

ARTICLE 18
“WP” WELL FIELD PROTECTION OVERLAY DISTRICT

Section 18.01 Purpose

The WP Well Field Protection Overlay District is designed to safeguard the public health, safety and welfare of the customers of protected public water supplies by regulating the land use and the storage, handling, use and/or production of regulated substances. The area extent of the zone is described as the land area within Bethel Township, adjacent to existing and proposed public wells, which lies within the one-year capture area, including a 1,000-foot strip of land outside of the direct recharge area in locations where the direct recharge area within the one-year capture area impinges on the aquifer boundary. The intent of this designation is to protect the community's potable water supply against contamination.

Section 18.02 Application of Article; Conflict of Laws

The provisions of this Article shall be applicable to all lands shown as being located within the boundaries of the WP Well Field Protection Overlay District on the Zoning Map and shall be supplemental to the regulations of the underlying zoning district. Where the requirements of this Article are in conflict with the regulations of the underlying district, the more restrictive regulations shall apply.

Section 18.03 Determination of Applicability

It shall be the responsibility of any person owning real property and/or owning or operating a business within Bethel Township to make a determination of the applicability of this Article as it pertains to the property and/or business, and failure to do so shall not excuse any violations of this Article.

Section 18.04 Permitted Uses; Bulk and Yard Regulations

The permitted, conditional and prohibited uses, and the bulk and yard regulations, within the WP Well Field Protection Overlay District, shall be those of the underlying zoning district, except as specified in Section 18.05.

Section 18.05 Prohibited Uses

Sanitary land fills, land fills composed of demolition debris and dry wells are prohibited uses in the WP Well Field Protection Overlay District.

Section 18.06 Conditional Uses

The requirements of this section shall be in addition to any applicable regulations in this Article. The conditional uses within the WP Well Field Protection Overlay District shall be those of the underlying zoning district, except as specified in Section 18.05.

Section 18.07 Mineral Extraction and Processing Uses

If the excavation, extraction, mining or processing of sand, gravel and limestone from the earth for resale is permitted or conditionally permitted within the underlying zoning district, approval of an excavation and facilities plan is required that includes, but is not limited to:

- A. An existing site plan with topographic detail at two-foot contour intervals, all planimetric information, depth to ground water and flood plain characteristics where applicable;
- B. The proposed extent and depth of excavations;
- C. The slope angle of excavation walls (any final slopes shall not exceed the angle of repose for the remaining material);
- D. Use and disposition of the spoil and/or overburden materials from the excavations, including a landscaping and vegetation plan to stabilize any disturbed material;
- E. A surface drainage plan:
 - 1. Drainage into on-site excavations from proximate off-site property is prohibited unless the applicant provides a plan which otherwise protects the excavations from off-site waterborne regulated substances.
 - 2. The final on-site grading shall minimize all surface drainage into the excavations.
- F. A post-excavation and operation land use plan; and
- G. A security plan (unauthorized access shall be strictly prohibited as long as any excavation remain on site.)

Section 18.08 Ground Water Protection Standards

- A. Use, storage, handling and/or production of regulated substances in conjunction with permitted and conditional uses in this District shall be limited to:
 - 1. Aggregate of regulated substances. The aggregate of regulated substances in use, storage, handling and/or production may not exceed twenty gallons or 160 pounds at any time.
 - 2. Total use of regulated substances. The total use, storage, handling and/or production of regulated substances may not exceed fifty gallons or 400 pounds in any twelve-month period.

