

**§ 230-19.5. - Source Water Protection District.**

*[Added 3-24-2008 by Ord. No. 2008-2]*

**A.**

The purpose of the Source Water Protection District is to protect public health and safety in the City of Milford by minimizing contamination of aquifers, preserving, and protecting existing and potential sources of drinking water supplies. The district shall be established in delineated wellhead protection areas around all public water wells and excellent groundwater recharge potential areas located within the corporate limits of the City of Milford.

**B.**

Superimposed district; effect on other provisions.

**(1)**

To enable the Source Water Protection District to operate in harmony with the land use component of the City's Comprehensive Plan, subdivision and zoning regulations, the Source Water Protection District is created as a special district to be superimposed on other districts contained in the City of Milford's Zoning Ordinance.

**(2)**

The requirements and provisions established in this district shall prevail over conflicting requirements of the zoning and subdivision ordinances.

**C.**

Source water protection area maps

**(1)**

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 the City of Milford are included as a part of the City's Official Zoning Map and shall be designated as the Source Water Protection District.

**(2)**

The maps shall be utilized by the administrative official in determining whether a lot or parcel lies within the source water protection district as described in Subsection D of this section. The lack of an indication on this map as to whether certain property is within or outside of the boundaries of this overlay district shall not be constructed as a conclusive determination that said property is within or outside the boundaries of the source water protection overlay district. Rather, the controlling factor in making such a determination shall be the description contained in Subsection E of this section.

**D.**

Source water protection standards.

**(1)**

For a confined wellhead, the wellhead protection area shall be 150 feet from the wellhead.

**(2)**

For an unconfined wellhead generating fewer than 50,000 gallons a day, the wellhead protection area shall be 150 feet from the wellhead.

**(3)**

For an unconfined wellhead generating greater than 50,000 gallons a day, the wellhead protection area shall be delineated by the State of Delaware, Department of Natural Resources and Environmental Control, Division of Water Resources, Source Water Assessment and Protection Program.

**(4)**

The area contained within a source water protection area shall be divided into zones:

**(a)**

- Zone 1: a surface area extending in a radius of 150 feet around the wellhead.
  - (b) Zone 2: the remaining surface area of a delineated wellhead protection area outside of Zone 1.
  - (c) Zone 3: excellent groundwater recharge areas.
- (5) Zone 1 requirements.
  - (a) Permitted uses.
    - [1] Infrastructure, equipment, buildings, access and other uses associated with the well, distribution and treatment facilities of the water system and their maintenance.
    - [2] Wells existing prior to December 31, 2007. No other structures or uses shall be permitted in Zone 1 unless the application, which shall demonstrate the proposed structure or use will not harm or potentially harm the public drinking water supply, is approved as a conditional use by City Council.
  - (b) Prohibited uses.
    - [1] See Table 01: Land Use Restrictions and Uses Source Water Protections Areas
- (6) Zone 2 requirements.
  - (a) Permitted uses.
    - [1] Uses permitted in the underlying zoning district may be permitted under an approved conditional use that protects the public drinking water supply for the City and meets the minimum requirements for stormwater management, impervious cover, above ground and underground storage tanks.
  - (b) Prohibited uses.
    - [1] See Table 01: Land Use Restrictions and Uses Source Water Protections Areas
  - (c) Stormwater management.
    - [1] Stormwater shall be treated by an approved stormwater quality management practice in accordance with current requirements of the *Delaware Sediment and Stormwater Regulations* dated October 11, 2006 or as later revised.
    - [2] For all new construction, all structures shall be required to discharge roof drains into recharge systems. Recharge systems shall be in accordance with section 10.0 of the *Delaware Sediment and Stormwater Regulations* dated October 11, 2006 or as later revised.
  - (d) Impervious cover.

[1]

Wellhead protection areas should not exceed 20% impervious cover. New development in this zone may exceed the 20% impervious cover threshold within wellhead protection areas, but shall be no more than 50% impervious cover, provided the applicant submits an environmental assessment impact report as provided for in Subsection 230-19.5F indicating the additional impervious area will not have an adverse impact on the drinking water supply.

(e)

Underground storage tanks (UST).

