

ORDINANCE NO. 1979

AN ORDINANCE TO ADOPT CHAPTER 89, SOURCE WATER PROTECTION TO PROTECT CRITICAL AREAS FROM ACTIVITIES AND SUBSTANCES THAT MAY HARM WATER QUALITY OR SUBTRACT FROM OVERALL WATER QUANTITY

WHEREAS, by the adoption of this ordinance, the Sussex County Council adopts a Source Water Protection Ordinance in compliance with the requirements of the Delaware Source Water Protection Law of 2001, as codified in 7 Del. C., Chapter 60, subchapter VI.

NOW THEREFORE, THE COUNTY OF SUSSEX HEREBY ORDAINS:

**§ 89-1. Title.**

This chapter shall be known and referred to and cited as the “Source Water Protection Ordinance.”

**§ 89-2. Preface.**

Sussex County residents rely exclusively on groundwater as their source of drinking water for both large public water supply systems and individual domestic wells. Although the County is blessed with an abundance of groundwater, small amounts of pollution may contaminate large quantities of groundwater making it unfit for human consumption, putting our citizens at greater risk of illness and disease, and imposing huge costs on residents and rate payers who will be called upon to finance treatment systems or to secure alternative sources of drinking water. While a number of state environmental programs regulate various types of facilities and activities that are potential sources of contamination, county and municipal governments are responsible for controlling land use that can assist in providing some long-term groundwater protection.

**§ 89-3. Purpose.**

The purpose of this ordinance is to ensure that land use activities are conducted in such a way as to minimize the impact on and reduce the risk of contamination of excellent groundwater recharge areas and wellhead protection areas which are the source of public drinking water throughout the county. This ordinance does not impose any new requirements or restrictions on residential wells serving individual households or wells used for agricultural purposes; however, it indirectly affords them added protection. The ordinance is intended to satisfy the requirements of the Delaware Source Water Protection Law of 2001 as codified in 7 Del.C. 60, Subchapter VI.

**§ 89-4. Definitions.**

A. The following definitions apply only to this Chapter:

1. Agricultural Well: A well used for the watering of livestock, poultry, aquaculture uses, or solely for the watering of household yards and gardens or for other purposes related to farming in general but not including the irrigation of lands or crops. Water is not used for human consumption or to service a dwelling.
2. Applicant: The owner of a property or the legally authorized agent of the owner that executes the necessary forms to obtain approval or a permit for any zoning, subdivision, land development, building, land disturbance, or other regulated activity.
3. Aquifer: A water-bearing geological formation that will yield water to a well or spring. Aquifers can be classified as confined, semi-confined, or unconfined.
4. Community Water System: A public water system which serves at least fifteen (15) service connections used by year-round residents or regularly serves at least twenty-five (25) year-round residents.