- B. A limited exclusion from the provisions of subsection (a) hereof is authorized for non-routine maintenance or repair of property or equipment. The use, storage, handling and/or production of regulated substances under this exclusion shall be limited to:
 - 1. Aggregate regulated substances. The aggregate of regulated substances in use, storage, handling and/or production may not exceed fifty gallons or 400 pounds at any time.
 - 2. Total use of regulated substances. The total use, storage, handling and/or production of regulated substances may not exceed 100 gallons or 800 pounds in any twelve-month period.
- C. A limited exclusion from the provisions of subsection (a) hereof is authorized for medical and research laboratory uses, provided, however, that regulated substances shall be stored, handled or used in containers not to exceed five gallons or forty pounds of each substance, and provided, further, that the aggregate inventory of regulated substances shall not exceed 250 gallons or 2,000 pounds.
- D. A limited exclusion from the provisions of subsection (a) hereof is authorized for regulated substances which are cleaning agents, provided, however, that such cleaning agents are packaged for personal or household use or are present in the same form and concentration as a product packaged for use by the general public, and provided, further, that the aggregate inventory of such cleaning agents shall not exceed 100 gallons or 800 pounds at any time. In no case shall regulated substances claimed under this exclusion include hydrocarbon or halogenated hydrocarbon solvents.
- E. With the exception of residential use of heating fuels in tanks having a capacity equal to or less than 500 gallons, the underground storage of fuel and lubricants for vehicle operations and fuel for building and/or process heating in conjunction with permitted and conditional uses in this District shall be in secondarily contained and monitored tanks. Such installations shall be subject to approval by the Administrative Officer.
- F. Notwithstanding other provisions of this Article, nonconforming uses in this District presently utilizing underground storage tanks for fuel and lubricants for vehicle operations and fuel for building and/or process heating shall be permitted to replace existing tanks with those constructed as per the specifications of subsection (e) hereof and not exceeding the capacity of existing tanks. Replacement of underground tanks for regulated substances other than the above noted fuels and lubricants are not permitted.
- G. As part of the finding required under Section 18.03, Determination of Applicability, the Zoning Administrator or his or her designee shall utilize the hazard potential ranking system to assist in the determination of intensity of use within this District. No substitutions of a nonconforming use shall be permitted which result in an increase of the hazard potential ranking on a parcel within this District.

Section 18.09 Hazard Potential Ranking System for Nonconforming Uses

Uses using, storing, handling and/or producing regulated substances in amounts equal to or less than the requirements set forth in Section 18.08 are considered conforming uses and this section does not apply. Any new use or change of use shall maintain the conforming status of the property.

In order to assess the risk for groundwater contamination potential for nonconforming uses, a hazard ranking has been developed for various activities categorized by their standard industrial classification (SIC) code. This ranking is based on the kind of materials commonly associated with each use looking only at the most critical hydrologic factors.

Table 1 following the text of this section lists the site hazard potential by land use activity on a scale of one to nine, with one being a low hazard and nine a very high hazard. This rating is based on the intrinsic hazards posed by different land uses and is related to the materials commonly used or stored on the site or the types and amounts of wastes commonly discharged.

Table 2 lists the hazard potential determined on the basis of materials known to be used, stored or disposed of at a specific site.

If the two tables referenced above indicate different site hazard potential ratings for the SIC-coded land use activity and the materials found on-site, the higher of the two scores is the rating for the site.

**TABLE 1
CONTAMINANT HAZARD POTENTIAL RANKING CLASSIFIED BY SOURCE**

SIC NUMBER	DESCRIPTION OF WASTE SOURCE	HAZARD POTENTIAL INITIAL RATING
01	AGRICULTURAL PRODUCTION – CROPS	1 – 2
02	AGRICULTURAL PRODUCTION - LIVESTOCK	
	021 Livestock, except Dairy, Poultry and Animal Specialties	(5 for Feedlots)
	024 Dairy Farms	4
	025 Poultry and Eggs	4
	027 Animal Specialties	2 - 4
	029 General Farms, Primarily Livestock	2
10	METAL MINING	
	101 Iron Ores	4
	102 Copper Ores	6
	103 Lead and Zinc Ores	5
	104 Gold and Silver Ores	6
	105 Bauxite and Other Aluminum Ores	5
	106 Ferroalloy Ores Except Vanadium	5
	108 Metal Mining Services	4
	1092 Mercury Ore	6

