground Cover and Landscaping - Vegetative cover shall be provided on all disturbed land areas, excluding fallow agricultural fields, not covered by paving, stone or other solid material. The maintenance or use of native plant materials with lower water and nutrient requirements is encouraged;
- g. Erosion and Sedimentation - All proposed development and land use activities which involve grading or excavation shall require the preparation of an Erosion and Sedimentation Control Plan, to be

reviewed by the Cumberland County Conservation District. Such Plan shall conform to the requirements of Chapter 102, as amended, of the Rules and Regulations of the Department of Environmental Protection;

- h. Stormwater Management – All proposed development and land use activities within WHPA Zones 1, 2, and 3 shall utilize innovative storm water management techniques that incorporate Best Management Practices. Such practices shall be used to filter pollutants from surface runoff. Natural drainage systems shall be considered, including constructed wetlands, grassed swales, change in ground cover, and retention of woodlands and natural topography. The Pennsylvania Stormwater Best Management Practices Manual, as amended, shall be used as a guideline for design of Best Management Practices.
- g. Sanitary Sewers - Sanitary sewers constructed within one hundred feet of (100') closed depressions, open sinkholes, seasonal high water table indicators, surface drainage into ground, "ghost lakes", lineaments, faults and fracture traces shall be either encased in concrete or of ductile iron.
- h. Wetlands - No development or land use activities or improvements which would entail encroachment into, the regrading of, or the placement of fill in wetlands in violation of State or Federal regulations is permitted. Applicants must submit evidence that, if wetlands are present on the site, the Pennsylvania Department of Environmental Protection (Bureau of Dams and Waterway Safety) and the U. S. Army Corps of Engineers have been contacted to determine the applicability of, and compliance with, State and Federal wetland regulations. Any replacement wetlands proposed to offset the filling of on-site wetlands shall be located within the same WHPA Zone;
- i. Woodlands - Existing wooded areas shall be protected to prevent unnecessary destruction. Healthy trees with a caliper of six inches (6") or more as measured at a height of four and one-half feet (4½') above existing grade, shall not be removed unless their location interferes with a planned improvement that cannot be relocated. At least seventy-five percent (75%) of the number of trees (size described above) that exist at the time of plan submission shall be maintained or replaced immediately after construction. Replacement trees shall be of a native species and have a minimum trunk caliper of two inches (2") at a height of six inches (6") above finished grade and located within unbuildable sections of the site (i.e., floodplain, steep slope, and setback areas). Plans

shall be submitted showing existing trees and proposed construction and which indicate conformance with this section;

- j. Steep Slopes - Proposed development in areas having slopes of fifteen percent (15%) or greater shall meet the requirements of Section 1420, Steep Slope Conservation District, of the Zoning Ordinance. In addition, the applicant shall:
 - (1) indicate the methods that will be used to protect water quality on and around the site from the adverse effects of the proposed use;
 - (2) demonstrate how off-site impacts on karst features will be avoided (see Sections 1108 a.(3) and 1108 a.(4)); and
 - (3) provide a twenty-five foot (25') vegetative buffer consisting of native trees and other brushy perennial vegetation either along the boundary of the property with the lowest elevation, or at the foot of the sloped portion of the property if it lies interior to the boundary. Plans shall be submitted showing existing vegetation and proposed new vegetation along this boundary. Any required new vegetation shall be established prior to the commencement of any other on-site earth disturbance activities; and
- k. Road Construction - New roads and the widening of existing roads shall minimize impervious land cover.

1109. Modification/Waiver

- a. The governing body may modify one or more provisions of this Article provided that all of the following findings are made and such modification will not be contrary to the purpose and intent of this Article:
 - (1) strict compliance with or literal enforcement of the Ordinance will result in undue hardship because of peculiar conditions pertaining to the land in question;
 - (2) the undue hardship alleged is not a hardship generally created by this Article affecting all lands similarly situated;
 - (3) the undue hardship was not created, or did not arise, subsequent to January 1, 1997;

- (4) the modification requested is the minimum necessary to afford relief and represents the least modification possible; and
 - (5) the undue hardship alleged can not be reduced by development of adjoining land of the applicant or landowner.
- b. The governing body may waive one or more provisions of this Article when it is proved by clear and convincing evidence that there is no possibility that the property, together with any adjoining land of the applicant or landowner if applicable, can be developed in strict conformity with the Ordinance.
- (1) In granting any modification or waiver, the governing body may attach any conditions and safeguards as it may deem necessary.
 - (2) All requests for a modification or waiver shall be in writing and shall accompany and be part of the application for subdivision or land development. The request shall address in full and with specificity the provisions in question and the grounds and facts. The request shall also address each of the criteria raised herein and shall be signed by the applicant, and certified by an engineer.