



## NORTHBOROUGH ZONING BYLAW

### SECTION 7-07-010

#### GROUNDWATER PROTECTION OVERLAY DISTRICT

- A. The purpose of the Groundwater Protection Overlay District is:
- (1) To protect, preserve and maintain the existing and potential groundwater supply and groundwater recharge areas within the known aquifers of the town.
  - (2) To preserve and protect present and potential sources of water supply for the public health and safety.
  - (3) To conserve the natural resources of the town.
- B. Definitions. The following definitions apply to specialized words and terms associated with the Groundwater Protection Overlay District:
- (1) **AQUIFER:** A geologic formation, group of geologic formations or part of a geologic formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs. For purposes of this Article, only the unconsolidated water-bearing, predominately glacially formed geologic deposits are addressed.
  - (2) **AREA OF INFLUENCE:** The area which experiences drawdown by a pumping well as plotted on a two-dimensional (map) surface.
  - (3) **CONE-OF-DEPRESSION:** A three-dimensional conical concavity produced in a water table by a pumping well.
  - (4) **EXISTING CONDITIONS:** Conditions as they occur as of the effective date of this chapter (M.G.L. c. 40A, § 6).
  - (5) **GLACIOFLUVIAL:** Pertaining to an unconsolidated geologic deposit, which was, formed by or in association with glacial meltwater streams, typically resulting in the deposition of sand and gravel-sized particles.
  - (6) **GLACIOFLUVIAL/LACUSTRINE:** Pertaining to an unconsolidated geologic deposit which was formed by or in association with the transition zone where glacial meltwater streams flowed into a glacial lake environment, typically resulting in the deposition of sand, silt and clay-sized particles in a fining downward sequence. References to such deposits within this Article refer to the more coarse-grained sediments such as would be associated with a delta.
  - (7) **GLACIOLACUSTRINE:** Pertaining to an unconsolidated geologic deposit which was formed by or in association with a glacial lake environment, typically resulting in the deposition of sand, silt and clay-sized particles. References to

such deposits within this Article refer to the fine-grained sediments such as would be associated with lake bottom deposits.

- (8) **GROUNDWATER:** The subsurface water present in aquifers and recharge areas.
- (9) **IMPERVIOUS SURFACE:** Material on the ground that prevents surface water from infiltrating into the soil and underlying groundwater system; impermeable.
- (10) **LEACHABLE WASTES:** Waste materials, including solid wastes, sludge and agricultural wastes, that are capable of releasing waterborne contaminants to the surrounding environment.
- (11) **MINING OF LAND:** The removal of geologic materials, such as topsoil, sand and gravel metallic ores or bedrock.
- (12) **PRIMARY RECHARGE AREAS:** Areas that collect precipitation or surface water and directly transmit it to aquifers or areas of pumping influence.
- (13) **PROCESS WASTES:** Nondomestic, nontoxic, nonhazardous liquid or solid waste by-products associated with the manufacture or preparation of a product, including but not limited to hardware, dry goods, foodstuffs and printed material.
- (14) **RECHARGE:** The processes involved in the absorption and addition of water to the zone of saturation; also, the amount of water added.
- (15) **RECHARGE AREA:** An area in which water is absorbed that eventually reaches the zone of saturation in one (1) or more aquifers.
- (16) **SANITARY WASTE:** Wastewaters arising from ordinary domestic water use, as from toilets, sinks and bathing facilities, and containing such concentrations and types of pollutants as to be considered normal wastes. For purposes of this Article, all references to disposable volume(s) of "sanitary wastes" refer to design standards as outlined in Title V of the State Environmental Code (310 CMR 15.00).
- (17) **SATURATED THICKNESS:** The depth of the saturated zone.
- (18) **SATURATED ZONE:** The subsurface zone occurring below the water table where the soil pores are filled with water and the moisture content equals the porosity.
- (19) **SOLID WASTES:** Any discarded solid material, putrescible or nonputrescible, consisting of all combustible and noncombustible solid material, including but not limited to garbage and rubbish.
- (20) **TOXIC OR HAZARDOUS MATERIALS:** Any substance or mixture of such physical, chemical or infectious characteristics as to pose an actual or potential hazard to water supplies or other hazard to human health if such substance or mixture were discharged to land or waters of this town. "Toxic or hazardous materials" include, without limitation, organic chemicals, petroleum, heavy metals, radioactive or infectious wastes, acids and alkalines, and include products

such as pesticides, herbicides, solvents and thinners. Partial listings of hazardous substances include: M.G.L. c. 21C, the Massachusetts Hazardous Waste Regulations (310 CMR 30.00) and 314 CMR 3.16.