5. Confined Aquifer: An aquifer bounded above and below by impermeable beds, such as silt or clay, or beds of distinctly lower permeability than that of the aquifer itself and containing groundwater which is everywhere at a pressure greater than atmospheric and from which water in a well will rise to a level above the top of the aquifer.
6. Contaminant: Any substance, either man-made or natural, which is concentrated enough to degrade water quality to a degree that renders such water harmful to public health and safety, or to the environment.
7. Contamination: The presence of contaminant.
8. Delineation: The process of defining and/or mapping a boundary that approximates the areas that contribute water to a particular water source used as a public water supply.
9. Department: The Department of Natural Resources and Environmental Control (DNREC).
10. Domestic Well: A well primarily used for potable non-public water supply purposes, which serves three or fewer dwelling units.
11. Excellent (Groundwater) Recharge Area: Those areas with high percentages of sand and gravel that have "excellent" potential for recharge as determined through a Stack Unit Mapping Analysis performed originally by the Delaware Geological Survey and presented in the Report of Investigations No. 66, Ground-water Recharge Potential Mapping in Kent and Sussex Counties, Delaware, Geological Survey, 2004.
12. Ground Water: Any water naturally found under the surface of the earth.
13. Impervious Cover: The sum of parking lots, roads, buildings, sidewalks or other created surfaces that do not allow significant amounts of rainwater to pass or infiltrate the soil.
14. Irrigation Well: A well which is used for the watering of lands or crops other than household lawns and gardens.
15. Land Development: A proposed development of land which may involve one or more tax parcels for any residential, commercial or industrial use or combination thereof, which is proposed within an area that is designated as a Well Head Protection Area or an Excellent Groundwater Recharge Area.
16. Miscellaneous Public Well: A well which supplies water for potable and other beneficial uses to service stations, stores, small offices, businesses, etc. with less than twenty-five (25) employees; and from which the water is not used in the manufacture or preparation of food or beverages for sale to or use by the public in general.
17. Mitigation: Any action taken to lessen the specified undesirable impacts of a proposed land use or land disturbance activity, including those which would adversely affect the health or longevity of a natural feature, pose a visual intrusion or conflict, or otherwise be deemed incompatible with surrounding properties.
18. Person: Any individual, firm, association, organization, partnership, business trust, corporation, company, contractor, supplier, installer, user, or owner, or any Federal, State or local governmental agency or public district or any officer or employee thereof.
19. Potable Water: Any water which is in compliance with all the primary health related drinking water standards specified in the Delaware Regulations Governing Public Drinking Water Systems and the US EPA Safe Drinking Water Act, and is acceptable for human consumption.

20. Public Drinking Water System: A community, non-community, or non-transient non-community water system which provides piped water to the public for human consumption. The system must have at least fifteen (15) service connections or regularly serve at least twenty-five (25) individuals daily for at least sixty (60) days.
21. Public Water Supply Well: A well from which the water is used to serve a community water system by Section 22.146 (Public Water Systems) in the Delaware State Regulations Governing Public Drinking Water Systems.
22. Recharge Area: Land area over which precipitation infiltrates into the soil and percolates downward to replenish an aquifer.
23. Safe Zone: Shall be an area that shall be free of any structures, which would require a County Building Permit, excluding structures related to the well, water distribution or water treatment facilities. Vehicular traffic should be limited in this area to include only emergency or maintenance vehicles and this area shall be maintained in a grass or natural vegetative state, except where additional surface improvements are specifically approved by the Commission or Council as identified in 89-6.C.(1) and D.(1).
24. Source Water Protection Area: Source water protection areas are Wellhead Protection Areas and Excellent Groundwater Recharge Areas.
25. Stormwater Management: The mitigation of the hydrologic impacts of lost natural run-off storage by the use of constructed storage facilities.
  - (a) For water quantity control, a system of vegetative, structural, and other measures that may control the volume and rate of stormwater run-off which may be caused by land disturbing activities or activities upon the land; and
  - (b) For water quality control, a system of vegetative, structural, and other measures that control adverse effects on water quality that may be caused by land disturbing activities or activities upon the land.
26. Unconfined Aquifer: An aquifer in which no relatively impermeable layer exists between the water table and the ground surface and an aquifer in which the water surface is at atmospheric pressure.
27. Variance: Relief from the standards of this Chapter.
28. Well: Any excavation that is drilled, cored, bored, washed, driven, dug, jetted, or otherwise constructed when the intended use of such excavation is for the location, testing, acquisition, use, for extracting water from, or for the artificial recharge of subsurface fluids, and where the depth is greater than the diameter or width. For the purpose of this regulation this definition does not include geotechnical test; soil, telephone, and construction piling borings; fence posts, test pits, or horizontal closed loop heat pump circulation systems constructed within twenty (20) feet of the ground surface.
29. Wellhead: The upper terminus of a well, including adapters, ports, seals, valves, and other attachments.
30. Wellhead Protection Areas: The wellhead protection areas are surface and subsurface areas surrounding public water supply wells or well fields where the quantity or quality of groundwater moving toward such wells or well fields may be affected by land use activity. Such activity may result in a reduction of recharge or may lead to introduction of contaminants to groundwater used for public supply ("wellhead").

