

## **ORDINANCE # 04-02**

### **AN ORDINANCE OF THE BOROUGH OF POMPTON LAKES FOR THE PURPOSE OF PROTECTING MUNICIPAL WELL HEADS.**

**BE IT ORDAINED**, by the Mayor and Council of the Borough of Pompton Lakes, County of Passaic, that the following provisions shall be added to the Zoning and Land Use Code of the Borough of Pompton lakes:

<b>Section I.</b>	<b>Statement of Findings</b>
<b>Section II.</b>	<b>Purpose</b>
<b>Section III.</b>	<b>Statutory Authority</b>
<b>Section IV.</b>	<b>Definitions</b>
<b>Section V.</b>	<b>Establishment of Well Head Protection Areas and Maps</b>
<b>Section VI.</b>	<b>Regulation of Well Head Protection Areas for Public Community Wells</b>
<b>Section VII.</b>	<b>Potential Pollutant Sources Listed</b>
<b>Section VIII.</b>	<b>Best Management Practice Performance Standard</b>
<b>Section IX.</b>	<b>Operations and Contingency Plan</b>
<b>Section X.</b>	<b>Enforcement</b>
<b>Section XI.</b>	<b>Severability</b>
<b>Section XII.</b>	<b>Effective Date</b>
<b>Appendix A.</b>	<b>Types of Facilities that are Major Potential Pollutant Sources</b>
<b>Appendix B.</b>	<b>New Jersey Department of Environmental Protection Delineations of Well Head Protection Areas around Public Community Water Supply Wells</b>

#### **SECTION I. STATEMENT OF FINDINGS**

The governing body of the Borough of Pompton Lakes finds that:

- A. The ground water underlying this municipality is a major source of existing and future water supplies, including drinking water. The ground water underlying this municipality lies within the Buried Valley Aquifer Systems of the Central Passaic River Basin, which are designated as a "sole source" aquifer under Section 1424(e) of the federal Safe Drinking Water Act of 1974.
- B. The ground water aquifers are integrally connected with, are recharged by, and flow into the surface waters, lakes and streams, which also constitute a major source of water for drinking, commercial and industrial needs.
- C. Accidental spills and discharges of toxic and hazardous materials may threaten the quality of these ground water supplies and related water sources.
- D. Contaminated water from any source is a detriment to the health, welfare and comfort of the residents of this municipality, and other users of these water resources.
- E. Spills or discharges of hazardous substances or hazardous wastes may contaminate or pollute water. As a preventive measure, the proximity of such materials to sources of water supplies, such as public community wells, should be restricted so that there will be sufficient time to find and clean up such spills or discharges before water supplies become contaminated.

#### **SECTION II. PURPOSE**

The purpose of this Ordinance is to protect the public health, safety and welfare through the protection of the ground water resources underlying the municipality to ensure a supply of safe and healthful drinking water for the present and future generations of local residents, employees and the general public in this municipality, as well as users of these water supplies outside this municipality. Areas of land surrounding each public community well, known as Well Head Protection Areas (WHPAs), from which contaminants may move through the ground to be withdrawn in water taken from the well, have been delineated. Through regulation of land use, physical facilities and other activities within these areas, the potential for ground water contamination can be reduced.

The purpose of the regulations contained in this ordinance is to prevent the migration of potential pollutants from areas within a WHPA into ground water that is withdrawn from a public community well.

### **SECTION III. STATUTORY AUTHORITY**

The Borough of Pompton Lakes is empowered to regulate these activities under the provisions of the New Jersey Municipal Land Use Law, N.J.S.A. 40:55D-1 *et seq.*, which authorizes each municipality to plan and regulate land use to secure a safe and adequate drinking water supply for its residents. The Board of Health of this municipality has autonomous power granted by the State Legislature to develop this Ordinance to protect public health, safety and welfare, as set forth in the New Jersey Local Boards of Health Law, N.J.S.A. 26:3-1 *et seq.*, and the New Jersey County Environmental Health Act, N.J.S.A. 26:3A2-21 *et seq.*

### **SECTION IV. DEFINITIONS**

**Administrative Authority--** The Planning Board Engineer, Health Officer and Operations Manager of the Pompton Lakes Borough Municipal Utilities Authority, acting jointly and in consultation, with all of the powers delegated, assigned, or assumed by them according to statute or ordinance.

