**MODEL WATER SUPPLY PROTECTION DISTRICT**

**1. PURPOSE OF DISTRICT**

The purpose of this Water Supply Protection District is to:

A. promote the health, safety, and general welfare of the community by ensuring an adequate quality and quantity of drinking water for the residents, institutions, and businesses of the [Town/City] of \_\_\_\_\_\_ ;

B. preserve and protect existing and potential sources of drinking water supplies;

C. conserve the natural resources of the [Town/City]; and

D. prevent temporary and permanent contamination of the environment.

**2. SCOPE OF AUTHORITY**

The Water Supply Protection District is an overlay district superimposed on the zoning districts. This overlay district shall apply to all new construction, reconstruction, or expansion of existing buildings and new or expanded uses. Applicable activities and uses in a portion of one of the underlying zoning districts that fall within the Water Supply Protection District must additionally comply with the requirements of the Water Supply Protection District [Bylaw/Ordinance]. Uses prohibited in the underlying zoning districts shall not be permitted in the Water Supply Protection District.

**3. DEFINITIONS**

*Aquifer:* Geologic formation composed of rock, sand or gravel that contains significant amounts of potentially recoverable water.

*CMR*: Code of Massachusetts Regulations.

*DEP*: Massachusetts Department of Environmental Protection.

*Water Supply Protection District*: Those land area(s) designated on a map adopted pursuant to this [bylaw/ordinance] that provide recharge to an existing or planned public drinking water supply well including all areas designated as a Zone II and approved by the DEP and watershed areas of surface drinking water supplies.

*Hazardous Material:* Any substance or mixture of physical, chemical, or infectious characteristics posing a significant, actual, or potential hazard to water supplies or other hazards to human health if such substance or mixture were discharged to land or water. Hazardous materials include, without limitation: synthetic organic chemicals; petroleum products; heavy metals; radioactive or infectious wastes; acids and alkalis; solvents and thinners in quantities greater than normal household use; and all substances defined as hazardous or toxic under M.G.L. c.21C and 21E and 310 CMR 30.00.

*Hazardous Waste*: Any waste defined in the Massachusetts Hazardous Waste Regulations, 310 CMR Section 30.010. This includes, but is not limited to, waste oil, waste solvents, waste oil-based paint and waste pesticides.

*Impervious Surface:* Material or structure on, above, or below the ground that does not allow precipitation or surface water to penetrate directly into the soil.

*Landfill:* A facility established in accordance with a valid site assignment for the purposes of disposing solid waste into or on the land, pursuant to 310 CMR 19.006.

*M.G.L.*: Massachusetts General Law *Petroleum Product*: Petroleum or petroleum by-product including, but not limited to: fuel oil; gasoline; diesel; kerosene; aviation jet fuel; aviation gasoline; lubricating oils; oily sludge; oil refuse; oil mixed with other wastes; crude oils; or other liquid hydrocarbons regardless of specific gravity. Petroleum product shall not include liquefied petroleum gas including, but not limited to, liquefied natural gas, propane or butane.

*Non-sanitary wastewater*: Wastewater discharges from industrial and commercial facilities containing wastes from any activity other than collection of sanitary sewage including, but not limited to, activities specified in the Standard Industrial Classification (SIC) Codes set forth in 310 CMR 15.004(6).

*Open Dump*: A facility operated or maintained in violation of the Resource Conservation and Recovery Act (42 U.S.C. 4004(a)(b)), or state regulations and criteria for solid waste disposal.

*Potential Drinking Water Sources*: Areas that could provide significant potable water in the future.

*Recharge Areas*: Areas that collect precipitation or surface water and carry it to aquifers. Recharge areas include DEP approved Zone I, Zone II, or Zone III areas.

*Septage*: The liquid, solid, and semi-solid contents of privies, chemical toilets, cesspools, holding tanks, or other sewage waste receptacles. Septage does not include any material that is a hazardous waste as defined by 310 CMR 30.000.

*Sludge*: The solid, semi-solid, and liquid residue that results from a process of wastewater treatment or drinking water treatment. Sludge does not include grit, screening, or grease and oil which are removed at the head-works of a facility

*Treatment Works*: Any and all devices, processes and properties, real or personal, used in the collection, pumping, transmission, storage, treatment, disposal, recycling, reclamation, or reuse of waterborne pollutants, but not including any works receiving a hazardous waste from off the site of the works for the purpose of treatment, storage, or disposal.