	1094	Uranium-Radium-Vanadium Ores	7
	1099	Metal Ores Not Elsewhere Classified	5
11		ANTHRACITE MINING	7
12		BITUMINOUS COAL AND LIGNITE MINING	7
13		OIL AND GAS EXTRACTION	
	131	Crude Petroleum and Natural Gas	7
	132	Natural Gas Liquids	7
	1381	Drilling Oil and Gas Wells	6
	1382	Oil and Gas Field Exploration Services	1
	1389	Oil and Gas Field Services Not Elsewhere Classified	Variable, Depending On Activity
14		MINING AND QUARRYING OF NON-METALLIC MINERALS, EXCEPT FUELS	
	141	Dimension Stone	2
	142	Crushed and Broken Stone, Including Riprap	2
	144	Sand and Gravel	2
	145	Clay, Ceramic, and Refractory Minerals	2 - 5
	147	Chemical and Fertilizer Mineral Mining	4 - 7
	148	Nonmetallic Minerals Services	1 - 7
	149	Miscellaneous Nonmetallic Minerals, Except Fuels	2 - 5
16		CONSTRUCTION OTHER THAN BUILDING CONSTRUCTION	
	1629	Heavy Construction, Not Elsewhere Classified (Dredging, Especially in Salt Water)	4
20		FOOD AND KINDRED PRODUCTS	
	201	Meat Products	3
	202	Dairy Products	2
	203	Canned and Preserved Fruits and Vegetables	4
	204	Grain Mill Products	2
	205	Bakery Products	2
	206	Sugar and Confectionery Products	2
	207	Fats and Oils	3
	208	Beverages	2- 5
	209	Misc. Food Preparation and Kindred Products	2

22	TEXTLE MILL PRODUCTS, ALL EXCEPT LISTINGS BELOW	
	223 Broad Woven Fabric Mills, Wool (including dyeing and finishing)	6
	226 Dyeing and Finishing Textiles, Except Wool Fabrics and Knit Goods	6
	2295 Coated Fabrics Not Rubberized	6
24	LUMBER AND WOOD PRODUCTS, EXCEPT FURNITURE	
	241 Logging Camps and Logging Contractors	2
	242 Sawmills and Planing Mills	2
	2435 Hardwood Veneer and Plywood	4
	2436 Softwood Veneer and Plywood	4
	2439 Structural Wood Members, Not Elsewhere Classified (laminated wood-glue)	3
	2491 Wood Preserving	5
	2492 Particle Board	4
	2499 Wood Products, Not Elsewhere Classified	2 – 5
26	PAPER AND ALLIED PRODUCTS	
	261 Pulp Mills	6
	262 Paper Mills Except Building Paper Mills	6
	263 Paperboard Mills	6
28	CHEMICALS AND ALLED PRODUCTS	
	2812 Alkalis and Chlorine	7 - 9
	2813 Industrial Gases	-
	2816 Inorganic Pigments	3 - 8
	2819 Industrial Inorganic Chemicals Not Elsewhere Classified	3 - 9
	2821 Plastic Materials, Synthetic Resins, and Nonvulcanizable Elastomers	6 - 8
	2822 Synthetic Rubber (Vulcanizable Elastomers)	6 - 8
	2823 Cellulose Man-Made Fibers	6 - 8
	2824 Synthetic Organic Fibers, Except Cellulosic	6 - 8
	2831 Biological Products	6 - 9
	2832 Medicinal Chemicals and Botanical Products	3 - 8
	2834 Pharmaceutical Preparations	6 - 9
	2841 Soap and Other Detergents, Except Specialty Cleaners	4 - 6
	2842 Specialty Cleaning, Polishing, and Sanitation Preparation	3 - 8