**Applicant--** Person applying to the Board of Health, Planning Board, Board of Adjustment or the Construction Office proposing to engage in an activity that is regulated by the provisions of this ordinance, and that would be located within a regulated Well Head Protection Area.

**Aquifer--** A formation, group of formations, or part of a formation that contains sufficient saturated permeable rock, sand, or gravel which is capable of storing and transmitting usable quantities of water to wells and springs.

**Best Management Practices (BMP) --** These are performance or design standards established to minimize the risk of contaminating ground water or surface waters while managing the use, manufacture, handling or storage of hazardous substances or hazardous wastes.

**Contamination--** The presence of any harmful or deleterious substances in the water supply.

**Development--** The carrying out of any construction, reconstruction, alteration of surface or structure or change of land use or intensity of use.

**Discharge--** Any intentional or unintentional action or omission, unless pursuant to and in compliance with the conditions of a valid and effective Federal or State Permit, resulting in the releasing, spilling, pumping, pouring, emitting, emptying or dumping of a hazardous substance into the waters or lands of the State or into waters outside the jurisdiction of the State when damage may result to the lands, waters or natural resources within the jurisdiction of the State.

**Ground Water--** Water contained in interconnected pores of a saturated zone in the ground, also known as well water. A saturated zone is a volume of ground in which the voids in the rock or soil are filled with water at a pressure greater than atmospheric.

**Hazardous Substance--** Any substance designated under 40 CFR 116 pursuant to Section 311 of the Federal Act, the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 *et seq.*, or Section 4 of the State Act. Substances listed include petroleum, petroleum products, pesticides, solvents and other substances.

**Hazardous Waste--** Any solid waste that is defined or identified as a hazardous waste pursuant to the Solid Waste Management Act, N.J.S.A. 13:1E *et seq.*, N.J.A.C. 7:26-8, or 40 CFR Part 261.

**Maximum Contaminant Level--** Maximum permissible level of a contaminant in water which is delivered to any user of a Public Community Water System.

**NJDEP--** New Jersey Department of Environmental Protection.

**Person--** Any individual, public or private corporation, company, partnership, firm, association, owner or operator, political subdivision of this State, and any state, Federal or interstate agency or an agent or employee thereof.

**Polluted Water--** In the content of drinking water, water is polluted when a pollutant is present in excess of a maximum contaminant level or bacteriological limit established by law or regulation.

**Potential Pollutant Source (PPS)**-- Activity or land use which may be a source of a pollutant that has the potential to move into ground water withdrawn from a well. For the purposes of this ordinance Potential Pollutant Sources are defined in Section VII.

**PPS**-- Potential Pollutant Source

**Public Community Well**-- A public water supply well which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

**SIC**-- Standard Industrial Classification.

**Sole Source Aquifer**-- Any drinking water aquifer upon which more than 50% of a population group depends and for which there is no practicable or affordable alternate water supply, as certified by the United States Environmental Protection Agency.

**Time of Travel (TOT)**-- The average time that a volume of water will take to travel in the saturated zone from a given point to a pumping well.

**Tier 1 Well Head Protection Area**-- That area of land within a WHPA from which ground water may enter the well within 2 years. (See maps referenced under Section V.)

**Tier 2 Well Head Protection Area**-- That area of land within a WHPA from which ground water may enter the well within 5 years. (See maps referenced under Section V.)

**Tier 3 Well Head Protection Area**-- That area of land within a WHPA from which ground water may enter the well within 12 years. (See maps referenced under Section V.)

**Well Head**-- The well borehole and appurtenant equipment.

**Well Head Protection Area (WHPA)**-- An area described in plan view around a well, from which ground water flows to the well and ground water pollution, if it occurs, may pose a significant threat to the quality of water withdrawn from the well.

