

SOUTH MIDDLETON TOWNSHIP  
CUMBERLAND COUNTY, PENNSYLVANIA

ORDINANCE NO. 2016-06  
OF THE BOARD OF SUPERVISORS  
OF SOUTH MIDDLETON TOWNSHIP  
CUMBERLAND COUNTY, PENNSYLVANIA

AN ORDINANCE OF AND BY THE BOARD OF SUPERVISORS OF SOUTH MIDDLETON TOWNSHIP, CUMBERLAND COUNTY, PA. PROVIDING FOR A WELLHEAD PROTECTION DISTRICT OVERLAY ON ANY ZONING DISTRICTS REGULATING LAND USES AND ACTIVITIES WITH POTENTIAL TO POLLUTE GROUNDWATER, ESTABLISH STANDARDS AND GUIDES FOR CONDITIONAL USES AND LAND DEVELOPMENTS, STORMWATER MANAGEMENT, NUTRIENT MANAGEMENT, MAINTENANCE OF ON-LOT SEWAGE DISPOSAL AND PRESERVATION OF WETLANDS, WOODLANDS AND STEEP SLOPES; PROVIDE FOR SETBACKS AND BUFFER ZONES AROUND SINKHOLES, STREAMS, SPRINGS AND OTHER WATER BODIES; AND TO ALERT LANDOWNERS OF LEGAL RESTRICTIONS FOR CERTAIN LAND USES AND ACTIVITIES FOR THE PURPOSE OF PROTECTING THE WATER QUALITY OF THE WELLHEADS WITHIN THE TOWNSHIP. THIS ORDINANCE REPLACES ORDINANCE NO. 2010-01

**IT IS HEREBY ENACTED AND ORDAINED** by the Board of Supervisors of South Middleton Township, Cumberland County, Pennsylvania, as follows:

## **W-P Wellhead Protection District**

### **Section 1 Purposes**

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.

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

1. To limit land uses and activities involving the generation, use, transport, or storage of hazardous substances;
2. To regulate other land uses and activities with the potential to pollute groundwater;
3. To assure appropriate nutrient management practices;
4. To establish siting standards to guide development onto the least environmentally-sensitive portions of property;
5. To preserve vegetated buffer areas and establish setbacks for uses around streams, water bodies, springs, and sinkholes;
6. To provide for maximum lot coverage standards to minimize impervious surfaces and reduce storm water runoff;
7. To provide for storm water management that maximizes groundwater recharge;
8. To protect and enhance surface and groundwater quality from the impacts of development on storm water quality with Best Management Practices;
9. To establish disturbance standards for wetlands, woodlands and steep slopes to minimize sedimentation of waters and to maximize water recharge;
10. To require the regular maintenance of on-lot sewage disposal systems to minimize the potential for contamination of groundwater; and,
11. To alert landowners, potential buyers, appraisers, assessors and lessees of the legal restrictions inherent in certain land uses and activities in this Overlay District.

### **Section 2 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.

### **Section 3     Definitions**

**Abandonment of Well** – An abandoned or unused well may be defined as one or more of the following:

1. A well, other than a monitoring well, which has been out of service continuously for one year or more, and does not meet the definition of a standby well.
2. A monitoring well from which no measurement or sample has been taken for a period of three years.
3. A well which is in such a state of disrepair that it cannot be made operational for its intended purpose.
4. A test hole or exploratory boring twenty-four (24) hours after construction and testing work has been completed.
5. A cathodic protection well that is no longer functional for its original purpose.
6. Any boring that cannot be satisfactorily completed as a well.
7. An inactive geothermal groundwater heat exchange system.

**Alteration of Natural Features** – Any earth moving, clear cutting, filling, mining, dredging, grading, paving, excavating or drilling activities which require a permit or approval from Federal, State or local officials.

**Best Management Practices (BMPs)** – State-of-the-art recommended practices for controlling storm water runoff, or handling hazardous substances.

**Carbonate** – A sedimentary bedrock made up of limestone and/or dolomite which is highly permeable and prone to fractures, solution channels and the formation of sinkholes.

**Closed Depression** – In a limestone area, a distinctive bowl-shaped depression of varied sizes in the land surface. It is characterized by internal drainage, and an unbroken ground surface.

**Community or Package Sewage Disposal System** – A private sewage disposal system releasing treated effluent either into the ground or a surface water source. A large scale system is intended to serve over 25 equivalent dwelling units (EDUs); a small-scale system is intended to serve between 2 and 24 EDUs.

**Detention Pond** – A basin designed to retard storm water runoff by temporarily storing the runoff and releasing it at a predetermined rate through a defined outlet.

**Existing Use** - The use of a property as of the date this ordinance was adopted.

**Fracture Trace** – Natural, linear-drainage, soil-tonal and topographic alignments, usually visible on aerial photographs, which are commonly the surface manifestations of corresponding zones of fracture concentration within underlying bedrock. Particularly in soluble rocks (e.g., limestone and dolomite), fracture zones cause increased bedrock porosity and permeability, resulting in rates of groundwater movement that are greater than the surrounding bedrock.

**Ghost Lakes** – Transient surface water bodies formed in sinks and closed depressions after heavy precipitation, due to poor internal drainage. This poor drainage may be due to residual clay remaining after solution of limestone minerals.

**Impermeable** – Impervious, impenetrable to moisture.

**Integrated Pesticide Management Plan** – A plan which provides for the use of multiple pest management tactics which minimize the risk of undesirable environmental and health effects.

**Junked Materials** – The accumulation of used and/or discarded materials with the potential for leaching pollutants into the groundwater, including, but not limited to, trash, appliances, machinery, vehicles, or parts thereof, whether on the land surface, into a sinkhole or into a stream, wetland or other water body.

**Karst** – A type of topography characterized by closed depressions and/or sinkholes, caves, rock pinnacles, fracture traces, and underground drainage, resulting from solution of limestone and dolomite bedrock.

**Nutrient Management Act** – The PA Nutrient Management Act of 1993, which is applicable to agricultural operations with over 2,000 pounds of animal weight per acre which generate or utilize manure. The act requires the development of a plan demonstrating that nutrients which are land applied do not exceed crop uptake.

**Regulated Substance** – A product or waste, or combination of substances that, because of the quantity, concentration, physical, chemical or infectious characteristics, if not properly treated, stored, transported, used or disposed of, or otherwise managed, would create a substantial present or potential threat to public health through direct or indirect introduction into groundwater resources and the subsurface environment. Such hazardous substances include, but are not limited to, substances regulated under Federal or State environmental, pollution control, hazardous substances, and drinking water laws and regulations.

**Retention Pond** – A basin designed to retard storm water runoff, by temporarily storing the runoff, which does not have a defined outlet structure and which empties through a combination of evaporation, transpiration and infiltration.