[1]

Underground storage tanks with a capacity greater than 110 gallons containing petroleum, and residential and agricultural USTs with a capacity greater than 1,100 gallons containing heating fuel or motor fuel shall be permitted in a designated wellhead area if the USTs are designed, constructed, maintained, and operated in accordance with the Delaware Regulations Governing Underground Storage Tank Systems, or as later revised. (NOTE: Regulated USTs must be constructed with secondary containment of the tanks and piping and must have continuous monitoring for releases.) The property owner shall be required to submit an annual report, prepared by a licensed tank inspector, certifying the UST meets the criteria established herein.

[2]

Underground storage tanks with a capacity greater than 110 gallons containing a hazardous substance as defined in CERCLA § 101(14) shall be permitted in a designated wellhead area if the USTs are designed, constructed, maintained and operated in accordance with the Delaware Regulations Governing Underground Storage Tank Systems. (NOTE: Regulated USTs must be constructed with secondary containment of the tanks and piping and must have continuous monitoring for releases.) The property owner shall be required to submit an annual report, prepared by a licensed tank inspector, certifying the UST meets the criteria established herein.

(f)

Above ground storage tanks.

[1]

Aboveground storage tanks with a capacity greater than 12,499 gallons containing petroleum or hazardous substances, and ASTs with a storage capacity greater than 39,999 gallons containing diesel, heating fuel or kerosene shall be permitted in a delineated wellhead area if the ASTs are designed, constructed, operated and maintained with the applicable requirements in the Delaware Regulations Governing Aboveground Storage Tanks.

(7)

Zone 3 requirements.

(a)

Permitted uses.

[1]

Uses permitted within the underlying zoning district unless prohibited by this section.

[2]

Hazardous waste storage, treatment, and disposal facilities, hazardous waste generators, sanitary and industrial facilities as defined in the Delaware Regulations Governing hazardous waste, vehicle repair, salvage operations, waste sludge storage or application, solid waste landfills, tire piles and dredge spoil sites shall not be permitted in Zone 3.

**(b)**

Prohibited uses.

**[1]**

See Table 01: Land Use Restrictions and Uses Source Water Protections Areas

**(c)**

Stormwater management and impervious cover.

**[1]**

There are no requirements contained in this section in order for the development to occur provided the impervious cover of that portion of the parcel within the excellent recharge area is 35% or less.

**[2]**

Impervious cover of that portion of the parcel within the excellent recharge area that is greater than 35% but no more than 60% is allowed provided the applicant demonstrates through a report prepared by a registered professional geologist or registered professional engineer familiar with the hydro geologic characteristics of the City of Milford and the surrounding areas using climatic water budget that post-development recharge quantity will meet or exceed the existing (pre-development) recharge quantity. Efforts to mitigate discharges to pervious surfaces shall count towards the formula used to compute post-development mitigation of any discharges. These practices shall address water quality as well as overall water quantity.

**[3]**

For all new construction, infill, and redevelopment within the town center as defined in Figure 14D, Neighborhood Map-Town Center, as it is delineated in the 2008 Comprehensive Plan impervious cover may exceed 60%. All structures are required to discharge roof drains into underground recharge systems or permeable surfaces that allow discharges to infiltrate into the ground. The site plan is to consist of BMPs that include such items as pervious pavers, pervious concrete and infiltration practices designed to assure that recharge is maximized. The practices shall address water quality as well as overall water quantity.

**[4]**

Discharge from roof drains, containment areas or impoundments that have run-off from an area that may contain contaminants from mechanical systems shall be segregated and treated prior to discharge.

**(d)**

Underground storage tanks (UST).

**[1]**

Underground storage tanks with a capacity greater than 110 gallons containing petroleum, and residential and agricultural USTs with a capacity greater than 1,100 gallons containing heating fuel or motor fuel shall be permitted in a designated wellhead area if the USTs are designed, constructed, maintained, and operated in accordance with the Delaware Regulations Governing Underground Storage Tank Systems, or as later revised. (NOTE: Regulated USTs must be constructed with secondary containment of the tanks and piping and must have continuous monitoring for releases.) The property owner shall be required to submit an annual report, prepared by a licensed tank inspector, certifying the UST meets the criteria established herein.