**§ 89-5. Adoption of Source Water Protection Area Maps**

- A. Overlay maps prepared or provided by the Department of Natural Resources and Environmental Control (DNREC) delineating wellhead protection and excellent groundwater recharge potential areas in Sussex County, are hereby referenced in accordance with 7 Del. C. Sections 6082(b) and 6083.
- B. The Department of Natural Resources and Environmental Control periodically shall provide the Sussex County Department of Planning and Zoning and Sussex County Council with updated Wellhead Protection Area and Excellent Recharge Area maps which shall be referenced by this ordinance and shall be made available to the public upon request and posted on the County website. Any expansion of the Excellent Recharge Area Maps would require approval of the Sussex County Council.
- C. Challenges to the Excellent Recharge Area mapping designations shall be conducted in accordance with procedures set forth in the Appendix to the Report of Investigations No. 66, Groundwater Recharge Potential Mapping in Kent and Sussex Counties, Delaware, Delaware Geological Survey, 2004, p.13. or as allowed by the Sussex County Council.

**§ 89-6. Source Water Protection Standards - Wellhead Protection Areas**

- A. Any well in existence prior to the adoption of this Ordinance may be replaced or modified and the replacement or modified well(s) is exempt from the conditions of this Ordinance.
- B. All public water supply wells shall be centrally located within a housing development, subdivision or strip development so that the safe zone is located entirely on the lands of the applicant, provided that when the safe zone cannot be located entirely on the lands of the applicant the applicant must hold an easement over the lands of any adjoining owner onto which the safe zone may extend.
- C. For a public water supply well with a permitted allocation of 50,000 gallons per day (50,000 GPD) or greater, which draws water from an “unconfined” aquifer, as interpreted by the Secretary of DNREC, or his assigned DNREC Agent, or a licensed Delaware professional geologist, hydrologist or engineer registered with the State of Delaware, the state geologist from the Delaware Geological Survey, or the Division of Water Resources Source Water Assessment and Protection Program, the following shall apply:
  - (1) A Safe Zone of no more than a one-hundred foot 100’ radius from the well shall be maintained. The Safe Zone may include structures, fixtures and controls related to the well, water distribution or water treatment facilities and access to the well for emergency and maintenance vehicles. No other structures may be located within the Safe Zone without County Council approval. For subdivisions requiring only Commission approval, Commission may approve and for developments requiring Council approval the Commission may recommend and Council may approve the location of multi-modal paths, biking paths, walking trails and, in those developments where they are to be specifically permitted by restrictive covenants, golf cart paths, provided all such surface improvements are located in the outer 50% of the Safe Zone and provided further they are not located within any portion a forested, landscaped or other buffer required by any other County ordinance.
- D. For a public water supply well with a permitted allocation of 50,000 gallons per day (50,000 GPD) or greater which draws water from a “confined” aquifer, as interpreted by the Secretary of the DNREC, or his assigned DNREC Agent, or a licensed Delaware professional geologist, hydrologist or engineer registered with the State of Delaware, the state geologist from the Delaware Geological Survey, or the Division of Water Resources Source Water Assessment and Protection Program, the following shall apply:

(1) A Safe Zone of no more than a one-hundred foot 100' radius from the well shall be maintained. The Safe Zone may include structures, fixtures and controls related to the well, water distribution or water treatment facilities and access to the well for emergency and maintenance vehicles. No other structures may be located within the Safe Zone without County Council approval. For subdivisions requiring only Commission approval, Commission may approve and for developments requiring Council approval the Commission may recommend and Council may approve the location of multi-modal paths, biking paths, walking trails and, in those developments where they are to be specifically permitted by restrictive covenants, golf cart paths, provided all such surface improvements are located in the outer 50% of the Safe Zone and provided further they are not located within any portion a forested, landscaped or other buffer required by any other County ordinance.

