
Article IX-A

Aquifer and Wellhead Protection Overlay District

Section 1 Authority

The Town of Madbury hereby adopts this ordinance pursuant to the authority granted under RSA 674:16, in particular RSA 674:16, II and 674: 21 relative to innovative land use controls.

Section 2 Purpose

The purpose of this article is to implement the adopted Town of Madbury Master Plan priority objective to: "Protect water resources in Madbury from contamination, depletion and disfigurement using watershed management principles. Act as stewards for municipal and regional water supplies located within the Oyster River, Bellamy River, and Little Bay watersheds."

Clean and abundant water from Madbury's ground water aquifers is necessary for the health, welfare, safety and prosperity of the Town and its surrounding area. Wells serving public water systems are critical resources. This article provides protections for these essential resources from risks associated with adverse land use and development.

Section 3 District Boundaries

A. The Aquifer and Wellhead Protection Overlay District includes ~~the following: all lands above stratified drift aquifers, and lands designated by the State as public water supply wellhead protection lands identified as follows:~~

1. ~~Land above stratified drift aquifers, as~~ Land above stratified drift aquifers are identified on the "US Geological Survey, Geohydrology and Water Quality of Stratified-Drift Aquifers in the Bellamy, Cocheco, and Salmon Falls River Basins, Southeastern New Hampshire Plates 2, 4 and 6 dated 1992," ~~or as identified as part of a site plan or subdivision plan review or other process.~~
2. Land within the current designated Wellhead Protection Areas (WHPA), as defined by NH RSA 485-C:2 and identified by the New Hampshire Department of Environmental Services. ~~Lands for wellhead protection are identified on the State of New Hampshire, Department of Environmental Services, Wellhead Protection Areas Data Layer, as may be updated.~~
3. Land within a 400-foot radius of a Public Water System well, as defined by NH RSA 485:1-a.

B. ~~The lands described in Section 3(A) are~~ These lands are depicted on the map entitled "Town of Madbury ~~Master Plan, Water Resources~~ Aquifer and Wellhead Protection Overlay District" dated ~~June 14, 2005~~ [insert date of updated map], as amended, ~~and the Town of Madbury Zoning Map as may be amended.~~ ~~These~~ maps shall be on file at the Town Office. If the boundaries of the Aquifer and Wellhead Protection Overlay District shown on this map differ from the lands described above, Section 3(A) shall prevail.

~~B. In addition the District includes all lands above the stratified drift aquifers where they have not been mapped, but may be identified as part of a site plan or subdivision plan review or other process.~~

C. If an Aquifer and Wellhead Protection Overlay District boundary is uncertain or contested, the boundary in question shall be determined by a New Hampshire licensed Professional

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Comment [ED1]: Cleaned up the
language and organization here.

The only significant change in Section 3 is that I added in A(3) and deleted Section 6 below. This is implementing "Option 4" in the Aug. 15 amendment options memo.

Engineer, hydrologist, geologist, or soil scientist acceptable to the Planning Board. The owner of the property where the boundary is in question shall bear the costs of such determination.

Section 4 Applicability

- A. The requirements of this article apply to all land within the ~~The~~ Aquifer and Wellhead Protection Overlay District, ~~is an overlay district.~~ The requirements of this article are in addition to those of the underlying zoning district. If requirements of the is Aquifer and Wellhead Protection Overlay District and other applicable ~~Districts~~ districts are in conflict as applied to a specific plot, the more restrictive requirement shall apply.
- ~~B. The provisions of this article shall apply to all land uses within the District Boundaries.~~
- ~~1. Some uses are specifically permitted. These are uses that create little or no risk to wellhead areas.~~
 - ~~2. Some uses are limited or permitted only with Town oversight. These are uses that involve some risks. These risks can be minimized through site and facility design and careful use.~~
 - ~~3. Some uses are prohibited because they create unacceptable risks.~~
- ~~C. B.~~ Site design and development requirements and performance standards in this article shall apply to all land use activities and development within the Aquifer and Wellhead Protection Overlay District including, but not limited to, additions and modifications to a site or structure, and development ~~within the District Boundaries, not just those~~ requiring subdivision plan, or site plan approval, or building permits.