- (21) WETLANDS: As defined by M.G.L. c. 131, § 40.

C. Establishment and delineation.

- (1) For the purpose of these districts, there are hereby established within the town certain aquifer protection areas consisting of aquifers, areas of influence and recharge areas. These areas are determined by standard geologic and hydrologic investigations, which may include drilling observation wells, utilizing existing boring data and stratigraphic profiles, conducting seismic surveys or other geophysical techniques, performing pumping tests, water sampling, geologic mapping and computer modeling.
- (2) The boundaries of these districts are delineated on a map at a scale of one (1) inch equals one thousand (1,000) feet, entitled "Zoning Map - Town of Northborough, Massachusetts," on file in the office of the Town Clerk. These boundaries reflect the best hydrogeologic information available as of the date of this map. In the event of a discrepancy between the map and the criteria of Areas 1, 2 and 3 below, the map shall control.
- (3) Where a Groundwater Protection District boundary line divides a lot in single or common ownership at the time such district is established, a use authorized on the less restricted portion of such lot may be extended into the more restricted portion but in no case for more than fifty (50) feet over the established line, subject to a special permit from the special permit granting authority for said extension shall be required in accordance with D(3) of this chapter.
- (4) Where the bounds as delineated are in dispute, the town or landowner(s) may engage a professional geologist, hydrogeologist or engineer trained and experienced in hydrogeology to determine more accurately the location and extent of the aquifer or recharge protection areas. Amendments to the district boundaries shall only occur per the requirements of M.G.L. c. 40A, § 5.
- (5) The special permit granting authority shall be the Zoning Board of Appeals, except that for wireless communication facilities applications or any applications in the Industrial District, the special permit granting authority shall be the Planning Board. The special permit granting authority shall hear and act upon all cases of appeal and petitions for special permits which are brought under this chapter. The special permit granting authority shall, within five (5) business days of receipt of application or filing, forward to the Groundwater Advisory Committee [consisting of one (1) member each or one designee each from the Board of Selectmen, Conservation Commission, Board of Health, Planning Board, and Water/Sewer Commission] five (5) copies of said application or filing. Within sixty-five (65) days of receipt of application or filing, the special permit granting authority shall hold a public hearing. Within twenty-one (21) days following the public hearing, the Groundwater Advisory Committee shall report its findings and recommendations to the special permit granting authority.

The special permit granting authority shall render its decision within ninety (90) days of the public hearing.

(6) The Groundwater Protection Overlay Districts include the aquifer's significant areas of recharge consisting of:

(a) Area 1. Area of influence of all existing municipal wells within the town, confirmed by long-term pump test or by stabilized water levels after maximum duration pumping/primary recharge area.

[1] The cones-of-depression and respective areas of influence and recharge generated by the municipal wells after at least ninety (90) days of continuous pumping at their respective rated capacities or after long-term pumping at their currently utilized capacities (may be based upon computer modeling).

(b) Area 2. Potential water supply area/primary recharge area.

[1] Glaciofluvial and/or glaciofluvial/lacustrine deposits with forty (40) feet or greater of saturated thickness.

(c) Area 3. Primary recharge area.

[1] Glaciofluvial, glaciofluvial/lacustrine and/or glaciolacustrine deposits with less than forty (40) feet of saturated thickness and upgradient of Areas 1 and/or 2.

D. Use regulations.

The Groundwater Protection Overlay Districts shall be considered as overlying other zoning districts. Any uses permitted in the portions of the underlying districts shall be permitted, subject to all the provisions of this district. Uses not specifically permitted in this chapter (subsection 1 or 3 of this section) shall be prohibited. Where all uses allowed in the underlying district would not be allowed by the overlying Groundwater Protection District, those uses allowed in the Groundwater Protection District shall prevail. Within the Groundwater Protection Overlay Districts, these regulations shall apply:

(1) The following uses are permitted within the Groundwater Protection Overlay Districts, provided that all necessary permits, orders or approvals required by local, state or federal law shall have been obtained, and when permitted by the underlying zoning district:

(a) Area 1.