**WHPA**-- Well Head Protection Area.

## **SECTION V. ESTABLISHMENT OF WELL HEAD PROTECTION AREAS AND MAPS**

### **A. Well Head Protection Area Maps:**

- 1) The delineations of Well Head Protection Areas for public community wells, which were published by the New Jersey Geological Survey of the New Jersey Department of Environmental Protection, are incorporated herein and made a part of this Ordinance. They are designated as follows: New Jersey Well Head Protection Areas, Edition 2, Geospatial Data Presentation, New Jersey Digital Data Series, DGS02-2, dated 18 June 2002. A description of these data, which has been excerpted from these materials, is appended as Appendix B. The maps of the Well Head Protection Areas located within the Borough of Pompton Lakes are included as part of this Ordinance, and attached hereto as Appendix C, and have the designation of Groundwater maps. They are adopted on the date that the within ordinance is adopted by the Mayor and Council. Maps of the municipality on which these delineations have been overlain shall be on file and maintained by the offices of the Clerk of the Borough of Pompton Lakes, and of the Board of Health of the Borough of Pompton Lakes.
- 2) Well Head Protection Areas, as shown on the maps described in Section V.A(1), shall be considered to supercede and control over any other established zoning district. Land in a Well Head Protection Area may be used for any purpose permitted in the underlying district, subject to the additional restriction presented herein.

### **B. Assignment of Restriction within Well Head Protection Areas:**

Properties located wholly or partially within a Well Head Protection Area shall be governed by the restrictions applicable to the Well Head Protection Area.

### **C. Inclusion of Well Head Protection Area Zoning into Master Plan:**

The municipal Master Plan provides the legal basis for zoning and land use regulation at the local level. The technical foundation for local well head protection in this municipality should be incorporated into the Master Plan. A technical report on the need for well head protection in the Borough of Pompton Lakes may be adopted as part of the Master Plan (N.J.S.A 40:55D-28b(11)). The technical report should include the following information:

- 1) A statement setting forth the rationale and need to protect the public water supply through a program of well head protection for public community wells.
- 2) Reference to the method used to delineate the Well Head Protection Areas (WHPAs) according to the "tiered" level of protection for public community wells based upon the time of travel (TOT) of ground water, as developed by the New Jersey Geological Survey.

## **SECTION VI. REGULATION OF WELL HEAD PROTECTION AREAS FOR PUBLIC COMMUNITY WELLS**

- A. The Administrative Authority for administering the provisions of this Ordinance shall be the Planning Board Engineer, Health Officer and Operations Manager of the Pompton Lakes Borough Municipal Utilities Authority, acting jointly and in consultation.
- B. Any applicant for a permit requesting a change in land use or activity, which is subject to review under the provisions of the Municipal Land Use Law and other pertinent regulations of the Borough of Pompton Lakes, Article III, Section 190-10 of the Borough of Pompton Lakes Zoning and Land Use Code, and which is located within a delineated WHPA, as defined in Section V, that involves a Potential Pollutant Source (PPS), as defined in Section VII, shall comply with the requirements of this ordinance.
- C. Any applicant for a permit requesting a change in land use or activity, which is subject to the requirements of this ordinance, shall file an Operations and Contingency Plan, as required by Section IX, with the Administrative Authority. No permit that allows a change in land use or activity, which is subject to the requirements of this ordinance, shall be granted unless an Operations and Contingency Plan for the proposed change has been approved by the Administrative Authority and by the Pompton Lakes Borough Municipal Utilities Authority. Any plan approved by the Administrative Authority and by the Pompton Lakes Borough Municipal Utilities Authority shall be kept on file in the office of the Borough Clerk of the Borough of Pompton Lakes, and shall be available to the public for inspection.
- D. Any change in land use or activity that introduces a Major or Minor Potential Pollutant Source (PPS), as defined in Section VII, shall be prohibited within a Tier 1 WHPA.
- E. Any change in land use or activity that introduces a Major PPS, as defined in Section VII, shall be prohibited within a Tier 2 WHPA.
- F. Any change in land use or activity that involves any PPS, as defined in Section VII, within any WHPA, that is not prohibited pursuant to Section VI.D. or VI.E., shall comply with the Best Management Practice Standards, as defined in Section IX.
- G. This Ordinance is supplementary to other laws and Ordinances in this municipality. Where this Ordinance or any portion thereof imposes a greater restriction than is imposed by other regulations, the provisions of this Ordinance shall supersede. These Rules and Regulations shall in no way effect the limitations or requirements applicable in the underlying municipal land use and zoning districts.