E. For a public water supply well with a capacity of less than fifty thousand gallons per day (50,000 gpd) which draws from a confined or unconfined aquifer, the following shall apply:

(1) A Safe Zone of no more than a twenty-foot 20' radius from the well shall be maintained. This Safe Zone may include electrical controls, access to the well, distribution piping and other facilities/structures for these items continual maintenance. No other structures may be located within the Safe Zone without the approval of County Council.

F. The following conditions shall apply to all areas within a wellhead protection area which fall between the edge of the safe zone and the outer boundary of the wellhead protection area:

(1) The requirements of this Chapter do not impose any limitations upon land development, provided the impervious cover of any portion of the tax parcel located within the wellhead protection area is 35 percent or less.

(2) Impervious cover of that portion of a tax parcel within the wellhead protection area which is greater than 35 percent but no more than 60 percent is allowed provided the applicant demonstrates through an environmental assessment report prepared by a registered professional geologist or registered professional engineer familiar with the hydro geologic characteristics of Sussex County and using a climatic water budget that will insure that post-development recharge quantity will meet or exceed the existing (pre-development) recharge quantity. Beneficial efforts to mitigate discharges to impervious surfaces shall count towards the formula used to compute post-development mitigation of any discharges.

(3) For all new construction where the impervious surfaces exceed 60 percent or where the level of post-development recharge is less than pre-development recharge, all structures shall be required to discharge roof drains into underground recharge systems or into permeable surfaces that allow the discharges to infiltrate into the ground. Efforts to mitigate discharges to impervious surfaces shall count towards the formula used to compute post-development mitigation of any discharges.

(4) Notwithstanding with provisions of §89-6.A. (Non-conforming uses) in Commercial, Industrial and Business districts, including, but not limited to Urban Business (UB), Neighborhood Business (B-1), General Commercial (C-1), Commercial Residential (CR-1), Marine, Light Industrial (LI-1), Light Industrial (LI-2), and Heavy Industrial (HI), within designated development zones where the impervious cover of a property exists prior to the effective date of this ordinance and the applicant desires to re-develop the property, the gross impervious cover shall be equal to or less than the original impervious cover percentage of the original site.

(5) Discharge from roof drains, containment areas or impoundments that receive run-off from an area that may contain contaminants from

mechanical systems shall be disposed of using Best Management Practices, such as grass swales.

(6) Above ground and underground storage tanks (USTs) containing petroleum or any hazardous substances listed in 40 CFR 116 in an aggregate quantity equal to or greater than a reportable quantity as defined in 40 CFR 117 shall not be permitted in a designated wellhead protection area unless such facilities meet the above-ground and underground storage tank regulations as applicable to the State of Delaware.

G. Within a Wellhead Protection Area, storm water management oversight shall be referred to and governed by the Sussex County Conservation District.

**§ 89-7. Source Water Protection Standards - Excellent Groundwater Recharge Areas**

A. Except as otherwise noted in this Article, within zoning districts established under Article II of Chapter 115:

(1) The requirements of this Chapter do not impose any additional limitations upon land development, provided the impervious cover of any portion of the tax parcel located within the excellent recharge area is 35 percent or less.

(2) Impervious cover of that portion of a tax parcel within the excellent groundwater recharge area which is greater than 35 percent but no more than 60 percent is allowed provided the applicant demonstrates through an environmental assessment report prepared by a registered professional geologist or registered professional engineer familiar with the hydro geologic characteristics of Sussex County and using a climatic water budget that will insure that post-development recharge quantity will meet or exceed the existing (pre-development) recharge quantity. Beneficial efforts to mitigate discharges to impervious surfaces shall count towards the formula used to compute post-development mitigation of any discharges

(3) For all new construction where the impervious surfaces exceed 60 percent or where the level of post-development recharge is less than pre-development recharge, all structures shall be required to discharge roof drains into underground recharge systems or permeable surfaces that allow the discharges to infiltrate into the ground. Efforts to mitigate discharges to impervious surfaces shall count towards the formula used to compute post-development mitigation of any discharges.