*Very Small Quantity Generator*: Any public or private entity, other than residential, which produces less than 27 gallons (100 kilograms) a month of hazardous waste or waste oil, but not including any acutely hazardous waste as defined in 310 CMR 30.136.

*Waste Oil Retention Facility*: A waste oil collection facility for automobile service stations, retail outlets, and marinas which is sheltered and has adequate protection to contain a spill, seepage, or discharge of petroleum waste products in accordance with M.G.L. c.21. s.52A.

*Zone I***:** The DEP designated protective radius around a public water system well or well-field.

*Zone II*: The DEP approved area of an aquifer which contributes water to a well under the most severe pumping and recharge conditions that can be realistically anticipated as defined in 310 CMR 22.00.

**4. ESTABLISHMENT AND DELINEATION OF WATER SUPPLY PROTECTION DISTRICT**

For the purposes of this District, there are hereby established within the [Town/City] certain water supply protection areas, consisting of aquifers or recharge areas, and watersheds to surface water supplies which are delineated on a map. This map is at a scale of \_\_\_\_\_ and is entitled ‘Water Supply Protection District’ [Town/City] of \_\_\_\_\_\_\_\_\_\_\_ dated \_\_\_\_.’ This map is hereby made a part of the [Town/City] of \_\_\_\_\_\_\_\_\_\_zoning [bylaw/ordinance] and is on file in the Office of the [Town/City] Clerk.

**5. DISTRICT BOUNDARY DISPUTES**

5.1. If the location of the District boundary in relation to a particular parcel is in doubt, resolution of boundary disputes shall be through a Special Permit application to the Special Permit Granting Authority (SPGA). Any application for a special permit for this purpose shall be accompanied by adequate documentation.

5.2. The burden of proof shall be upon the owner(s) of the land to demonstrate that the location of the District boundary with respect to a parcel(s) of land is uncertain. At the request of the owner(s), the [Town/City] of \_\_\_\_\_\_\_\_\_\_ may engage a professional engineer, hydrologist, geologist, or soil scientist to determine more accurately the boundaries of the District with respect to individual parcels of land, and may charge the owner(s) for the cost of the investigation. Amendments to the Water Supply Protection District require [Town meeting /City Council] approval.

5.3. Where the boundary line of the Water Supply Protection District divides a lot or parcel, the requirements established by this bylaw shall apply to the entire lot or parcel.

**6. PERMITTED USES**

6.1. The following uses are permitted within the Water Supply Protection District, provided that all necessary permits, orders, or approvals required by local, state, or federal law are also obtained:

A. conservation of soil, water, plants, and wildlife;

B. outdoor recreation, nature study, boating, fishing, and hunting where otherwise legally permitted;

C. foot, bicycle and/or horse paths, and bridges;

D. normal operation and maintenance of existing water bodies and dams, splash boards, and other water control, supply and conservation devices;

E. maintenance, repair, and enlargement of any existing structure, subject to Section 7 and Section 8 of this [bylaw/ordinance];

F. residential development, subject to Section 7 and Section 8 of this [bylaw/ordinance];

G. farming, gardening, nursery, conservation, forestry, harvesting, and grazing, subject to Section 7 and Section 8 of this [bylaw/ordinance];

H. construction, maintenance, repair, and enlargement of drinking water supply related facilities such as, but not limited to, wells, pipelines, aqueducts, and tunnels.

**7. PROHIBITED USES**

7.1. The following uses are prohibited within the Water Supply Protection District:

A. landfills and open dumps as defined in 310 CMR 19.006;

B. automobile graveyards and junkyards, as defined in M.G.L. c.140B, s.1;

C. landfills receiving only wastewater and/or septage residuals including those approved by the Department pursuant to M.G.L.c. 21 s.26 through s.53; M.G.L.c. 111 s.17; M.G.L. c.83, s.6 and s.7, and regulations promulgated thereunder;

D. facilities that generate, treat, store, or dispose of hazardous waste that are subject to M.G.L. c.21C and 310 CMR 30.00, except for:

1) very small quantity generators as defined under 310 CMR 30.000;

2) household hazardous waste centers and events under 310 CMR 30.390;

3) waste oil retention facilities required by M.G.L. c. 21, s.52A;

4) water remediation treatment works approved by DEP for the treatment of contaminated waters

E. petroleum, fuel oil, and heating oil bulk stations and terminals including, but not limited to, those listed under Standard Industrial Classification (SIC) Codes 5983 and 5171, not including liquefied petroleum gas.