## **SECTION VII. POTENTIAL POLLUTANT SOURCES LISTED**

The following are Major and Minor Potential Pollutant Sources (PPS) subject to the requirements of this Ordinance. This listing is consistent with the New Jersey Safe Drinking Water Act, N.J.A.C. 7:10-11.7 through 12.12.

A. Major PPSs include:

- 1) Permanent storage or disposal of hazardous wastes, industrial or municipal sludge or radioactive materials, including solid waste landfills.
- 2) Collection and transfer facilities for hazardous wastes, solid wastes that contain hazardous materials, and radioactive materials.
- 3) Any use or activity requiring the underground storage of a hazardous substance or waste in excess of an aggregate total of 50 gallons.
- 4) Underground fuel and chemical storage and oil tanks regulated by NJDEP under provisions of the Underground Storage of Hazardous Substances Act (N.J.S.A. 58:10A-21 et seq.).

- 5) Above-ground storage facility for a hazardous substance or waste with a cumulative capacity greater than 2,000 gallons.
- 6) Any industrial treatment facility lagoon.
- 7) Any facility with a SIC Code number included under the New Jersey Safe Drinking Water Act Regulations at N.J.A.C 7:10A-1.14, Table II(N), with a toxicity number of II or greater. (See Appendix A.)
- 8) Automotive service center (repair & maintenance).
- 9) Landfill.
- 10) Dry cleaning facility.
- 11) Road salt storage facility.
- 12) Cemetery.
- 13) Highway maintenance yard.
- 14) Truck, bus, locomotive, off-road vehicle usage areas and maintenance yards.
- 15) Site for storage, maintenance or use of construction equipment and materials.
- 16) Site for storage and maintenance of equipment and materials for landscaping.
- 17) Livestock operation.
- 18) Quarrying and/or mining facility.
- 19) Asphalt and/or concrete manufacturing facility.
- 20) Junkyard/auto recycling and scrap metal facility.
- 21) Residential or agricultural motor fuel in NJDEP exempted underground storage tanks (i.e., under 1,000 gallons).

B. Minor PPSs include:

- 1) Underground storage of hazardous substance or waste of less than 50 gallons.
- 2) Underground heating oil storage tank with a capacity of less than 1,000 gallons, aggregate total to one site.
- 3) Sewage treatment facility.
- 4) Sanitary sewer system, including sewer line, manhole, or pump station. (See conditions in Section VII.C.)
- 5) Industrial waste line. (See conditions in Section VII.C.)
- 6) Septic leaching field.
- 7) Facility requiring a ground water discharge permit issued by the NJDEP pursuant to N.J.A.C 7:14A *et seq.*
- 8) Stormwater retention-recharge basin.
- 9) Dry well. (See conditions in Section VII.C.)
- 10) Storm water line. (See conditions in Section VII.C.)
- 11) Waste oil collection, storage and recycling areas.
- 12) Agricultural chemical bulk storage and mixing or loading facility including crop dusting facilities.
- 13) Above-ground storage of hazardous substance or waste in quantities of less than 1,000 gallons.