B. Notwithstanding with provisions of §89-6.A. (Non-conforming uses) in Industrial, Business, or Commercial districts within designated development zones where the impervious cover of a property exists prior to the effective date of this ordinance and the applicant desires to re-develop the property, the gross impervious cover shall be equal to or less than the original impervious cover percentage of the original site.

C. Discharge from roof drains, containment areas or impoundments that have run-off from an area that may contain contaminants from mechanical systems shall be disposed of using Best Management Practices such as grass swales.

D. Above ground and underground storage tanks (USTs) containing petroleum or any hazardous substances listed in 40 CFR 116 in an aggregate quantity equal to or greater than a reportable quantity as defined in 40 CFR 117 shall not be permitted in a designated excellent groundwater recharge area unless such facilities meet the above-ground and underground storage tank regulations as applicable to the State of Delaware.

E. On-site Wastewater Treatment and Disposal Systems shall be permitted in recharge areas.

- F. Hazardous Waste Storage, Treatment, and Disposal Facilities, Hazardous Waste Generators, Sanitary and Industrial Facilities as defined in the Delaware Regulations Governing Hazardous Waste shall not be permitted in an excellent groundwater Recharge area without an approved Conditional Use Zoning.

**§ 89-8. Boundary Determination for the Wellhead Protection Areas and the Excellent Groundwater Recharge Areas**

- A. All subdivision and land development plans depicting development or land disturbance (excluding agricultural tillage) submitted for County review shall be evaluated for the existence of Wellhead Protection Areas and Excellent Groundwater Recharge Areas by scaling for distances shown on the Sussex County Water Resource Protection Maps as referenced in Section 89-5 above.
- (1) If existing on the parcel, then the boundaries of all Wellhead Protection Areas and Excellent Groundwater Recharge Areas shall be clearly delineated and noted on the plan by the applicant's Engineer and/or Surveyor.
- B. When there is a conflict between the mapped boundary of a Wellhead Protection Area and/or an excellent Groundwater Recharge Area and the actual site conditions, an applicant seeking a modification of the mapped boundaries shall follow the process set forth in subsection C below, relating to the preparation of a report intended to determine more accurately the precise boundaries of the water resource protection areas, which report shall be submitted to the County with the detailed findings necessary to indicate the location of the boundaries.
- C. The report showing the boundary conflict should indicate the following:
- (1) A detailed topographic layout of the subdivision and/or area to be developed prepared by a Professional Land Surveyor or Engineer licensed in the State of Delaware.
- (2) For wellhead and recharge boundary determinations, a site-specific geological and hydro-geological analysis shall be performed by a state-registered professional geologist, or engineer with a background in hydro-geology and shall be based upon a thorough site investigation and testing. This analysis shall be submitted by the applicant to the Division of Water Resources, Source Water Assessment and Protection Program for consultation and to provide comment to Sussex County. The County shall be obligated to give serious consideration to such comment but shall not be bound to reach a result consistent with said comment.
- (3) Evidence derived from a site-specific investigation, which may include aquifer testing, test borings, test pits, observation wells, groundwater elevations and topography surveys as appropriate for the type of water resource protection area to clearly demonstrate that the area in question does not meet the definition of a water resource protection area as defined in this Chapter.
- D. If the development of a property is restricted by a boundary determination made pursuant to this section, after consultation and comment from the State Division of Water Resources, Source Water Assessment and Protection Program, the owner may make application to the County Engineer's Office to adjust the boundary as to their property. The County Engineer's Office shall receive and respond to the application within 60 days, after consulting with and receiving the advice of the Technical Advisory Committee established pursuant to §89-10 of this ordinance. If the application is denied, the owner may apply for a variance as provided in §89-11. If the application is approved it shall have the effect of amending the limits of the water resource protection area.