- [1] Conservation of soil, water, plants and wildlife.
- [2] Outdoor recreation, nature study, boating, fishing and hunting where otherwise legally permitted.
- [3] Landings; foot-, bicycle and/or horse paths; and bridges.
- [4] Proper operation and maintenance of existing dams, splashboards and other water control, supply and conservation devices.
- [5] Agricultural uses: pasture, grazing, hay, gardening, nursery, conservation, forestry and harvesting of crops, provided that fertilizers, herbicides, pesticides and other leachable materials are not stored outdoors or in any manner which would permit leakage thereof. The appropriateness of the management practices shall be governed by the United States Department of Agriculture or Soil Conservation Service, the Cooperative Extension Service or Massachusetts Department of Food and Agricultural guidelines use regulations.
- [6] Necessary public utilities/facilities designed so as to prevent contamination of groundwater.
- [7] Residential development of single-family dwellings on lots of at least eighty thousand (80,000) sq. ft. in area, such that the increase in postdevelopment net runoff volume shall not exceed existing conditions by more than fifteen percent (15%) or such that the impervious cover of the building lot is increased over existing conditions by no more than fifteen percent (15%), such determination to be made by the Building Department in conjunction with the Town Engineer.
- [8] Agricultural, religious, educational and public services as exempted by M.G.L. c. 40A, § 3.

(b) Area 2.

- [1] All uses permitted in Area 1 and the following uses to the extent permitted in the underlying district.
- [2] Residential development of single-family dwellings on lots of at least forty thousand (40,000) sq. ft. in area, such that the increase in postdevelopment net runoff volume shall not exceed existing conditions by more than fifteen percent (15%) or such that the impervious cover of the building lot is increased over existing conditions by no more than fifteen percent (15%), such determination to be made by the Building Department in conjunction with the Town Engineer.

(c) Area 3.

- [1] All uses permitted in Areas 1 and 2 above and the following uses to the extent permitted in the underlying district.
- [2] Residential development of single family dwellings as allowed in the underlying district, such that the increase in postdevelopment net runoff volume shall not exceed existing conditions by more than fifteen percent (15%) or such that the impervious cover of the building lot is increased over existing conditions by no more than fifteen percent (15%), such determination to be made by the Building Department in conjunction with the Town Engineer.
- [3] Commercial development limited to retail shopping, business or professional office on lots of at least twenty thousand (20,000) sq. ft. in area, such that the impervious cover of the building lot is increased over existing conditions by no more than forty percent (40%), the increase in postdevelopment net runoff volume shall not exceed existing conditions by more than fifteen percent (15%) and any on-site sewage disposal is less than or equal to one hundred ten (110) gallons per day per ten thousand (10,000) sq. ft. of lot area.

(2) The following uses are prohibited:

(a) Area 1.

- [1] Land uses resulting in the disposal of any waste material, solid or liquid, other than domestic sanitary wastes.
- [2] Any use (except agricultural, religious, educational and public services as exempted by M.G.L. c. 40A, § 3) involving the sale, storage or transportation of fuel, oil or gasoline, other than a maximum of three hundred (300) gallons of domestic home heating oil.
- [3] Uses (except agricultural, religious, educational and public services as exempted by M.G.L. c. 40A, § 3) which, as part of normal operating or maintenance procedures, would involve the application, transfer, storage or use of toxic or hazardous materials in quantities greater than normal household use.
- [4] The commercial mining of land.
- [5] Dumping of snow brought in from outside Area 1.
- [6] Storage of road salt or deicing chemicals in quantities greater than normal residential use.
- [7] Automotive and boat service and repair shops, junk- and salvage yards.