F. storage of liquid hazardous materials, as defined in M.G.L.c. 21E, and/or liquid petroleum products unless such storage is:

1) above ground level and on an impervious surface; and

2) either in container(s) OR above ground tank(s) within a building OR outdoors in covered container(s) OR above ground tank(s) in an area that has a containment system designed and operated to hold either; 10% of the total possible storage capacity of all containers OR 110% of the largest container’s storage capacity, whichever is greater.

G. storage of sludge and septage, unless such storage is in compliance with 310 CMR 32.30 and 310 CMR 32.31;

H. storage of deicing chemicals unless such storage, including loading areas, is within a structure designed to prevent the generation and escape of contaminated runoff or leachate;

I. storage of animal manure unless covered or contained within a structure designed to prevent the generation and escape of contaminated runoff or leachate;

J. earth removal, consisting of the removal of soil, loam, sand, gravel, or any other earth material to within 4 feet of historical high groundwater as determined from monitoring wells and historical water table fluctuation data compiled by the United States Geological Survey, except for excavations for building foundations, roads, or utility works;

K. discharge to the ground of non-sanitary wastewater including industrial and commercial process waste water, except:

1) the replacement or repair of an existing treatment works that will not result in a design capacity greater than the design capacity of the existing treatment works;

1. treatment works approved by the Department designed for the treatment of contaminated ground or surface water and operating in compliance with 314 CMR 5.05(3) or 5.05(13); and,
2. publicly owned treatment works.

L. stockpiling and disposal of snow and ice containing deicing chemicals brought in from outside the district;

M. storage of commercial fertilizers, as defined in M.G.L. c.128, s.64, unless such storage is within a structure designed to prevent the generation and escape of contaminated runoff or leachate.

**8.0 USES AND ACTIVITIES REQUIRING A SPECIAL PERMIT**

8.1. The following uses and activities are permitted only upon the issuance of a Special Permit by the Special Permit Granting Authority (SPGA):

A. All businesses, commercial, and industrial activities permitted in the underlying district either by right or by Special Permit, provided that such activity is not prohibited in Section 7. For uses requiring a Special Permit in the underlying district, the Special Permit required by this section shall be issued by the Special Permit Granting Authority for the underlying district and shall be included as a part of that Special Permit Application. Any approval, findings and conditions required under this bylaw shall be in addition to and incorporated into the findings and conditions of the underlying district's Special Permit.

B. The rendering impervious of great than 15% of the area provided that a system for artificial recharge of precipitation is developed. The management of stormwater and any artificial recharge systems developed shall be designed so as not to result in the degradation of groundwater.

1) For business, commercial or industrial uses, a stormwater management plan shall be developed which provides for the artificial recharge of precipitation to groundwater, where feasible. Recharge shall be attained through site design that incorporates natural drainage patterns and vegetation, and through the use of storm water infiltration basins, infiltration trenches, porous pavement or similar systems. All infiltration practices shall be preceded by oil, grease, and sediment traps or other best management practices to facilitate removal of contamination.

2) For residential uses, recharge shall be attained through site design that incorporates natural drainage patterns and vegetation. To the extent possible, storm water runoff from rooftops, driveways, roadways and other impervious surfaces shall be routed through areas of natural vegetation and/or devices such as infiltration basins, infiltration trenches or similar systems.

Infiltration practices shall be utilized to reduce runoff volume increases. A combination of successive practices may be used to achieve the desired control requirements. Justification shall be provided by the person developing land for rejecting each practice based on site conditions. Any and all recharge areas shall be permanently maintained in full working order by the owner. Provisions for maintenance shall be described in the storm water management plan.

C. The above ground storage of all hazardous materials and petroleum products. However, a Special Permit shall not be required for storage of liquid petroleum products of any kind which are: stored in 5 gallon or less approved portable containers and used for normal residential or commercial grounds maintenance; used for the heating of single family or two-family residence provided such storage is in a free standing container located within a building or in a free standing container with protection adequate to contain a spill the size of the total capacity of the container and is otherwise in compliance with the Massachusetts Fire Safety Code (527 CMR).

D. Excavation for removal of earth, loam, sand, gravel and other soils or mineral substances provided that such excavation shall not extend closer than five (5) feet above the historical high groundwater table (as determined from on-site monitoring wells and historical water table fluctuation data compiled by the United States Geological survey, whichever is higher). A monitoring well shall be installed by the property owner to verify groundwater elevations. This section shall not apply to excavations incidental to permitted uses, including but not limited to providing for the installation or maintenance of structural foundations, utility conduits or on-site sewage disposal.