	2843	Surface Active Agents, Finishing Agents, Sulfonated Oils and Assistants	6 - 8
	2844	Perfumes, Cosmetics, and Other Toilet Preparations	3 - 6
	2851	Paints, Varnishes, Lacquers, Enamels, and Allied Products	5 - 8
	2861	Gum and Wood Chemicals	5 - 8
	2865	Cyclic (coal tar) Crudes, and Cyclic Intermediates, Dyes and Organic Pigments (Lakes and Toners)	6 - 9
	2869	Industrial Organic Chemicals Not Elsewhere Listed	3 - 9
	2873	Nitrogenous Fertilizers	7 - 8
	2874	Phosphatic Fertilizer	7 - 8
	2875	Fertilizer Mixing Only	5
	2879	Pesticides and Agricultural Chemicals, Not Elsewhere Listed	5 - 9
	2891	Adhesives and Sealants	5 - 8
	2892	Explosives	6 - 9
	2893	Printing Ink	2 - 5
	2895	Carbon Black	1 - 3
	2899	Chemicals and Chemical Preparations, Not Elsewhere Listed	3 - 9
29		PETROLEUM REFINING AND RELATED INDUSTRIES	
	291	Petroleum Refining	8
	295	Paving and Roofing Materials	7
	299	Misc. Petroleum and Coal Products	7
30		RUBBER AND MISCELLANEOUS PLASTICS PRODUCTS	
	301	Tires and Inner Tubes	6
	302	Rubber and Plastic Footwear	6
	303	Reclaimed Rubber	6
	304	Rubber and Plastic Hose and Belting	4
	306	Fabricated Rubber Products, Not Elsewhere Classified	4
31		LEATHER AND LEATHER PRODUCTS	
	311	Leather Tanning and Finishing (Remaining Three-Digit Codes)	8 1 - 3

32	STONE, CLAY, GLASS, AND CONCRETE PRODUCTS	
321	Flat Glass	4
322	Glass and Glassware, Pressed or Blown	4
324	Cement, Hydraulic	3
3274	Lime	3
3291	Abrasive Products	3
3292	Asbestos	3
3293	Gaskets, Packing, and Sealing Devices	3
32	PRIMARY METAL INDUSTRIES (Except as Noted Below)	3
3212	Blast Furnaces, Steel Works and, Rolling and Finishing Mills	6
323	Primary Smelting and Refining of Nonferrous Metals	7
34	FABRICATED METAL PRODUCTS, EXCEPT MACHINERY AND TRANSPORTATION EQUIPMENT (Except as Noted Below)	5
347	Coating, Engraving, and Allied Services	8
3482	Small Arms Ammunition	7
3483	Ammunition, Except for Small Arms, Not Elsewhere Classified	7
3489	Ordnance and Accessories, Not Elsewhere Classified	7
349	Misc. Fabricated Metal Products	3 – 6
35	MACHINERY, EXCEPT ELECTRICAL	5 – 7
36	ELECTRICAL AND ELECTRONIC MACHINERY, EQUIPMENT AND SUPPLIES (Except as Noted Below)	
3691	Storage Batteries	8
3692	Primary Batteries, Dry and Wet	8
37	TRANSPORTATION EQUIPMENT	5 – 8
38	MEASURING, ANALYZING, AND CONTROLLING INSTRUMENTS; PHOTOGRAPHIC, MEDICAL, AND OPTICAL GOODS; WATCHES AND CLOCKS (Except as Noted Below)	4 - 6
386	Photographic Equipment and Supplies	7
39	MISCELLANEOUS MANUFACTURING INDUSTRIES	3 – 7

49	ELECTRIC, GAS, AND SANITARY SERVICES	
	491 Electric Service	3 - 5
	492 Gas Production and Distribution	3
	494 Water Supply	2
	4952 Sewage Systems	2 - 5
	4953 Refuse Systems (Landfills)	5 - 9
	496 Steam Supply	2 - 4