- [8] Anything prohibited in Areas 2 and 3.
- (b) Areas 2 and 3.
- [1] Disposal of solid wastes, other than brush and stumps.
  - [2] The on-site disposal of liquid or leachable wastes other than sanitary domestic wastes or innocuous process wastes.
  - [3] Uncovered storage of road salt or deicing chemicals.
  - [4] The commercial mining of land to an elevation of less than ten (10) feet above the maximum high-water table as established by a monitoring program of groundwater levels in observation wells installed at the owner's expense by a professional geologist, hydrogeologist or engineer in the proposed location of mining.
  - [5] Any activity (except agricultural, religious, educational and public services as exempted by M.G.L. c. 40A, § 3) which involves as a principal or accessory use the manufacture, storage, application, transportation and/or disposal of toxic or hazardous materials where such activity would involve outside storage, on-site waste disposal or uncontrolled drainage facilities which would allow discharge to surface or ground waters.
- (3) The following uses are permitted only under the terms of a special permit issued by the special permit granting authority, are subject to subsection B (1) and (2) above and must conform to provisions of the underlying zoning district:
- (a) Area 1.
- [1] Expansion of existing nonconforming uses to the extent allowed by the underlying district. The special permit granting authority shall not grant such approval unless it shall find that such expansion shall not be substantially more detrimental to the water supply than the existing use. In no case shall such permit be issued for a prohibited use.
  - [2] Two-family and multifamily residential development on lots of at least eighty thousand (80,000) sq. ft. in area, such that the increase in postdevelopment net runoff volume shall not exceed existing conditions by more than fifteen percent (15%) or such that the impervious cover of the building lot is increased over existing conditions by no more than fifteen percent (15%) and any on-site sewage disposal is less than or equal to fifty-five (55) gallons per day per ten thousand (10,000) sq. ft. of lot area.
  - [3] Cluster development, such that developed density over the entire parcel does not exceed one (1) dwelling unit per eighty thousand (80,000) sq. ft. of area, increase in postdevelopment net runoff volume shall not exceed existing conditions by more than fifteen

percent (15%) or such that the impervious cover of the building lot is increased over existing conditions by no more than fifteen percent (15%).

- [4] In industrial zones, a change in the use of the building shall require a special permit unless a determination is made by the Inspector of Buildings/Zoning Enforcement Officer, Town Engineer and Town Planner finding that such change in use of the building is not more detrimental to the water supply. In the event a special permit is required, the special permit granting authority shall not grant such approval unless it shall find that such change in use shall not be detrimental to the water supply.

(b) Area 2.

- [1] Expansion of existing nonconforming uses to the extent allowed by the underlying district. The special permit granting authority shall not grant such approval unless it shall find that such expansion shall not be substantially more detrimental to the water supply than the existing use. In no case shall such permit be issued for a prohibited use.
- [2] Two-family and multifamily residential development on lots of at least forty thousand (40,000) sq. ft. in area, such that the increase in postdevelopment net runoff volume shall not exceed existing conditions by more than fifteen percent (15%) or such that the impervious cover of the building lot is increased over existing conditions by no more than fifteen percent (15%) and any on-site sewage disposal is less than or equal to one hundred ten (110) gallons per day per ten thousand (10,000) sq. ft. of lot area.
- [3] Cluster development, such that developed density over the entire parcel does not exceed one (1) dwelling unit per forty thousand (40,000) sq. ft. of area, increase in postdevelopment net runoff volume shall not exceed existing conditions by more than fifteen percent (15%) or such that the impervious cover of the building lot is increased over existing conditions by no more than fifteen percent (15%).
- [4] Commercial development limited to retail shopping, business or professional office on lots of at least forty thousand (40,000) sq. ft. in area where sewage disposal is on-site and lots of at least twenty thousand (20,000) sq. ft. where sewage disposal is via municipal sewerage, such that the increase in postdevelopment net runoff volume shall not exceed existing conditions by more than fifteen percent (15%), the impervious cover of the building lot is increased over existing conditions by no more than forty percent (40%) or there is no restriction of lot coverage beyond that provided by underlying zoning where proponent can demonstrate and certify that runoff waters leaving the developed

site via surface flow will not violate Class B water quality standards (314 CMR 4.00) and runoff waters leaving the site via groundwater recharge will not violate Class I groundwater quality standards (314 CMR 6.00), and any on-site sewage disposal is less than or equal to one hundred ten (110) gallons per day per ten thousand (10,000) sq. ft. of lot area.