C. Conditions:

- 1) Sanitary sewer lines, industrial waste lines and storm water lines may be located no closer than 100 feet to a regulated well, and only if they are constructed of watertight construction (that is steel, reinforced concrete, cast iron, PVC or other suitable material).
- 2) Manhole and/or connections to a sanitary sewer system are prohibited within 100 feet of a regulated well.
- 3) Dry wells dedicated to roof runoff and serving residential properties or commercial or industrial properties with SIC codes not listed in Appendix A may be located no closer than 100 feet to a regulated well.

**SECTION VIII. BEST MANAGEMENT PRACTICE PERFORMANCE STANDARD**

Any applicant proposing any change in land use or activity that involves any PPS, as defined in Section VII, that would be located either wholly or partially within any WHPA shall comply with and operate in a manner consistent with the following Best Management Practices:

- A. All portions or areas of a facility in which hazardous substances or hazardous wastes are stored, processed, manufactured or transferred outdoors, shall be designed so that the discharges of hazardous substances will be prevented from overflowing, draining, or leaching into the ground water or surface waters.
- B. Outdoor storage, dispensing, loading, manufacturing or processing areas of hazardous substances or hazardous wastes must be protected from precipitation, stormwater flows or flooding.
- C. Wherever hazardous substances are stored, processed, manufactured or transferred outdoors, the design features shall include secondary containment and/or diversionary structures which may include but not be limited to:
- 1) Containers, dikes, berms or retaining walls sufficiently impermeable to contain spilled hazardous substances, for the duration of a spill event.
  - 2) Curbing.
  - 3) Gutter, culverts and other drainage systems.
  - 4) Weirs, booms and other barriers.
  - 5) Lined diversion ponds, lined lagoons and lined retention basins, holding tanks, sumps, slop tanks and other collecting systems.
  - 6) Drip pans.
- D. Secondary containment and/or diversionary systems, structure or equipment must meet the following standards:
- 1) The system must block all routes by which spilled hazardous substances could be expected to flow, migrate, or escape into the ground water or surface waters.
  - 2) The system must have sufficient capacity to contain or divert the largest probable single discharge that could occur within the containment area, plus an additional capacity to compensate for any anticipated normal accumulation of rainwater.
  - 3) In order to prevent the discharge of hazardous substances into ground water, all components of the system shall be made of or lined with impermeable materials sufficient to contain the substance for the duration of a spill event. Such material or liner must be maintained in an impermeable condition.
  - 4) No manufacturing area, processing area, transfer area, dike storage area, or other storage area, or secondary containment/diversion system appurtenant thereto shall drain into a watercourse, or into a ditch, sewer, pipe or storm drain that leads directly or indirectly into a surface or subsurface disposal area, unless provision has been made to intercept and treat any spilled hazardous substances in an NJDEP approved industrial wastewater treatment or pre-treatment facility, or other NJDEP approved facility.
  - 5) Catchment basins, lagoons and other containment areas that may contain hazardous substances should not be located in a manner that would subject them to flooding by natural waterways.
- E. Stormwater shall be managed so as to prevent contamination of ground water, and so as to be in accordance with applicable laws and regulations of the State of New Jersey, and of the Borough of Pompton Lakes.

## **SECTION IX. OPERATIONS AND CONTINGENCY PLAN**

- A. Any applicant proposing any change in land use or activity that involves any PPS, as defined in Section VII, that would be located either wholly or partially within any WHPA shall submit an Operations and Contingency Plan to the Administrative Authority. This Operations and Contingency Plan shall inform the Administrative Authority about the following aspects of the proposal:
- 1) Types of PPS proposed for the site;
  - 2) Types and quantities of hazardous substances or hazardous wastes that may be used or stored on site;
  - 3) Means to be employed to contain or restrict the spillage or migration of hazardous substances or hazardous wastes from the site into ground water;
  - 4) Means to be used to contain or remediate accidental spillage of such materials;
  - 5) Means to notify administrative authority about any accidental spillage of such materials;
  - 6) Demonstration that the proposed use and/or activity would employ, to the maximum extent possible, best management practices as set forth in Section VIII, to protect ground water quality in the WHPA and minimize the risk of potential ground water contamination.