**Sinkhole** – A closed, generally circular, depression in the land surface of variable depth and width, characterized by a distinct breaking of the ground surface, and formed by solution of carbonate bedrock and downward movement of soil into bedrock voids or by collapse of underlying caves.

**Storage Tank – Above Ground** – A tank which contains hazardous or petroleum substances as regulated under the Storage Tank and Spill Prevention Act (STSPA), as amended, and which meets the following criteria: a stationary tank with 250 gallons or more of capacity with greater than 90% of its capacity above ground. Specific exceptions to this definition are included within the STSPA, and include, among others, on-premise heating fuel tanks, and farm or residential motor fuel tanks with a capacity of 1,100 gallons or less.

**Storage Tank – Exempted** – Any tank or container which contains hazardous or petroleum substances, either above or underground, which is otherwise unregulated by the Storage Tank and Spill Prevention Act (STSPA), as amended. For the purpose of this ordinance, exempted tanks are limited to the following: on premise heating fuel tanks, farm or residential motor fuel tanks with a capacity of 1,100 gallons or less, and tanks, drums or containers with a capacity of less than 110 gallons which contain hazardous substances.

**Storage Tank – Underground** – A tank which contains hazardous or petroleum substances as regulated under the Storage Tank and Spill Prevention Act (STSPA), as amended, and which meets the following criteria: a tank with 110 gallons or more of capacity with 10% or greater of its capacity beneath the ground surface. Specific exceptions to this definition are included within the STSPA, and include, among others, on-remise heating fuel tanks, farm or residential motor fuel tanks with a capacity of 1,100 gallons or less.

**Underground Injection Well** – A bored, drilled, driven or dug well for the emplacement of fluids into the ground (except geothermal exchange systems and drilling muds and similar materials used in well construction).

**Wellhead Protection Area (WHPA)** – Zones 1, 2 and 3 adjacent to and surrounding a municipal water well field as delineated on Plate 1 (dated September 20, 2005) of the *Wellhead Protection Plan South Middleton Township Cumberland County Pennsylvania PWSID 7210050*, approved by the PADEP on June 26, 2006. Detailed maps of these areas around the wells are included in Appendix A, which are hereby made a part of this Ordinance.

#### **Section 4    General Provisions**

General provisions relating to the Wellhead Protection District are as follows:

1. No area within the Wellhead Protection District shall hereafter be used without full compliance with the terms of this Article and other applicable regulations.
2. The Wellhead Protection District established hereby shall be an overlay on any zoning district(s) now or hereafter enacted to regulate the use of land in South Middleton Township.
  - a. The Wellhead Protection District shall have no effect on the permitted uses in the underlying zoning district, except where said uses are intended to be located within the boundaries of the Wellhead Protection District, as defined herein and said uses are in conflict with the permitted uses in the Wellhead Protection District.
  - b. In those areas of the Township where the Wellhead Protection District applies, the requirements of the Wellhead Protection District, if more restrictive, shall supersede the requirements of the underlying zoning district(s).
  - c. The land use restrictions and the design regulations set forth herein have been carefully determined through engineering and scientific study to be the minimum restriction or regulation necessary to protect the future quality and quantity of this Township's public water supply. Therefore, there shall be no change in the underlying zoning districts or zoning regulations, such that density and impervious coverage limitations are affected, without further engineering and scientific study documenting that any such change will not adversely affect this Township's public water supply.
  - d. In the event of a judicial decision(s) which modifies, changes, or reduces any: (1) restriction on the use or development of land, (2) boundary for the zones or Wellhead Protection Districts, or (3) underlying zoning classifications within the Wellhead Protection Districts, such modification, change or reduction shall be to

the minimum extent necessary to satisfy both the judicial objection and the purpose of this Ordinance.

3. 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.
4. The following activities and land uses are exempt from the provisions of this District:
  - a. Retail sales establishments that store and handle hazardous substances for resale in their original, unopened containers.
  - b. Office use where storage and handling of hazardous substances is below threshold quantities as defined in Appendix B.
  - c. The transportation of any hazardous substance through the WHPAs provided the transporting vehicle is in transit.
  - d. Storage and use of hazardous substances in conjunction with municipal water supply and treatment activities.
  - e. Existing Land Uses – All lawfully existing land uses located within a Wellhead Protection Area at the time this Ordinance is adopted shall be exempt from the application of this Ordinance, except Section 6 (Reporting Requirements) and except as described in Section 8(2.)(c.). Nothing herein shall be deemed to exempt such existing land uses from compliance with any other statute, ordinance or rule of common law.
5. Disputes regarding boundary designations of or within the Wellhead Protection District or any zone shall be with the municipal engineer and the Zoning Hearing Board. All other disputes, and the authority for the administration and enforcement of this Ordinance, shall be with the governing body of the Township.

In any dispute arising under the provisions of this Ordinance, the burden of proof shall be on the person(s) challenging the Ordinance, or provisions therein, upon presentation of clear and convincing evidence. The governing body and the Zoning Hearing Board shall have the right to consult with independent consultants for purposes of testing, analysis, opinion, or the like. All costs associated with such consultation shall be shared equally by the parties to the dispute.

## **Section 5     Designation and Interpretation of District Boundary**

1. The Wellhead Protection District consists of all lands located within Wellhead Protection Areas (WHPAs). The Wellhead Protection Area Zones are described in narrative form below. Where there may be a discrepancy between the narrative description of a Zone and the maps referenced in Section 3 above, the maps shall be used to delineate the WHPA Zone.

- a. Zone 1 is the protective area immediately surrounding each well. Because the location of all three wells is in carbonate geology, a minimum 400 foot radius from the wellhead was established. Zone 1 boundaries were extended an additional 400 feet along the fractures intersecting the perimeter of the 400 foot radius. Justification for a minimum 400 foot radius and extending the Zone 1 protection along these fractures is documented in the Wellhead Protection Study: "Production Wells 1, 2 and 3 (September, 1997), R. E. Wright Environmental, Inc.
- b. Zone 2 is the area encompassing the portion of the aquifer through which water is diverted to a well. The area of Zone 2 is defined by the DEP as a one-half mile radius around the well unless a more detailed delineation is conducted. Detailed groundwater modeling was performed as part of the *Wellhead Protection Plan South Middleton Township Cumberland County Pennsylvania PWSID 7210050*, approved by the PADEP on June 26, 2006. Maps of those areas are included on Plate 1 of the plan and in Appendix A of this Ordinance.
- c. For purposes of regulating certain land uses and activities, a Zone 2 fringe area is hereby created which shall consist of a 200 foot radius beyond the Zone 1 boundary, within which a greater level of protection will be provided than for the remainder of the Zone 2 area. Justification for extending the Zone 1 protection is documented in the Wellhead Protection Study: "Production Wells 1, 2 and 3 (September, 1997), R. E. Wright Environmental, Inc.
- d. Zone 3 is the area beyond Zone 2 that contributes surface water and groundwater to Zones 1 and 2. Zone 3 boundaries were determined using annual average recharge rates, maximum rated yield capacity and topographic drainage divides.