- [5] Industrial development on lots of at least sixty thousand (60,000) sq. ft. in area, such that the increase in postdevelopment net runoff volume shall not exceed existing conditions by more than fifteen percent (15%), the impervious cover of the building lot is increased over existing conditions by no more than forty percent (40%) or the lot coverage does not exceed that amount of lot coverage permitted by underlying zoning where proponent can demonstrate and certify, except to the extent of naturally occurring pH and temperature components of surface water quality and groundwater quality standards, that runoff waters leaving the developed site via surface flow will not cause a violation of Class B water quality standards (314 CMR 4.00) and runoff waters leaving the site via groundwater recharge will not cause a violation of Class I groundwater quality standards (314 CMR 6.00), and any on-site sewage disposal is less than or equal to one hundred ten (110) gallons per day per ten thousand (10,000) sq. ft. of lot area and any water supply developed on-site shall not diminish the total safe yield of any Town of Northborough water supply.
- [6] Commercial or industrial activities which involve as accessory uses the manufacture, storage, application, transportation and/or disposal of toxic or hazardous materials, provided that there shall be no on-site disposal of any waste or process materials, no outside storage of toxic or hazardous materials, contained drainage facilities in areas of potential spillage or release, adequate contingency plans in case of spillage or release and approved routing of suppliers and haulers of any toxic or hazardous materials to or from the state. The proponent for a building or occupancy permit must demonstrate and certify on an annual basis to the Building Department and Board of Health that all applicable federal, state and Town of Northborough licenses, permits and standards for the handling, use, storage and disposal of any regulated materials have been obtained or met.
- [7] In industrial zones, a change in the use of the building shall require a special permit unless a determination is made by the Inspector of Buildings/Zoning Enforcement Officer, Town Engineer and Town Planner finding that such change in use of the building is not more detrimental to the water supply. In the event a special permit is required, the special permit granting authority shall not grant such approval unless it shall find that such change in use shall not be detrimental to the water supply.

(c) Area 3.

- [1] Expansion of existing nonconforming uses to the extent allowed by the underlying district. The special permit granting authority shall not grant such approval unless it shall find that such expansion shall not be substantially more detrimental to the water supply than the existing use. In no case shall such permit be issued for a prohibited use.
- [2] Any use involving on-site disposal of process wastes.
- [3] Commercial development as allowed per underlying zoning, such that the increase in postdevelopment net runoff volume shall not exceed existing conditions by more than fifteen percent (15%), the impervious cover of the building lot is increased over existing conditions by no more than forty percent (40%) or there is no restriction of lot coverage beyond that provided by underlying zoning where proponent can demonstrate and certify that runoff waters leaving the developed site via surface flow will not violate Class B water quality standards (314 CMR 4.00) and runoff waters leaving the site via groundwater recharge will not violate Class I groundwater quality standards (314 CMR 6.00), and any on-site sewage disposal is less than or equal to two hundred twenty (220) gallons per ten thousand (10,000) sq. ft. of lot area.
- [4] Industrial development on lots of at least sixty thousand (60,000) sq. ft. in area, such that the increase in postdevelopment net runoff volume shall not exceed existing conditions by more than fifteen percent (15%), the impervious cover of the building lot is increased over existing conditions by no more than forty percent (40%) or the lot coverage does not exceed that amount of lot coverage permitted by underlying zoning where proponent can demonstrate and certify, except to the extent of naturally occurring pH and temperature components of surface water quality and groundwater quality standards, that runoff waters leaving the developed site via surface flow will not cause a violation of Class B water quality standards (314 CMR 4.00) and runoff waters leaving the site via groundwater recharge will not cause a violation of Class I groundwater quality standards (314 CMR 6.00), and on-site sewage disposal is less than or equal to two hundred twenty (220) gallons per day per ten thousand (10,000) sq. ft. of lot area and any water supply developed on-site shall not diminish total safe yield of any Town of Northborough water supply.
- [5] Commercial or industrial activities which involve as accessory uses the manufacture, storage, application, transportation and/or disposal of toxic or hazardous materials, provided that there shall be no on-site disposal of any waste or process materials, no outside storage of toxic or hazardous materials,

controlled/contained drainage facilities in areas of potential spillage or release, adequate contingency plans in case of spillage or release and approved routing of suppliers and haulers of any toxic or hazardous materials to or from the site. The proponent for a building or occupancy permit must demonstrate on an annual basis to the Building Department and Board of Health that all applicable federal, state and Town of Northborough licenses, permits and standards for the handling, use, storage and disposal of any regulated materials have been obtained or met.