B. The Administrative Authority shall approve or reject any Operations and Contingency Plan as a prerequisite to the filing of a land use application with the Borough Planning Board or Zoning Board of Adjustment.

C. Any Operations and Contingency Plan submitted shall be available for public review and comment.

#### **SECTION X. ENFORCEMENT**

A prompt investigation shall be made by the appropriate personnel of the Health Department of the Borough of Pompton Lakes, of any person or entity believed to be in violation hereof. If, upon inspection, a condition which is in violation of this Ordinance is discovered, a civil action in the Special Part of the Superior Court, or in the Superior Court, if the primary relief sought is injunctive or if penalties may exceed the jurisdictional limit of the Special Civil Part, by the filing and serving of appropriate process. Nothing in this Ordinance shall be construed to preclude a municipality's right, pursuant to N.J.S.A. 26:3A2-25, to initiate legal proceedings hereunder in Municipal Court. The violation of any section or subsection of this Ordinance shall constitute a separate and distinct offense independent of the violation of any other section or subsection, or of any order issued pursuant to this Ordinance. Each day a violation continues shall be considered a separate offense. Penalties and Fines that are applicable can be found in the Borough Zoning Ordinance, or any other Section or Subsection of the Borough Ordinance. In addition, remedies may be sought under environmental laws embodied in state statutes and the Administrative Code. Civil penalties may be pursued pursuant to N.J.S.A. 2A:35A-1 et seq.

#### **SECTION XI.**

If any section, sentence, clause or phrase of this Ordinance is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holdings shall in no way affect the validity of the remaining portions of this Ordinance.

#### **SECTION XII.**

This Ordinance is not meant to repeal any provisions of the Zoning and Land Use Code of the Borough of Pompton Lakes, but to add to its requirements, and all Ordinances or parts thereof inconsistent with the provisions of this Ordinance are repealed to the extent of such inconsistency only.

#### **SECTION XIII.**

This Ordinance shall not be construed or interpreted to limit, abridge, restrict or otherwise affect the rights and powers of the Pompton Lakes Borough Municipal Utilities Authority, a body corporate and politic organized and existing under N.J.S.A. 40:14B-1 et. seq., which Authority is, except as to its right of review as set forth in Section VI, Paragraph C and in Section IX, Paragraph C, [is] hereby declared to be exempt from the provisions of this Ordinance. Accordingly, this Ordinance shall not be deemed to apply to present or future activities or facilities of such Authority (including, but not limited to, the existence, construction or location of storage facilities, water lines, sanitary sewer lines, manholes or wells).

#### **SECTION XIV.**

This Ordinance shall take effect upon final adoption and publication in accordance with the law on [date].

## Appendix A

<b>Types of Facilities that are Major Potential Pollutant Sources</b>		
<b>Facilities with Toxicity Ratings of II or Greater</b>		
<b>N.J.A.C. 7:10A-1.14(c)4, Table II(N)</b>		
<i>SIC Code for Industrial Facility *</i>	<i>Description of Industrial Facility which includes activities that may release hazardous substances</i>	<i>Toxicity Rating</i>
Any SIC Code	All ground water remediation of toxic substances, including priority pollutants	V
Any SIC Code	Contaminated storm water runoff from any type of facility listed below	
0721	Crop dusting and spraying	IV
10xx	Metal mining	V
12xx	Coal mining	III
1475	Phosphate rock mining	IV
22xx	Textile mills with finishing operations (dyeing, coating, etc.)	V
2491	Wood preserving	VI
2493	Reconstituted wood products	II
25xx	Furniture & fixtures with metal finishing	V
261x, 262x, 263x	Pulp, paper, and paperboard mills	V
27xx	Printing & publishing	II
2812	Inorganic chemicals, alkalies & chlorine	V
2813	Industrial gases	II
2816	Inorganic pigments	IV
2819	Industrial inorganic chemicals	IV
282x	Plastic materials & synthetic resins	V
283x	Drugs	V
284x	Soaps, detergents, etc.	III
285x	Paints, etc.	IV
2861	Gum & wood chemicals	III
2865, 2869	Industrial organic chemicals	VI
2879	Pesticides & agricultural chemicals	VI
289x, except 2891	Miscellaneous chemical products	IV
2891	Adhesives & sealants	V
29xx	Petroleum refining	V
30xx	Rubber & plastic products	IV
3111	Leather tanning & finishing	IV
331x, except 3313	Steel mills	VI
3313	Electrometallurgical products, except steel	III
332x	Iron & steel foundries	V
333x	Primary smelting, nonferrous metals	VI
334x	Secondary smelting, nonferrous metals	V
335x	Rolling, drawing, extruding, nonferrous metals	V
336x	Nonferrous foundries	V
339x	Miscellaneous primary metals products	V
341x, 342x, 343x, 344x, 345x, 346x, except 3431 & 3463	Fabricated metal products, with metal finishing	V
3431	Enameled sanitary ware, cast iron basis	VI
3463	Nonferrous forgings	V
347x	Plating & coating	V
348x	Ordinance, with metal finishing	V
348x	Ordinance, explosive load, assembly, packing	IV
349x, except 3497	Miscellaneous fabricated metal products, with metal finishing	V
3497	Metal foil & leaf	V