E. With respect to pre-existing conforming uses and non-conforming uses, any of the following changes in an existing business, commercial or industrial use:

1) increase in generation of hazardous waste above quantities permitted in the Special Permit for the use;

2) increase in impermeable surfaces to greater than 15% of lot area;

 3) change of use;

4) enlargement in the building footprint greater than 25% of the existing footprint.

8.2 Special Permit Additional Requirements

In addition to the requirements of M.G.L., Chapter 40A, Section 9, these additional requirements shall apply to all Special Permit Applications.

A. The applicant will submit a complete list of chemicals, pesticides, and fuels to be stored on the premises, except when the quantities are so small as to be considered for normal household use.

B. The applicant will submit a complete list of all hazardous materials. Further, a hazardous material management plan will be field and it will include the following:

1) provisions to protect against the discharge of hazardous materials due to spillage, accidental damage, corrosion, leaking, or vandalism, including spill containment, and clean up procedures;

 2) provisions for indoor, secured storage of hazardous materials.

C. The applicant will submit evidence of compliance with the Regulations of Massachusetts's Hazardous Waste Management Act 310 CMR 30 and information on anticipated hazardous waste generation rates. Copies of Massachusetts Hazardous Waste reporting forms shall be made available to the Zoning Enforcement Officer upon request.

 D. Provisions to control soil erosion and sedimentation.

E. Drainage recharge features to prevent loss of recharge.

F. All projects shall be reviewed by the Permit Granting authority as to the potential for groundwater and surface water contamination. If the Permit Granting Authority after consultation with the Board of Health, Water Commission or any other entity that deems appropriate determines that the project use has potential to pollute groundwater or surface water, it shall prescribe an appropriate groundwater or surface water management program. This program may include the installation of groundwater monitoring wells and a regular testing procedure. The Permit Granting Authority reserves the right to withhold any and all permits until such groundwater or surface water management programs have been approved.

8.4 Performance Standards

All uses, whether allowed by Special Permit or by right, must meet the performance standards herein:

A. Sodium chloride for ice control shall be used at the minimum salt to sand ratio which is consistent with the public highway safety requirements, and its use shall be eliminated on roads which may be closed to the public in winter.

B. The storage of sodium chloride, calcium chloride, chemically treated abrasives or other chemicals used for the removal of ice and snow on roads shall be covered and located in a paved surface with berms, or within a structure designed to prevent the generation and escape of contaminated run-off.

C. Fertilizers, pesticides, herbicides, lawn care chemicals, or other leachable materials shall be used in accordance with the Lawn Care Regulations of the Massachusetts Pesticide Board, 33 CMR 10.03 (30,31), as amended, with manufacturer's label instructions and all other necessary precautions to minimize adverse impacts on surface and groundwater.

D. The storage of commercial fertilizers and soil conditioners shall be within structures designed to prevent the generation an escape of contaminated run-off or leachate.

E. To extent feasible, all new permanent animal manure storage areas shall be covered and/or contained to prevent the generation and escape of contaminated runoff or leachate.

F. All hazardous materials, as defined in M.G. L. Chapter 21 E, must be stored either in a free standing container within a building, or in a free standing container above ground level with protection to contain a spill. A tertiary containment system, with the outer containment designed and operated to contain the container or tank's total storage volume plus an additional 10% must be used.

G. For business, commercial, and industrial uses, to the extent feasible, run-off from impervious surface shall be recharged on the site by storm water infiltration basins or similar systems covered with natural vegetation. Such run-off shall not be discharged directly to rivers, streams, or other surface water bodies. Dry wells shall be used only where other methods are infeasible. All such basins and wells shall be preceded by oil, grease, and sediment traps to facilitate removal of contamination. All recharge areas shall be permanently maintained in full working order by the owner(s). Infiltration systems greater than 3 feet deep shall be located at least 100 feet from drinking water wells, and shall be situated at least 10 feet d own-gradient and 100 feet up-gradient from building foundations to avoid seepage problems. Infiltration basins and trenches shall be constructed with a tree foot minimum separation between the bottom of the structure and maximum groundwater elevation.

H. In accordance with the State Plumbing Code, all vehicle maintenance facilities must have floor drains, unless they receive a variance from the State Plumbing Board, which must be connected to a municipal sewer system or to a state-approved holding tanks in unsewered areas. All other facilities, which use, store or maintain hazardous materials or wastes must, with state approval, seal floor drains or connect them to a sewer system or holding tank.