## 2. Boundary Interpretation

- a. Each application for land development or subdivision containing land within the Wellhead Protection District shall be submitted in accordance with such other provisions of the ordinances of South Middleton Township as are applicable thereto. Any area of the Wellhead Protection District that falls within the subject lot or lots shall be shown on the site plan through shading of such area or areas.
- b. Any party seeking land development and/or subdivision approval in what might be a Wellhead Protection District shall have the burden to present evidence of the boundaries of the District in the area in question. This presentation must include applicable geographic data with respect to the property and any other pertinent documentation for consideration. The municipal engineer, or other appointed agent, shall review the information and shall make determination regarding the boundaries of lands within a Wellhead Protection Area.
- c. In situations where a property may have parts lying within more than one (1) WHPA Zone, each part of the property shall be governed by the restrictions applicable to the WHPA Zone in which that part of the property is located. The same rule shall apply to properties lying only partially within the Wellhead Protection District.

**Section 6     Reporting Requirements**

1. The record owner of a tract of land located within any Wellhead Protection Area, which contains a regulated land use or activity (see Section 7), whether existing or proposed, shall submit copies of the following applicable reports to the Zoning Officer within thirty (30) days of notification by the Township:
  - a. Copies of all Federal, State and County operational approvals, certificates, permits and applications, ongoing environmental reports and monitoring results, relating to environmental, pollution control, hazardous substance, and drinking water laws and regulations pertaining to such lot or tract of land, we and when required to be submitted to Federal, State and County governmental authorities. These shall include an Environmental Hazard Form, Hazardous Substances Survey Form, a PIP, PPC, SPCC, SPR, SARA Title III, Tier I and II Reports, as applicable.

The following tabulates various reports required for uses involving hazardous substances:

**Table 1**

<b>HAZARDOUS SUBSTANCES FORMS, PLANS AND REPORTS</b>		
<b>Form, Plan or Report</b>	<b>Authorizing Agency</b>	<b>Purposes</b>
Environmental Hazard Survey Form	PA Dept. of Labor & Industry PA Worker & Community Right-to-Know Act	Describes the hazardous substances emitted, discharged Or disposed of from the workplace
Hazardous Substance Survey Form	PA Dept. of Labor & Industry PA Worker & Community Right-to-Know Act	Provides a listing of all hazardous substances found in the workplace
Pollution Incident Prevention (PIP) Plan	PA DEP Ch. 101	Emergency response plan for facilities which handle materials with potential for accidental pollution of the waters of the Commonwealth
Preparedness, Prevention & Contingency (PPC) Plan	EPA, Federal Resource Conservation & Recovery Act, as amended PA DEP Ch. 260-270	Emergency response plan for facilities which generate, store, treat, or dispose of hazardous wastes.
SARA Title III Off-Site Plan	EPA Federal Superfund Amendments & Reauthorization Act	Identifies the transportation routes of extremely hazardous substances, a description of the workplace and a risk analysis of the operation to the surrounding community.
SARA Title III Tier I & Tier II Reports	EPA Federal Superfund Amendments & Reauthorization Act	Tier I lists the amounts and locations within the workplace of extremely hazardous substances by type of hazard (e.g., fire, explosion, acute health hazard). Tier II provides a listing of each specific extremely hazardous substances in the workplace and each specific hazardous substance exceeding 10,000 pounds on-site at any one time.
Spill Prevention Control & Countermeasure (SPCC) Plan	EPA Federal Clean Water Act 40 CFR 112	Emergency response plan for facilities which handle hazardous substances or petroleum products as defined in the Clean Water Act.
Spill Prevention Response (SPR) Plan	PA DEP PA Storage Tank & Spill Prevention Act	Emergency response plan for facilities with an above-ground storage tank exceeding a volume of 21,000 gallons

- b. In the event that any contaminants and/or substances regulated under Federal, State or County environmental, pollution control, hazardous substance, and drinking water laws and regulations are released in reportable quantities on or from any lot or tract of land within any Wellhead Protection Area, copies of any and all notices, reports and documents which such owner filed with any Federal, State and/or County governmental authorities which relate to such release, as and when such notices, reports and documents are required to be filed with such governmental authorities;

- c. Copies of all notices, orders, rules, decisions, recommendations, enforcement actions and similar documentation, as and when received by such record owner of any such lot or tract of land from any Federal, State or County governmental authority in connection with the enforcement of environmental, pollution control, hazardous substance, and drinking water laws and regulations; and,
2. Failure to comply with the above requirements so as to permit the Township or any governmental agency to respond in a timely manner to prevent, minimize or contain damage to the groundwater and/or damage to the environment in the Wellhead Protection District shall be subject to the enforcement provisions of Section 9 of this Ordinance.

**Section 7 Regulated Land Uses and Activities**

The table contained in this Section (Table 2 – Regulated Land Uses and Activities) set forth various land uses/activities and the extent of regulation permitted in each of the Zones in the Wellhead Protection Areas. In the event of judicial decision affecting any of the land uses/activities or regulations set forth herein, it is the intent of this Ordinance that any provision found to be illegal shall be stricken, and the remaining provisions shall remain in full force and effect.

The land uses and activities set forth herein shall be considered conditional uses. Full authority for the administration/application of all criteria, terms and conditions of this section shall be with the governing body. Land uses and activities shall be regulated as follows:

**Table 2**

<b>REGULATED LAND USES AND ACTIVITIES</b>			
<b>Land Uses and Activities</b>	<b>Zone 1</b>	<b>Zone 2</b>	<b>Zone 3</b>
1. Manufacture, Use or Storage of Hazardous Substances as a Principal Activity	Not Permitted	Not Permitted	Not Permitted
2. Open Burning of Materials Containing Hazardous Substances	Not Permitted	Not Permitted	Not Permitted
3. Quarries and mining Operations	Not Permitted	Not Permitted	Not Permitted
4. Sanitary Landfills and junkyards	Not Permitted	Not Permitted	Not Permitted
5. Junked Materials whether on the Land Surface, in Sinkholes, Streams, Wetlands or other Water Bodies	Not Permitted	Not Permitted	Not Permitted
6. Collection and Transfer Facilities for Solid Waster or Hazardous Substances, including Battery and Drum Recycling and Reprocessing	Not Permitted	Not Permitted	Not Permitted
7. Commercial Truck or Rail Tanker Cleaning Operations where Hazardous Substances are involved	Not Permitted	Not Permitted	Not Permitted
8. Commercial Slaughtering, Rendering, Tanneries	Not Permitted	Not Permitted	Not Permitted
9. Land Application of Sewage Sludge	Not Permitted	Not Permitted	Not Permitted
10. Sewage Treatment Plants and Large-scale Community or Package Sewage Disposal Systems (not including municipally-owner and operated pump stations or service lines)	Not Permitted	Not Permitted	Not Permitted
11. Underground Injection Wells	Not Permitted	Not Permitted	Not Permitted