<i>SIC Code for Industrial Facility*</i>	<i>Description of Industrial Facility which includes activities that may release hazardous substances</i>	<i>Toxicity Rating</i>
35xx	Industrial/commercial machinery & equipment, with metal finishing	V
36xx	Electronic equipment, with metal finishing or porcelain enameling	V
3624	Carbon & graphite products	V
3671	Cathode ray tubes	V
3672	Printed circuit boards	V
3674	Semiconductors	VI
3679	Electronic crystals only	III
3691, 3692	Batteries	IV
37xx, except 3731	Transportation equipment, with metal finishing	V
3731	Shipbuilding	IV
38xx	Measuring, analyzing & controlling instruments, with metal finishing	V
3844, 3845	Measuring, analyzing & controlling instruments, with electron tube manufacture	V
3861	Photographic related chemicals	V
39xx	Miscellaneous manufacturing industries, with metal finishing	V
4231	Trucking terminals	III
4493	Marinas	III
4499	Water transportation services	III
46xx	Pipelines, except natural gas	V
4911, 4931	Electric services	IV
4941	Water supply	IV
4953	Solid waste facilities	IV
4953	Hazardous waste treatment facilities	VI
5052	Coal & other minerals & ores	V
5093	Scrap & waste materials	VI
5169	Chemicals & allied products	VI
5171	Petroleum bulk stations & terminals	V
5191	Farm supplies	IV
7211, 7215, 7216 & 7217	Laundries, dry-cleaning & carpet/upholstery cleaning	II
7213, 7218	Linen supply & industrial launderers	IV
7342	Disinfecting & pest control services	VI
7389	Solvents recovery services only	VI
7542	Car & truck washes	II
7699	Repair shops, with metal finishing	V
8062	General medical & surgical hospitals	VI
8069	Specialty hospitals	VI
8071	Medical laboratories	VI
8731	Commercial research organizations	IV
8733	Noncommercial research organizations	IV

\* For the purposes of this table, SIC (Standard Industrial Classification) Codes are determined from the Federal Standard Industrial Classification Manual (1987) issued by the United States Office of Management and Budget.

**Appendix B**  
**New Jersey Department of Environmental Protection (NJDEP) Delineations**  
**of Well Head Protection Areas (WHPAs) around Public Community Water Supply**  
**Wells**

Excerpts from:

New Jersey Geological Survey, New Jersey Department of Environmental Protection,  
New Jersey Public Community Water Supply Well Head Protection Areas, Edition 2,  
Geospatial Data Presentation, New Jersey Digital Data Series, DGS02-2, dated 18 June  
2002.