TABLE 2
CONTAMINANT HAZARD POTENTIAL RANKING CLASSIFIED BY TYPE

DESCRIPTION	HAZARD POTENTIAL INITIAL READING	ID * NUMBER
SOLIDS		
Ferrous Metals	1-4	1100
Non-Ferrous Metals	1-7	1200
Resins, Plastics, and Rubbers	2	1300
Wood and Paper Materials (except as noted below)	2	1400
Bark	4	1401
Textiles and Related Fibers	2	1500
Inert Materials (except as noted below)	2	1600
Sulfide Mineral-Bearing Mine Tailings	6	1601
Slag and Other Combustion Residues	5	1602
Rubble, Construction, and Demolition Mixed Waste	3	1603
Animal Processing Wastes (except as noted below)	2-4	1700
Processed Skins, Hides, and Leathers	6	1701
Dairy Wastes	4	1702
Live Animal Wastes-Raw Manures (Feedlots)	5	1703
Composts of Animal Waste	2-4	1704
Dead Animals	5	1705
Edible Fruit and Vegetable Remains Putrescibles	2-3	1800
LIQUIDS		
Organic Chemicals (must be chemically classified)		2000
Aliphatic (Fatty) Acids	3-5	2001
Aromatic (Benzene) Acids	7-8	2002
Resin Acids	-	2003
Alcohols	5-7	2004
Aliphatic Hydrocarbons (petroleum derivatives)	4-6	2005
Aromatic Hydrocarbons (benzene derivatives)	6-8	2006
Sulfonated Hydrocarbons	7-8	2007
Halogenated Hydrocarbons	7-9	2008
Alkaloids	7-9	2009

Aliphatic Amines and Their Salts	1-4	2010
Anilines	6-8	2011
Pyridines	2-6	2012
Phenols	7-9	2013
Aldehydes	6-8	2014
Ketones	6-8	2015
Organic Sulfur Compounds (Sulfides, Mercaptans)	7-9	2016
Organometallic Compounds	7-9	2017
Cyanides	7-9	2018
Thiocyanides	2-6	2019
Sterols		2020
Sugars and Cellulose	1-4	2021
Esters	6-8	2022
Inorganic Chemicals (must be chemically classified)		2100
Mineral and Metal Acids	5-8	2101
Mineral and Metal Bases	5-8	2102
Metal Salts, Including Heavy Oxides	6-9	2103
Sulfides	5-8	2104
Carbon or Graphite	5-8	2105
Other Chemical Process Wastes not Previously Listed (must be chemically classified)	1-3	2106
Inks	2-5	2200
Dyes	2-5	2201
Paints	3-8	2202
Adhesives	5-8	2203
Pharmaceutical Wastes	5-8	2204
Petrochemical Wastes	6-9	2205
Metal Treatment Wastes	7-9	2206
Solvents	7-9	2207
Agricultural Chemicals (Pesticides Herbicides, Fungicides, etc.)	6-9	2208
Waxes and Tars	7-9	2209
Fermentation and Culture Wastes	4-7	2210
Oils, Including Gasoline, Fuel	2-5	2211
Soaps and Detergents	5-8	2212
Other Organic or Inorganic Chemicals, includes Radioactive Wastes	4-6	2213
Conventional Treatment Process Municipal Sludges	4-8	2300
From Biological Sewage Treatment	4-8	2301
From Water Treatment and Conditioning Plants (must be chemically classified)	2-5	2302

*ID Number is for identification of waste types in the Reporting Form.

1. Classification based on material in Environmental Protection Agency Publication, 670-2-75-024, pp.79-85, prepared by Arthur D. Little, Inc., and published in 1975.

2. For individual material ranking, refer to solubility-toxicity tables prepared by Versar, Inc., for the Environmental Protection Agency (source: MDNR, June 1980).

Source: WMSRDC. A Pollutant Nature Sampling Plan for Groundwater Contamination in Region 14 (Muskegon, Mich.: West Michigan Shoreline Regional Development Commission, November 1980).