[6] Two-family and multifamily residential development on lots of at least twenty thousand (20,000) sq. ft. in area, such that the increase in postdevelopment net runoff volume shall not exceed existing conditions by more than fifteen percent (15%) or such that the impervious cover of the building lot is increased over existing conditions by no more than fifteen percent (15%) and any on-site sewage disposal is less than or equal to two hundred twenty (220) gallons per day per ten thousand (10,000) sq. ft. of lot area.

[7] In industrial zones, a change in the use of the building shall require a special permit unless a determination is made by the Inspector of Buildings/Zoning Enforcement Officer, Town Engineer and Town Planner finding that such change in use of the building is not more detrimental to the water supply. In the event a special permit is required, the special permit granting authority shall not grant such approval unless it shall find that such change in use shall not be detrimental to the water supply.

(4) Procedures for issuance of special permit or variance.

(a) Each application for a special permit or variance shall include:

[1] A complete list of all chemicals, pesticides, fuels and other potentially toxic or hazardous materials to be used or stored on the premises in quantities greater than those associated with normal household use, accompanied by a description of measures proposed to protect all storage containers/ facilities from vandalism, corrosion and leakage and to provide for control of spills.

[2] A description of potentially toxic or hazardous wastes to be generated, indicating storage and disposal methods.

[3] Evidence of approval by the Massachusetts Department of Environmental Protection (DEP) of any industrial waste treatment or disposal system or any wastewater treatment system over fifteen thousand (15,000) gallons' per day capacity.

- [4] For underground storage of toxic or hazardous materials, evidence of qualified professional supervision of system design and installation.
  - [5] Analysis by a technically qualified expert certifying that the quality and supply of the underlying groundwater resources will not be degraded to the point whereby a hazard to public health or ecological damage results.
- (b) Each application for a special permit or variance shall be filed with the Town Clerk for transmittal to the special permit or variance granting authority and shall be accompanied by nine (9) copies of the plan [minimum scale of one (1) inch equal to one hundred (100) feet]. Such special permit or variance shall be granted if the special permit granting authority determines that the intent of this chapter as well as its specific criteria are met. In making such determination, special permit granting authority shall give consideration to the simplicity, reliability and feasibility of the control measures proposed and the degree of threat to water quality which would result if the control measures failed.
  - (c) Upon receipt of the special permit or variance application, the Town Clerk shall transmit one (1) copy each to the Board of Selectmen, Conservation Commission, Planning Board, Board of Health and Water and Sewer Commissioners (Groundwater Advisory Committee) for their written recommendations. Failure to respond in writing to the clerk of the special permit granting authority within twenty-one (21) days following public hearing shall indicate approval by said board or committee.
  - (d) The special permit granting authority shall hold a hearing, in conformity with the provisions of M.G.L. c. 40A, § 9, within sixty-five (65) days after the filing of the application with the special permit granting authority and after the review of the aforementioned town bodies. Notice of the public hearing shall be given by publication and posting and by first-class mailings to parties in interest, as defined in M.G.L. c. 40A, § 11. The decision of the special permit granting authority and any modification or renewal thereof shall be filed with the Town Clerk within ninety (90) days following the close of the public hearing. Failure of the special permit granting authority to act within ninety (90) days shall be deemed as a granting of the permit or variance. However, no work shall commence until a certification is recorded as required by said § 11.
  - (e) After notice and public hearing and after coordinating, clarifying and weighing the comments and recommendations of the Groundwater Advisory Committee, the special permit granting authority may grant such a special permit or variance, provided that it finds that the proposed use:
    - [1] Meets the purpose and intent of this chapter and will not derogate from the purpose of the Groundwater Protection Overlay Districts.

- [2] Will not, during construction or thereafter, impair ambient groundwater quality or reduce existing recharge capacity beyond that allowed per this chapter.
- [3] Will not adversely affect the quality or the yield of an existing or potential water supply.