12. Alteration of Natural Site Features Prior to Receiving all required Permits & Approvals	Not Permitted	Not Permitted	Earth moving activities can be conducted prior to Township approval provided all required DEP and County Conservation District permits have been issued
13. Liquid Petroleum Product Transmission Lines	Not Permitted	Not Permitted	Not Permitted
14. Commercial or Municipal Solid Waste Recycling and Composting Facilities	Not Permitted	Not Permitted	Storage facilities shall be designed to: a. Have an impervious storage and loading surface. b. Prevent infiltration of rain and surface water into storage areas. c. Provide diking to prevent runoff from storage & loading areas.
15. Cemeteries	Not Permitted	Not Permitted	All caskets shall be encased in concrete grave liners as defined by the Federal Trade Commission in regulations at Part 453, as amended.
16. Industrial, Commercial or Institutional Facilities which Use, Store, Transport, or Dispose of Hazardous Substances	Not Permitted	a. No such facilities shall be permitted within 200 feet of the WHPA Zone 1 boundary. b. All such facilities shall be connected to a public wastewater treatment facility. c. The use, storage and transportation of hazardous substances shall be in accordance with Best Management practices. d. All storage of hazardous substances shall 1) be indoors, 2) comply with applicable storage tank requirements set forth in this table, and 3) be temporary only. e. On-site disposal of hazardous substances is prohibited.	(Same as for Zone 2, b-d only)
17. Golf Courses	Not Permitted	Not Permitted	The Township encourages: a. Coordination with Penn State Cooperative Extension Service to develop and implement an Integrated Pest Management Plan. b. Coordination with the Cumberland County Conservation District to reduce any excess application of nutrients.
18. Small-scale Community or Package OLSDs	Not Permitted	Not Permitted	a. Testing, approval and reservation of second absorption field. b. Submittal of evidence of pumping of septic tanks every 3 years. c. Prior to the expansion or conversion of the land use, and prior to any transfer of property ownership, submittal of evidence by the SEO of inspection and any necessary repairs or maintenance.

19. Geothermal Exchange Systems (groundwater and ground loop)	Not Permitted	<p>a. No such systems shall be permitted within 200 feet of the WHPA Zone 1 boundary.</p> <p>b. Submittal of evidence that 1) the landowner is aware that only food-based antifreeze may be used in piping, 2) professionally designed and installed piping will be encased to prevent leakage, and 3) the recommendations in DEP's Ground Source Heat Pump Manual for protecting water quality will be utilized.</p>	(Same as for Zone 2, b only)
20. Above and Underground Storage Tanks <sup>2</sup>	Not Permitted	<p>a. Underground storage tanks not permitted.</p> <p>b. No above ground storage tanks permitted within 200 feet of the WHPA Zone 1 boundary.</p> <p>c. No aboveground storage tanks which exceed the threshold levels for hazardous substances indicated in Appendix B of Ordinance No. 2016-06 are permitted.</p> <p>d. Submittal of an approved registration form indicating compliance with STSPA standards.</p> <p>e. All leaking tanks must be immediately emptied by the owner or operator and all released substances removed within 7 days of detection, or sooner if required by DEP.</p>	(Same as for Zone 2)
21. Exempted Storage Tanks	Not Permitted	<p>a. Underground tanks are prohibited.</p> <p>b. Above ground tanks shall: 1) be stored; 2) be enclosed by a permanent dike of impermeable construction, the volume of which shall be equal to or greater than the capacity of the tanks within the dike, and 3) be covered by a roof adequate to prevent rainwater from entering the dike.</p> <p>c. All leaking tanks must be immediately emptied by the owner or operator and all released substances removed within 7 days of detection.</p>	<p>a. Only farm and commercial motor fuel tanks and commercial on-premise heating fuel tanks are permitted as underground tanks; these shall 1) be double-hulled steel or fiberglass encased, 2) be enclosed by a concrete vault, the volume of which shall be equal to or greater than the capacity of the tanks within the vault, and 3) utilize piping that is protected from internal and external corrosion.</p> <p>b. Above ground tanks (same as for Zone 2)</p> <p>c. Leakage (same as for Zone 2)</p>

<p>22. Non-bagged Bulk (1+ ton) Storage and Application of Road Salt and De-icing Chemicals</p>	<p>Not Permitted</p>	<p>a. The Township encourages the use of traditional snow and ice removal methods such as snow plow, hand shoveling and sand. The use of salt and de-icing chemicals should be used only as absolutely necessary. b. Storage is not permitted.</p>	<p>a. Same as for Zone 2. b. Storage facilities shall be designed 1) to have an impervious storage and loading surface, 2) to prevent infiltration of rain and surface water into storage areas, and 3) to provide diking to prevent runoff from storage and loading areas.</p>
<p>23. On-Lot Sewage Disposal Systems (OLDS)</p>	<p>Not Permitted</p>	<p>a. No such systems shall be permitted within 200 feet from the WHPA Zone 1 boundary. b. Testing approval and reservation of second absorption field. c. Submittal of evidence of pumping of OLDS every 3 years. d. Prior to the expansion or conversion of the land use, and prior to any transfer of property ownership, submittal of evidence by the SEO of inspection and any necessary repairs or maintenance.</p>	<p>(same as for Zone 2, b-d only)</p>

24. Agricultural Land Application of Manure, Fertilizer and Pesticides	Not Permitted	<p>a. A fifty (50) foot 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.</p> <p>b. The Township encourages farmers having operations with over 2,000 lbs. of animal weight to work with the Cumberland County Conservation District toward compliance with the 1993 Nutrient Management Act.</p> <p>c. For operations with 2,000 lbs. of animal weight per acre or less, the Township encourages farmers to work with the Conservation District to reduce any excess application of nutrients to farm fields.</p> <p>d. For operations in which pesticides are used, the Township encourages farmers to work with the Penn State Cooperative Extension Service in the development and implementation of an Integrated Pest Management Plan.</p> <p>e. The Township encourages farmers to work with the Conservation District to develop a Conservation Plan.</p>	(Same as for Zone 2)
25. Manure Storage Facility	Not Permitted	Not Permitted	Submittal of approved plan meeting the standards of U. S. Natural Resources Conservation Service
26. Well Construction	Only municipal water supply wells may be constructed	Grouting shall be utilized and a sanitary seal shall be provided for all at- or below-grade well openings.	(Same as for Zone 2)
27. Abandonment of Wells	<p>a. Wells shall be sealed within 30 days of abandonment.</p> <p>b. A zoning permit demonstrating planned compliance with DEP's water well abandonment guidelines shall be required prior to the sealing of a well.</p> <p>c. Certification by a licensed well driller, professional engineer or registered professional</p>	(Same as for Zone 1)	(Same as for Zones 1 and 2)

	geologist of the sealing of the well consistent with DEP guidelines shall be required.		
28. The Withdrawal of 100,000 GPD or more of Water from Wells or Springs	Not Permitted	Not Permitted	a. The withdrawal of water for commercial water, soft drink or brewery bottling purposes is prohibited. b. The withdrawal of 100,000 GPD or more of water utilizing one or more wells for any single use is prohibited.
29. Residential Dwellings	Not Permitted	Public outreach and education programs to encourage the proper use of pesticides, herbicides, fertilizers and disposal of household hazardous waste.	Public outreach and education programs to encourage the proper use of pesticides, herbicides, fertilizers and disposal of household hazardous waste.