**[2]**

Underground storage tanks with a capacity greater than 110 gallons containing a hazardous substance as defined in CERCLA §101(14) shall be permitted in Zone 3 if the USTs are designed, constructed, maintained and operated in accordance with the Delaware Regulations Governing Underground Storage Tank Systems. (NOTE: Regulated

USTs must be constructed with secondary containment of the tanks and piping and must have continuous monitoring for releases.) The property owner shall be required to submit an annual report, prepared by a licensed tank inspector, certifying the UST meets the criteria established herein.

(e)

Above ground storage tanks.

[1]

Aboveground storage tanks with a capacity greater than 12,499 gallons containing petroleum or hazardous substances, and ASTs with a storage capacity greater than 39,999 gallons containing diesel, heating fuel or kerosene shall be permitted in Zone 3 if the ASTs are designed, constructed, operated and maintained with the applicable requirements in the Delaware Regulations Governing Aboveground Storage Tanks.

Table 01: Land Use Restrictions and Uses Source Water Protections Areas.

Activities shall be subject to the land use restrictions contained within this [article] that will protect the quality and quantity of ground water supplies. All uses not permitted in the underlying zone district are prohibited.

No - Prohibited

Yes - Allowed

C - Conditional

Land Use	Well Head Protection Area		Excellent Ground-Water Recharge Potential Area
	Zone 1	Zone 2	Zone 3
Aboveground Storage Tanks	NO	C	C
Automobile body/repair shop	NO	NO	C
Chemical processing/storage facilities	NO	NO	C
Dredge Spoil Sites	NO	NO	C
Dry cleaner	NO	NO	NO
Electrical/electronic manufacturing facility	NO	NO	C
Equipment maintenance/fueling areas	NO	NO	C
Fleet/trucking/bus terminal	NO	NO	C
Gas station	NO	C	C
Hazardous Waste: Treatment, Storage & Disposal Facilities	NO	NO	C
† Dry Wells/sumps	NO	C	YES
†† Injection wells	NO	C	C
Junk/scrap/salvage yard	NO	NO	NO
Machine shop	NO	NO	C
Metal plating/finishing/fabricating facility	NO	NO	C
Mines/gravel pits	NO	NO	C
On-Site wastewater treatment and disposal systems	NO	NO	C
Salvage operations	NO	NO	NO

<b>Sanitary and Industrial Landfills</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>
<b>Tire Piles</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>
<b>Underground storage tanks</b>	<b>NO</b>	<b>C</b>	<b>C</b>
<b>Vehicle repair</b>	<b>NO</b>	<b>NO</b>	<b>C</b>
<b>Vessel storage</b>	<b>NO</b>	<b>NO</b>	<b>C</b>
<b>Waste sludge storage or application</b>	<b>NO</b>	<b>NO</b>	<b>C</b>
<b>Wood preserving/treating facility</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>

† Dry wells/sumps, except for single-family residences directing gutter downspouts to a drywell

†† Injection wells other than those used in the remediation of ground water contamination that inject oxygen-releasing compounds

**E.**

Boundary determination for source water protection areas.

**(1)**

All subdivision and land development plans depicting development or land disturbance submitted for City review shall be evaluated for the existence of source water protection areas. All such areas are as depicted on source water protection area maps maps/overlays are available from Delaware Department of Natural Resources and Environmental Control (DNREC), Division of Water Resources, Source Water Assessment and Protection Program (SWAPP). If a SWPA exists within a proposed development site, the boundaries of these areas shall be delineated on the plan by the applicant's State of Delaware professional engineer or professional geologist.

**(2)**

DNREC SWAPP may, when based on sound science and information, revise and update the overlay maps of wellhead protection areas.

**(3)**

The Delaware Geological Survey (DGS) may, when based on sound science and information, revise and update the overlay maps of good or excellent groundwater recharge potential areas.