**Description of WHPAs:** A Well Head Protection Area (WHPA) is an area calculated around a Public Community Water Supply (PCWS) well in New Jersey that delineates the horizontal extent of groundwater captured by a well pumping at a specific rate over two-, five-, and twelve-year periods of time. The area of capture is defined using line boundaries and polygon areas generated with the ARC/INFO Geographic Information System (GIS). GIS coverages are produced for each PCWS well and for the set of all PCWS wells in a county using the ARC/INFO UNION command on individual coverages. WHPA delineation methods are described in "Guidelines for Delineation of Well Head Protection Areas in New Jersey (<<http://www.state.nj.us/dep/njgs/whpaguide.pdf>>). An ARC/INFO point coverage of associated PCWS wells is available as N.J. Geological Survey Digital Geodata Series DGS97-1 (<<http://www.state.nj.us/dep/njgs/geodata/dgs97-1.htm>>).

**Internet Address:**

<<http://www.state.nj.us/dep/njgs/geodata/dgs02-2.htm>>

**NJDEP Data Distribution Agreement:**

The Data provided herein are distributed subject to the following conditions and restrictions.

I. Description of Data to be Provided: For all data contained herein, NJDEP makes no representations of any kind, including, but not limited to, the warranties of merchantability or fitness for a particular use, nor are any such warranties to be implied with respect to the digital data layers furnished hereunder. NJDEP assumes no responsibility to maintain them in any manner or form.

II. Terms of Agreement:

1. Digital data received from the NJDEP are to be used solely for internal purposes in the conduct of daily affairs.
2. The data are provided, as is, without warranty of any kind and the user is responsible for understanding the accuracy limitations of all digital data layers provided herein, as documented in the accompanying cross-reference files (see Section 1.14 CROSS\_REFERENCE). Any reproduction or manipulation of the above data must ensure that the coordinate reference system remains intact.
3. Digital data received from the NJDEP may not be reproduced or redistributed for use by anyone without first obtaining written permission from the NJDEP. This clause is not intended to restrict distribution of printed mapped information produced from the digital data.
4. Any maps, publications, reports, or other documents produced as a result of this project that utilize NJDEP digital data will credit the NJDEP's Geographic Information System (GIS) as the source of the data with the following credit/disclaimer: "This (map/publication/report) was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized."
5. Users shall require any independent contractor, hired to undertake work that will utilize digital data obtained from the NJDEP, to agree not to use, reproduce, or redistribute NJDEP GIS data for any purpose other than the specified contractual work. All copies of NJDEP GIS data utilized by an independent contractor will be required to be returned to the original user at the close of such contractual work. Users hereby agree to abide by the use and reproduction conditions specified above and agree to hold any independent contractor to the same terms. By using data provided herein, the user

acknowledges that terms and conditions have been read and that the user is bound by these criteria.

**Process Description:**

The WHPA delineations were created using the methods outlined in "Guidelines for Delineation of Well Head Protection Areas in New Jersey" available as a download at <http://www.state.nj.us/dep/njgs/whpaguide.pdf>. Coordinate files delineating each WHPA boundary were generated using a custom MS-DOS program on-file at the offices of the N.J. Geological Survey. The MS-DOS coordinate files are formatted as ARC/INFO coverages and contain line attributes specifying each time of travel tier for groundwater to the well. Each coverage was built as both a line and a polygon coverage having both arc and polygon attributes for the three Time of Travel (TOT) tiers. PCWS wells were located using a Global Positioning System (GPS). WHPA delineations are considered to have an accuracy of plus or minus 40 feet in any direction from the mapped location. WHPA delineations for wells completed in the glacial sand and gravel aquifer were clipped to a custom hydrologic boundary. Sand and gravel aquifers occur where deposits are more than 50 feet thick. The hydrologic boundary is generated as a 2000 foot buffer around the polygon representing the contact of the sand and gravel aquifer for those areas where the aquifer is less than 50 feet thick. This distance was selected based on an average distance between the 50 and 100 foot thickness contours of the sand and gravel aquifer. The average inter contour distance was doubled to provide a conservative estimate of the thickness variation. Therefore, any portion of the WHPA delineation that lies beyond this extent is clipped.