## **Section 8     Design Standards**

### **1.     Intent**

The intent of the design standards set forth in subparagraph 3 herein 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.

### **2.     Application**

- a. The design standards herein are applicable to all land developments in the Wellhead Protection District, WHPA Zones 1, 2 and 3, except as set forth below in subparagraphs b and c. For those uses considered conditional uses under Section 7 of this Ordinance, adequate information should be included with the conditional use application to ensure compliance with all the provisions of this Section.
- b. The design standards herein do not apply to projects wholly outside of Zone 3 of the WHPAs. Nothing herein shall be construed so as to relieve such projects 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 ordinance was adopted. If the existing use changes, or is expanded beyond its property boundary(ies) existing on the date this ordinance 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.

### 3. **Design Standards**

#### a. **General Requirements**

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. In WHPA Zones 2 and 3, land developments and uses considered conditional uses under Section 7 of this Ordinance, shall comply with the following requirements:

- (1) 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
- (2) Based on the map prepared pursuant to Section 8, paragraph 3a(1) above, and in conjunction with other mapping and information submitted for compliance with the requirements of this Ordinance, the geologist shall prepare a report demonstrating compliance with the requirements of this section, including any recommended mitigating measures designed to ensure compliance.
- (3) 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.
- (4) During construction activity, all excavations shall either be protected against storm water ponding or backfilled daily.
- (5) 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.

- (6) Buildings, structures, impervious surfaces, utilities and swimming pools shall not be located within fifty (50) feet of any features identified in Section 8, paragraph 3(a)(1) unless detailed geotechnical work shows that there will be no negative impact on groundwater recharge or quality.
- (7) Salt or de-icing storage areas, gasoline or other chemical storage areas and blasting shall not be located within one hundred (100) feet of any features identified in Section 8, paragraph 3(a)(1) unless detailed geotechnical work shows that there will be no negative impact on groundwater recharge or quality.
- (8) Storm water facilities, including, but not limited to, detention basins, shall not be located within twenty-five (25) feet of any features identified in Section 8, paragraph 3(a)(1) 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.
- (9) Storm water retention facilities, French drains, and other areas of concentrated infiltration of storm water shall be prohibited; and
- (10) Storm water shall not be directed into a sinkhole or closed depression.
- (11) 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 shall 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 8, paragraph 3a(1) as buildable land area permits.

c. **Setback Requirements**

- (1) A minimum of fifty (50) percent of existing live trees and other brushy perennial vegetation within a one hundred (100) foot buffer of the outermost edge of all streams, water bodies, springs, and sinkholes shall be maintained.
- (2) A minimum one hundred (100) foot 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 (50) foot 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 impacting existing and future land uses within the Township.

The percentage of the lot which 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

<b>Underlying Zoning District</b>		<b>Maximum Impervious Lot Coverage (Zones 1, 2 and 3)</b>
Woodland Conservation	W-C	7%
Agricultural	A	15%
Village	V	60%
Commercial Office	C-O	60%

Well Number 2

<b>Underlying Zoning District</b>		<b>Maximum Impervious Lot Coverage (Zones 1, 2 and 3)</b>
Agricultural	A	15%
Low Density Residential	R-1	40%
Moderate Density Residential	R-2	50%
Commercial Office	C-O	60%

Well Number 3

<b>Underlying Zoning District</b>		<b>Maximum Impervious Lot Coverage (Zones 1, 2 and 3)</b>
Agricultural	A	15%
Low Density Residential	R-1	40%
Moderate Density Residential	R-2	50%
Commercial Office	C-O	60%

- (1) **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.
  
- (2) **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.

- (3) **Storm Water 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.
- (4) **Sanitary Sewers** – Sanitary sewers constructed within one hundred (100) feet of 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.
- (5) **Wetlands** – No development or land use activities or improvements which would entail encroachment into, the regarding 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.
- (6) **Woodlands** – Existing wooded areas shall be protected to prevent unnecessary destruction. Healthy trees with a caliper of six (6) inches or more as measured at a height of four and one-half (4 ½) feet above existing grade, shall not be removed unless their location interferes with a planned improvement that cannot be relocated. At least seventy-five (75) percent 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 (2) inches at a height of six (6) inches 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.
- (7) **Steep Slopes** – Proposed development in areas having slopes of fifteen (15) percent or greater shall meet the requirements of Section 1420, Steep Slope Conservation District, of the Zoning Ordinance. In addition, the applicant shall:
  - (a) Indicate the methods that will be used to protect water quality on and around the site from the adverse effects of the proposed use.
  - (b) Demonstrate how off-site impacts on karst features will be avoided (see Sections 8, paragraphs 3(a)(1) and 3(a)(2); and

(c) Provide a twenty-five (25) foot 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;

(8) **Road Construction** – New roads and the widening of existing roads shall minimize impervious land cover.

## **Section 9 Modification/Waiver**

1. The governing body may modify one or more provisions of this ordinance provided that all of the following findings are made and such modification will not be contrary to the purpose and intent of this ordinance.
  - a. Strict compliance with or literal enforcement of the ordinance will result in undue hardship because of peculiar conditions pertaining to the land in question;
  - b. The undue hardship alleged is not a hardship generally created by this ordinance affecting all lands similarly situated;
  - c. The undue hardship was not created, or did not arise, subsequent to January 2, 1997;
  - d. The modification requested is the minimum necessary to afford relief and represents the least modification possible; and
  - e. The undue hardship alleged cannot be reduced by development of adjoining land of the applicant or landowner.
2. The governing body may waive one or more provisions of this ordinance 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.
3. In granting any modification or waiver, the governing body may attach any conditions and safeguards as it may deem necessary.
4. 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 being relied upon. The request shall also address each of the criteria raised herein and shall be signed by the applicant, and certified by an engineer.

**Section 10 Enforcement**

1. In addition to the fines and penalties set forth herein, and any other penalties existing under the law, any landowner and/or person responsible for violation of this ordinance shall be liable for total remediation of the site where the violation occurs, as determined by the governing body, and shall be liable for any and all damages arising from the violation.
  