**(4)**

When there appears to be a conflict between the mapped boundary and actual site conditions, the applicant may engage the services of professional geologist to prepare a report intended to determine more accurately the precise boundary of the source water protection area. The Report shall include:

**(a)**

A detailed topographic layout of the subdivision and/or area to be developed and prepared by a state-registered professional land surveyor or professional geologist;

**(b)**

Evidence derived from a site-specific investigation that may include aquifer testing, test borings, test pits, observation wells, groundwater elevations, and topography surveys as appropriate for the type of source water protection area that clearly demonstrates that the area in question does not meet the definition of a source water protection area as defined.

**(c)**

Any challenges to the delineations of the good or excellent groundwater recharge potential areas must follow the methods used in the Delaware Geological Survey publication: Report of Investigations No. 66, Groundwater Recharge Potential Mapping in Kent and Sussex Counties, Delaware. The challenge must be approved by DGS and DNREC SWAPP.

**(d)**

Notwithstanding any other section of this chapter, if an owner initiates a precise boundary delineation pursuant to this section, any and all time review limitations shall be stayed pending the submission of the complete report contemplated by

this section. Following submission of the report and all supporting documents, DNREC shall have 90 days to finally approve or disapprove the exploratory sketch plan submission or such further time as deemed necessary by the Department, but not to exceed an additional 90 days.

**F.**

Environmental impact assessment report.

**(1)**

New development may exceed the 20% impervious cover threshold within the Source Water Protection Area Zone 2, but be no more than 50% impervious, provided the applicant submits an environmental assessment report including a climatic water budget and systems to augment recharge that assure water quality as well as quantity. The environmental impact assessment must document that postdevelopment recharge will be no less than predevelopment recharge when computed on an annual basis.

**(2)**

Commonly, the applicant offsets the loss of recharge due to impervious cover by constructing recharge basins that convey pretreated rooftop runoff for infiltration to groundwater. Refer to Supplement 1, entitled Groundwater Recharge Design Methodology, for the details of how to design recharge facilities in Delaware source water protection areas.

**(3)**

A Delaware registered professional engineer and/or professional geologist prepares an environmental assessment report, usually containing the following elements of planning, design, construction, and maintenance of groundwater recharge facilities:

**(a)**

Site description of proposed development within the water resource protection area.

**(b)**

Climatic water balance comparing predevelopment and postdevelopment recharge potential.

**(c)**

Subsurface exploration, including borings, test pits, and infiltration tests.

**(d)**

Design of groundwater recharge facilities that assure water quality as well as quantity.

**(e)**

Construction and maintenance considerations.

**(f)**

Recommended groundwater monitoring plan.

**(g)**

Water management agreement between the applicant and the town, city, or county providing for monitoring and maintenance of the recharge system. The applicant will abide by the Groundwater Management Agreement as written in DNREC Supplement 1 to the Source Water Protection Guidance Manual for the Local Governments of Delaware: Groundwater Recharge Design Methodology, dated May 2005 or as later revised.

**G.**

Nonconforming uses. Nonconforming uses may continue in a source water protection area in the form in which they existed at the time of the adoption of this section, unless they pose a direct hazard to the City's water supply, as determined by the Water and Wastewater Department upon advice from the Delaware Division of Public Health, or are causing some foreign substances (oil, salts, chemicals, or other substances) to be introduced into the City's water supply, as determined by the Water and Wastewater Department upon advice from DNREC's Division of Air and Waste Management and/or Division of Water Resources. In the latter case, the Building Department shall issue a mandatory cease and desist to stop the offending activity within the area. Nonconforming existing underground or aboveground storage of oil, petroleum, and petroleum products shall require secondary containment pursuant to the State of Delaware regulations governing underground storage tanks or for aboveground storage of petroleum products secondary

containment facilities capable of capturing the material stored on the site, for existing facilities that are proposed either to be upgraded or replaced.

**H.**

Replacement and new wells.

**(1)**

The replacement of any existing public water supply well that was not required to meet this wellhead protection requirement at the date of its original installation and that has failed shall be exempt from meeting this wellhead protection requirement.

**(2)**

All public water supply wells within a housing development, subdivision, or strip development recorded on or after the implementation of the Delaware Regulations Governing the Construction and Use of Wells, dated April 6, 1997, or as later revised, shall be located at least 150 feet within the subdivision's or development's outermost property lines.

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*[Ord. No. 2009-7, § 1, 5-26-2009]*

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