**§ 89-9. Non-Conforming Uses**

- A. Non-conforming uses, existing prior to the adoption of this Chapter, may continue in source water protection areas in the form in which they existed at the time of the adoption of this Chapter. However no land use shall be changed which shall extend a non-conforming structure, except in accordance with subsection B, hereof.
- B. After the effective date of this Chapter, a non-conforming building, structure or part thereof, which is not exempt under § 89-12 hereof, may be modified or enlarged provided the enclosed total square footage is not increased by more than 10% and provided the landowner obtains a valid County building permit prior to the commencement of such work.

**§ 89-10. Source Water Protection Technical Advisory Committee**

County Council shall be authorized to appoint a Source Water Protection Technical Advisory Committee to be appointed by Council with 2 Committee Members to be appointed by each member of Council, to serve for terms of two years each, with one-half of the committee members being lay persons and possessing a basic knowledge of groundwater hydrology and the other one-half being licensed Delaware professional engineers, geologists or hydrologists. The purpose of such committee shall be to provide technical assistance to Council and/or any of its departments that may be involved in the implementation and oversight of this Chapter. If Council is unable, after diligent inquiry, to locate a sufficient number of licensed engineers, geologists or hydrologists to serve as Committee Members, more than one-half the Committee may consist of lay persons possessing a basic knowledge of groundwater hydrology, provided however that at least one-third of the Committee Members shall be licensed professional engineers, geologists or hydrologists. The Committee shall act as a standing Committee that will meet, as the need arises, for the purposes described in this Chapter.

**§ 89-11. Request for Variance**

Any requests for a variance from the terms of this Chapter shall be addressed to and decided by County Council. On receipt of any such application, the County Administrator or his designee shall refer the request to the County Engineering Department and to the Technical Advisory Committee referred to in §89-10. After consultation with such committee, the County Engineer's Office shall advise Council within 60 days of receiving the referral of the recommendation of the Engineer's Office and the Technical Advisory Committee in respect to the application. If the recommendation is to grant the requested variance, County Council may approve that request without holding a hearing. Council shall issue its decision within 30 days after receiving the Engineer's recommendation. If the recommendation is to deny that request, the County Administrator or his designee shall notify the land owner of that recommendation in writing and after being so notified, the landowner shall have a period of 10 business days in which to request in writing that the matter be scheduled for a public hearing before Council. Council shall issue its decision within 30 days following the hearing. Notice of said hearing shall be advertised in the same manner in which other Council hearings are currently advertised. Upon the submission of a variance request, the landowner shall remit and pay a fee to Sussex County in the same amount as provided for a Board of Adjustment hearing under Chapter 62, §62-7.D(3).

**§ 89-12. Exemptions**

- A. The following are exempt from the requirements of this Ordinance:
- (1) Private residential wells serving individual households;
  - (2) Wells used for agricultural purposes;
  - (3) Replacement wells;
  - (4) Minor subdivisions;
  - (5) Recorded subdivisions;
  - (6) Revisions to recorded subdivision plans that do not result in the creation of additional lots;

- (7) Minor changes or alterations to approve site plans in accordance with § 99-35 of Chapter 99;
- (8) Improvements to existing residential lots, including additions to existing single family dwellings, the placement of sheds and fences; and
- (9) Subdivision and land development projects that have received preliminary plan approval by the Planning and Zoning Commission, conditional use site plans that have received approval by the Commission, conditional use site plans for public water supply in an existing recorded subdivision or concept plan approval in the case of residential planned communities and cluster subdivisions shall not be subject to the provisions of this Chapter for as long as their approval remains valid.

**§ 89-13.**      **Effective Date**

This Ordinance shall become effective on the 91<sup>st</sup> day from the date of its adoption.

I DO HEREBY CERTIFY THAT THE FOREGOING IS A TRUE AND CORRECT COPY OF ORDINANCE NO. 1979 ADOPTED BY THE SUSSEX COUNTY COUNCIL ON THE 24TH DAY OF JUNE 2008.



**ROBIN A. GRIFFITH**  
**CLERK OF THE COUNCIL**