2. **Fines and Penalties**
  - a. Violation #1 – Property owner and/or person responsible for violation will be required to attend five (5) hours of Environmental Responsibility and Awareness Counseling, as determined by Township Staff, plus all costs incurred by the Township, including, but not limited to, litigation costs, attorney fees, and consulting charges, if applicable; and any costs of remediation for contaminated sites.
  
  - b. Violation #2 – In addition to the other provisions hereof, a \$500.00 fine for each violation.
  
  - c. Violation #3 – In addition to the other provisions hereof, a \$1,000.00 fine for each violation.
  
  - d. Additional violations on a single site will be treated on an individual basis.
  
  - e. Failure to complete required counseling in the time as set forth by the Township Staff will result in an additional \$1,000.00 per occurrence fine. Failure to initiate remediation as prescribed by the Township’s Wellhead Protection Consultant within twenty-four (24) hours of discovery of contamination will result in the Township completing said remediation and assessing a \$2,500.00 fine plus all costs.
  
3. In addition to and notwithstanding the above, any and all persons who are determined to have delayed in reporting, or who are determined to have attempted to conceal a violation of this ordinance such that the detrimental effects of the violation were not contained and/or minimized, shall pay an additional fine of \$5,000.00.

**Section 11 Repealer**

Any ordinance of the Township which is inconsistent with any of the provisions of this ordinance is hereby repealed to the extent of the inconsistency only.

**Section 12 Severability**

Should any section or provision of this ordinance be declared invalid by a court of competent jurisdiction, such decision shall not affect the validity of any of the remaining provisions of this ordinance.

**ENACTED AND ORDAINED** this 14<sup>th</sup> day of July, 2016

ATTEST:

SOUTH MIDDLETON TOWNSHIP  
BOARD OF SUPERVISORS:

\_\_\_\_\_  
Sandra A. Quickel, Secretary

\_\_\_\_\_  
Bryan A. Gembusia, Charirman

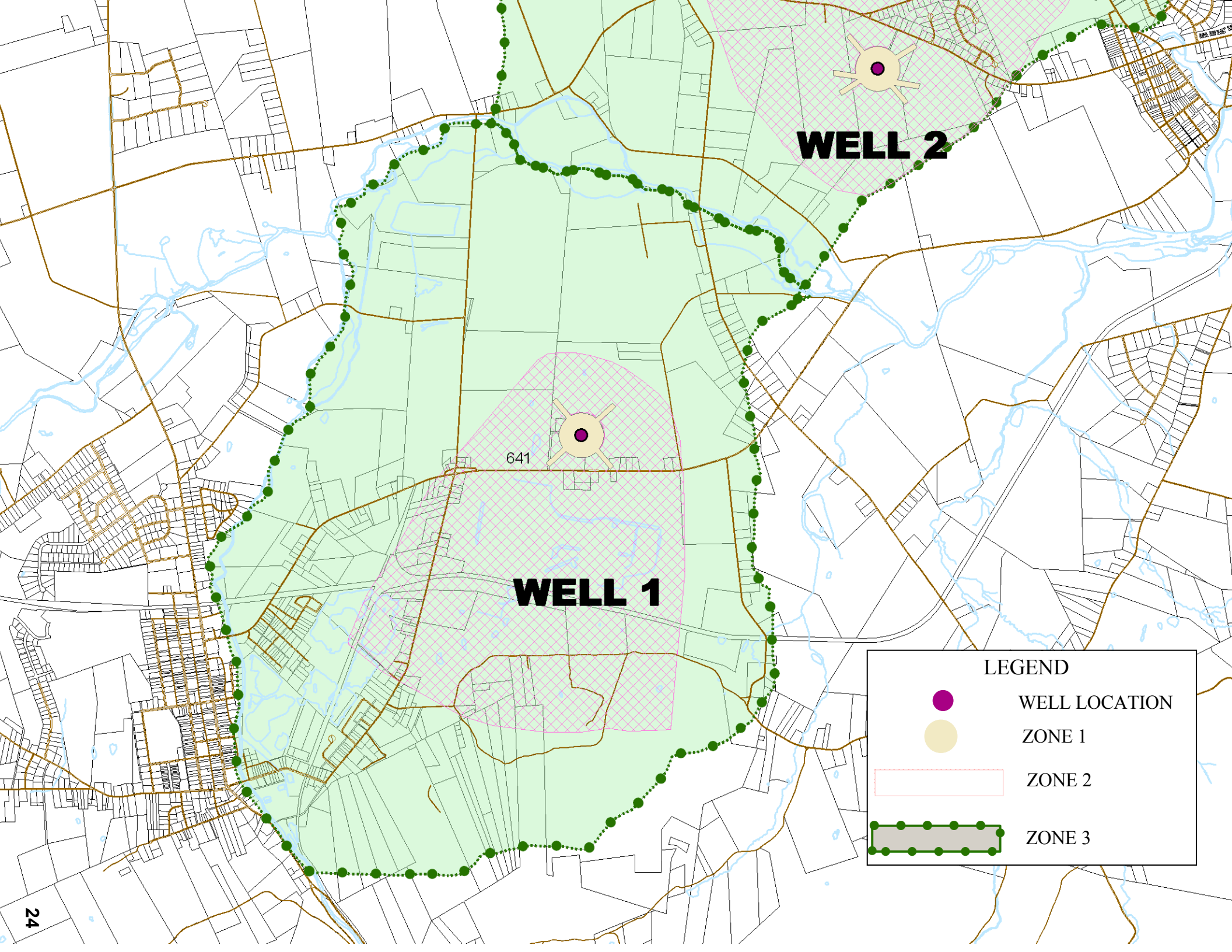
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Thomas E. Faley, Vice Chairman