**9.0 PROCEDURES FOR ISSUANCE OF SPECIAL PERMIT**

9.1. The Special Permit Granting Authority (SPGA) under this [bylaw/ordinance] shall be the\_\_\_\_\_\_ \_\_\_\_\_. Such special permit shall be granted if the SPGA determines, in conjunction with the [Town/City] [Planning Board, Board of Health, Conservation Commission, Engineer and/or Department of Public Works and Water Department/Water District] that the intent of this [bylaw/ordinance], as well as its specific criteria, are met. The SPGA shall not grant a special permit under this section unless the petitioner's application materials include, in the SPGA's opinion, sufficiently detailed, definite, and credible information to support positive findings in relation to the standards given in this section. The SPGA shall document the basis for any departures from the recommendations of the other [Town/City] boards, departments or commissions in its decision.

9.2. Upon receipt of the special permit application, the SPGA shall transmit one copy to the [Town/City] [Planning Board, Board of Health, Conservation Commission, Engineer and/or Department of Public Works, and Water Department/Water District]. Failure to respond in writing within 35 days of receipt shall indicate approval, or no desire to comment. The necessary number of copies of the application shall be furnished by the applicant.

9.3 The SPGA may grant the required special permit only upon finding that the proposed use meets the following standards, those specified in Section 7 of this [bylaw/ordinance], and any regulations or guidelines adopted by the SPGA. The proposed use must:

A. in no way, during construction or thereafter, adversely affect the existing or potential quality of quantity of water that is available in the Water Supply Protection District; and

B. be designed to avoid substantial disturbance of the soils, topography, drainage, vegetation, and other water-related natural characteristics of the site to be developed.

C. The SPGA may adopt regulations to govern design features of projects. Such regulations shall be consistent with subdivision regulations adopted by the [Town/City].

D. The applicant shall file \_\_\_\_ copies of a site plan and attachments. The site plan shall be drawn at a proper scale as determined by the SPGA and be stamped by a professional engineer. All additional submittals shall be prepared by qualified professionals. The site plan and its attachments shall at a minimum include the following information where pertinent:

1) a complete list of chemicals, pesticides, herbicides, fertilizers, fuels, and other potentially hazardous materials to be used or stored on the premises in quantities greater than those associated with normal household use;

1. for those activities using or storing such hazardous materials, a hazardous materials management plan shall be prepared and filed with the [Fire Chief and Board of Health]. The plan shall include:
2. provisions to protect against the discharge of hazardous materials or wastes to the environment due to spillage, accidental damage, corrosion, leakage, or vandalism, including spill containment and clean-up procedures;
3. provisions for indoor, secured storage of hazardous materials and wastes with impervious floor surfaces;
4. evidence of compliance with the Massachusetts Hazardous Waste Regulations 310 CMR 30.00; and
5. proposed down-gradient location(s) for groundwater monitoring well(s), should the SPGA deem the activity a potential groundwater threat.

E. The SPGA shall hold a hearing, in conformity with the provision of M.G.L. c.40A s. 9, within 65 days after the filing of the application.

F. Notice of the public hearing shall be given by publication and posting and by first-class mailings to "parties of interest" as defined in M.G.L. c.40A s.11. The decision of the SPGA and any extension, modification, or renewal thereof shall be filed with the SPGA and [Town/City] Clerk within 90 days following the closing of the public hearing. Failure of the SPGA to act within 90 days shall be deemed as a granting of the permit.

**10.0 ENFORCEMENT**

10.1 Written notice of any violations of this [bylaw/ordinance] shall be given by the [Zoning Enforcement Officer/Building Inspector] to the responsible person as soon as possible after detection of a violation or a continuing violation. Notice to the assessed owner of the property shall be deemed notice to the responsible person. Such notice shall specify the requirement or restriction violated and the nature of the violation, and may also identify the actions necessary to remove or remedy the violations and preventive measures required for avoiding future violations and a schedule of compliance.

10.2 A copy of such notice shall be submitted to the [Town/City] [Planning Board, Board of Health, Conservation Commission, Engineer and/or Department of Public Works, and Water Department/District]. The cost of containment, clean-up, or other action of compliance shall be borne by the owner and operator of the premises.

**11.0 SEVERABILITY**

11.1 A determination that any portion or provision of this overlay protection district is invalid shall not invalidate any other portion or provision thereof, nor shall it invalidate any special permit previously issued thereunder.