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Walter G. Reighard

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Ronald P. Hamilton

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R. Duff Manweiler

## **APPENDIX A**



**WELL 2**

641

**WELL 1**

**LEGEND**



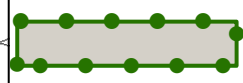
WELL LOCATION



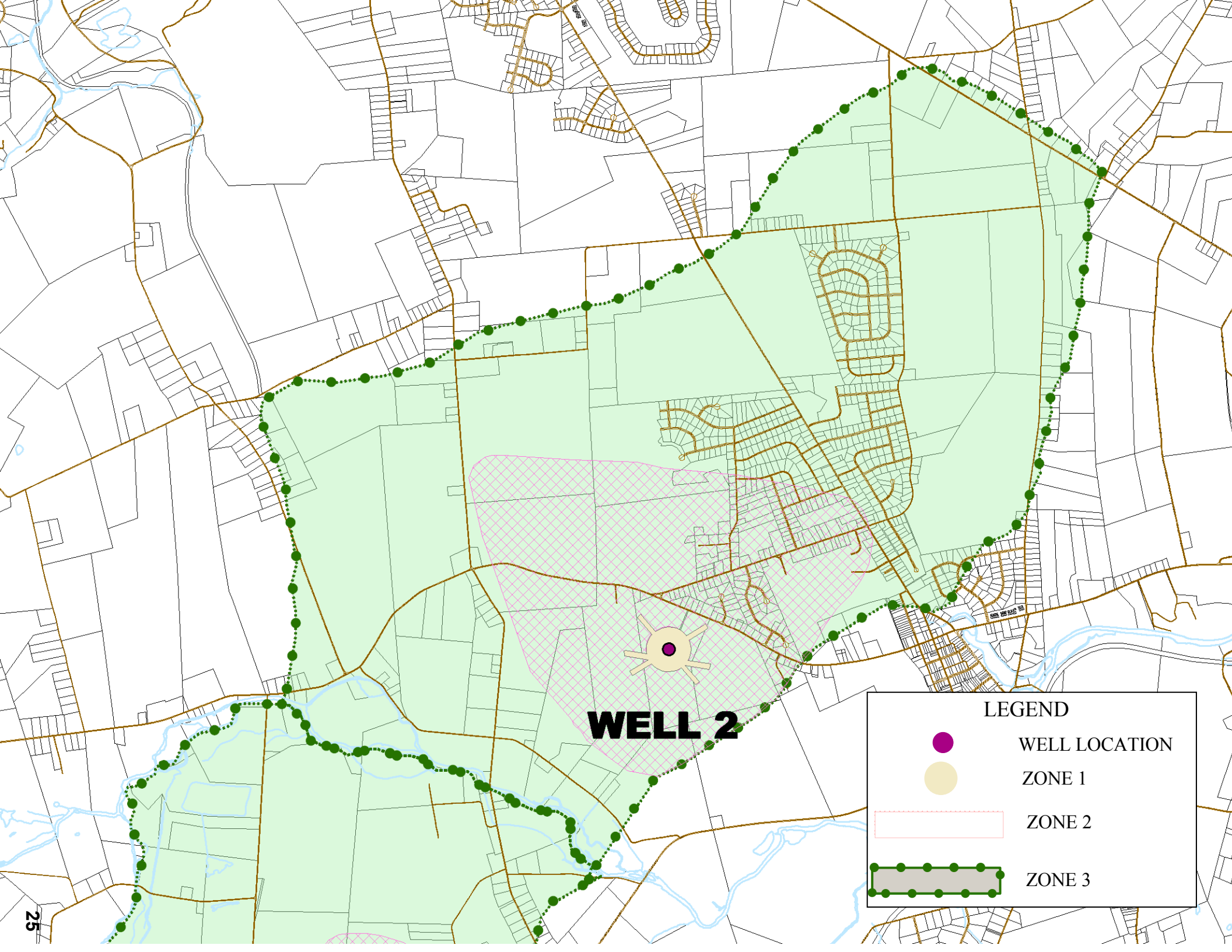
ZONE 1



ZONE 2



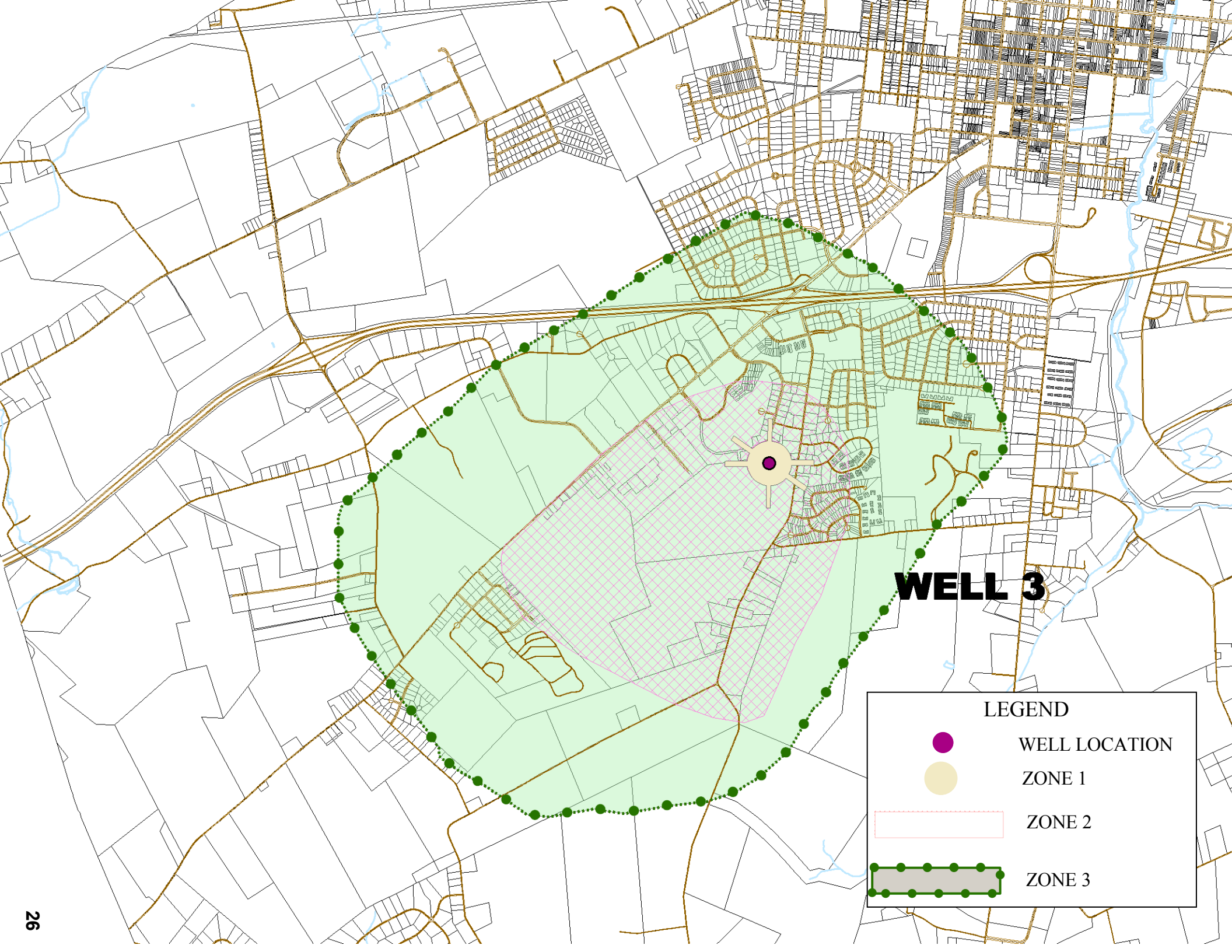
ZONE 3



**WELL 2**





**LEGEND**

- WELL LOCATION
- ZONE 1
- ZONE 2
- ZONE 3



**WELL 3**

**LEGEND**

-  WELL LOCATION
-  ZONE 1
-  ZONE 2
-  ZONE 3

## APPENDIX B

This table is to be used in conjunction with the Wellhead Protection District with respect to permitted industrial, commercial or institutional facilities which generate, use, store, or transport hazardous substances. The table below conveys the threshold levels at which various substances which might be used by such facilities are considered hazardous.

HAZARDOUS SUBSTANCE ACTIVITIES				
Type of Business	SIC Codes	Possible Hazardous Substances	Hazardous Threshold	
Agricultural Chemical Warehousing & Distribution	5191	Ammonium	1,600 lb as NH <sub>4</sub> NO <sub>3</sub>	
	2873	Nitrate	370 lb as NH <sub>4</sub> NO <sub>3</sub>	
	2874	Sulfate	3,000 lb as (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>	
	2875	Chloride	1200 lb as KCl	
	2879	Pesticides & Herbicides		
Aluminum Rolling Mills	3353	Hydrocarbon Solvents	110 gal	
		Methyl ethyl ketone	105 gal	
		1,1,1-Trichloroethane	70 gal	
		Gasoline and Diesel Fuels	110 gal	
		Chloride Salts	1,000 lb as NaCl	
		Chromium Salts	90 lb as Na <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	
Aluminum Reduction	3334	Fluoride Salts	300 lb as AlF <sub>3</sub>	
	3341	Chromium Salts Gasoline & Diesel Fuels Fluoride & Cyanide Wastes	90 lb as Na <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> 110 gal	
Building Materials Production	2435	Pentachlorophenol	70 gal 5% soln.	
	2436	Copper Salts	90 lb as CuCO <sub>4</sub>	
	2439	Chromium Salts	90 lb as NaCr <sub>2</sub> O <sub>7</sub>	
	2491	Phenolic Resin Glue	15 lb based on Formaldehyde	
	2492	Caustic Soda	850 lb	
Chemical & Plastics Manufacturing	2813	All types of chemicals may be on site		
	2816			
	2819			
	282			
Chemical Warehousing & Distribution	5161	All types of chemicals may be on site		
Cleaning Supplies, Manufacturing & Distribution	2841	Isopropyl Alcohol	110 gal	
	2869	Chlorinated Phenols	20 lbs	
	5087	Dibutylphthalate	3,000 gal	
	5161			
Dry Cleaning Establishments	7215	Trichloroethene	2.5 gal	
	7217	Tetrachloroethene Hydrocarbon solvents	2.0 gal 110 gal	
Educational Institutions	8221	All chemicals may be present in laboratory quantities.		
	8222			
Electrical & Electronic Products Manufacturing	3612	Metal Salts (Cu, Ni, Zn)	90 lb	
	3641	Cyanide	150 gal 10% NaCN soln.	
	3662	Methylene Chloride	10 gal	
	3674	1,1,1-Trichloroethane	70 gal	
	3677	Acetone	60 gal	
	3679	Methyl ethyl ketone	105 gal	
	3825	Formaldehyde	1 gal	
3993				
Electroplating Operations	3471	Metal Salts (Cr, Cu, Ni, & Zn)	90 lb	
		Cyanide	150 gal 10% NaCN soln.	
		Sodium phosphate	300 gal 30% soln.	
		Trichloroethene	2.5 gal	
		Tetrachloroethene	2.0 gal	
		Xylene	110 gal	
		Other solvents	110 gal	
Foundries	3321	Metal Salts (Cr, Cu, Ni, & Zn)	90 lb	
	3322			
	3325		Cyanide	125 lbs as NaCN
	3361		Trichloroethene	2.5 gal
	3362		Isopropyl Alcohol	110 gal
	3369		Caustic soda cleaning soln.	250 gal 35% soln.

HAZARDOUS SUBSTANCE ACTIVITIES			
Type of Business	SIC Codes	Possible Hazardous Substances	Hazardous Threshold
Furniture Refinishing	7641	Methylene Chloride Acetone Hydrocarbon Solvents Paint-related Products	10 gal 60 gal 110 gal
Medical Facilities	0742 8062 8069 8071	Momo and Polycyclic Aromatic Hydrocarbons Prescription Drugs Biological Contaminants	1 gal
Paint Manufacturing & Wholesale Distribution	2816 2865 5198	Metal Salts (Cr, Pb, Sb & Zn) Phthalate Esters Methylene Chloride Methyl ethyl ketone Ethylene Glycol Methyl Alcohol	90 lb  10 gal 105 gal 7.5 gal 110 gal
Paint Shops	7535	Hydrocarbon Solvents Xylene Methylene Chloride	110 gal 110 gal 10 gal
Petroleum Products Production & Storage: Bulk Distribution of Petroleum Products	2992 5171 5172	Gasoline Diesel Fuel & Heating Oil Lubricating Oils Ethylene Glycol Methyl Alcohol	110 gal 110 gal 110 gal 7.5 gal 60 gal
Photo Processing	7333 7395	Silver Salts Phenols Cyanide Aromatic Hydrocarbons	50 lbs as AgNO <sub>3</sub> 10 lbs 125 lbs as NaCN 110 gal
Printing Establishments	2711 2751 2752 2761	Silver Salts Aromatic Hydrocarbons Phenols Cyanides Tetrachloroethene Hydrocarbon Solvents	50 lbs as AgNO <sub>3</sub> 110 gal 10 lbs 125 lbs as NaCN 2.0 gal 110 gal
Gasoline Distribution	5541	Gasoline Diesel Fuel Lubricating Oils Ethylene Glycol Methyl Alcohol	110 gal 110 gal 110 gal 7.5 gal 60 gal
Metal Fabrication	3441 3442 3442 3444	Metal Salts (Cr, Cu, Ni & Zn)  Caustic Cleaning Solutions Hydrochloric Acid Sulfuric Acid Hydrocarbon Solvents Xylene Caustic Soda Sodium Phosphate Sodium Hydroxide	90 lb  250 gal 155 gal 150 gal 110 gal 110 gal 250 gal 35% soln. 300 gal 30% soln. 600 lb
Secondary Metals Refining	3341	Metal Salts (Al, Cr, Zn) Chloride Sulfate	90 lb 1,000 lbs as NaCl 3,000 lbs as (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>
Seed Cleaning & Treating	721	Hexachlorobenzene Other Pesticides	1 gal
Solvent Recycling	2911	1,1,1-Trichloroethane Trichloroethene Tetrachloroethene	70 gal 2.5 gal 2.0 gal
Trucking Companies	4171 4172 4231	Gasoline & Diesel Hydrocarbon Solvents Ethylene Glycol Caustic Soda Cleaning Soln.	110 gal 110 gal 7.5 gal 250 gal 35% soln.

Source: Spokane County, Washington, 1983 Aquifer Sensitive Area Overlay Zone Ordinance