Comment [ED2]: Cleaned up the language but did not change regulations.

Section 5 Permitted, Prohibited, and Limited and Regulated Uses, and Exemptions

- A. Permitted Uses.
~~The following~~ All land uses that are permitted in the underlying district are permitted in the Aquifer and Wellhead Protection Overlay District, subject to the performance standards of Section 7, subject to the restrictions of the underlying district unless expressly prohibited in Section 5(B), allowed as a Conditional Use in Section 5(C), or listed as exempt in Section 5(D).
- ~~All land uses permitted in the applicable underlying zoning district, provided that they are:~~
- ~~a. not expressly prohibited in sub-section B below or~~
 - ~~b. allowed as a Limited and Regulated Use as per subsection C below.~~
- ~~Town Transfer Station and associated operations on Pudding Hill Road.~~
~~Storage of less than 550 gallons of heating oil for on premises use.~~
~~Any storage designed for, and containing, any liquid that is gaseous at atmospheric temperatures and pressures (example: propane).~~
- B. Prohibited Uses.
The following land uses are prohibited in the Aquifer and Wellhead Protection Overlay District:
- ~~1. The development or operation of a hazardous waste disposal facility as defined under RSA 147-A.~~
 - ~~2. 1. Disposal or storage of solid waste, construction materials, vegetative debris except as part of the process of improving the subject parcel.~~
 - ~~3. 2. The development or operation of a solid waste landfill under RSA 149:M-9.~~
 - ~~4. 3. The development or operation of a wastewater or septage lagoon.~~
 - ~~5. 4. Open liquid waste pond.~~
 - ~~6. 5. Application of wastewater residuals as defined by NH DES Rules Wq Env-800-~~

Comment [ED3]: The model structures permitted and exempt uses a little differently, but if the board is comfortable with how the ordinance is currently written then there isn't really a need to change the structure and organization of material. The model does more clearly describe exemptions. **One of the exemptions is that any private residence is exempt from all performance standards. This is something the PB may want to consider adding.**

In Section 5(A), the heating oil provision is already listed in conditional uses so doesn't need to be here too. I created an exempt section and added the transfer station and propane to that new section (Section 5(D))

Comment [ED4]: All prohibited uses recommended by the model are in this list. This list includes a couple additional prohibited uses that the model does not have. The model also has some additional uses that could be prohibited if no inspection is planned. See attached list for reference.

Comment [ED5]: Municipal regulation of the location of a hazardous waste disposal facility is preempted by state permitting authority. See *Stablex v. Hooksett*, 122 N.H. 1091 (1982).

811.

- ~~7.6.~~ The development or operation of a junkyard or waste salvage yard.
- ~~8.7.~~ Motor vehicle service or repair shops, except as a customary uses designed to provide routine service to vehicles operated by the principal user.
- ~~9.8.~~ The outdoor unenclosed storage of road salt or other deicing chemicals in bulk.
- ~~10.9.~~ The development or operation of a snow dump.
- ~~11.10.~~ The development or operation of a petroleum bulk plant or terminal.
- ~~12.11.~~ The development or operation of gasoline stations.
- ~~13.~~ Commercial animal feedlots.
- ~~12.~~
- ~~13.~~ Commercial storage of manure, fertilizers, herbicides, or other leachables, except for the temporary storage of such material when it is incidental to the principal use and stored in a manner that avoids leaching and runoff.

~~Storage of less than 550 gallons of heating oil for on-premises use.~~

C. **Limited and Regulated Conditional** Uses.

- 1. The following land uses are allowed in the Aquifer and Wellhead Protection Overlay District, subject to restrictions in the underlying district, if the Planning Board approves a Conditional Use Permit: in accordance with Article IV, Section 9 of this Ordinance.
 - a. Storage, handling, and use of regulated substances in quantities exceeding ~~400~~ **55** gallons or ~~800~~ **660** pounds dry weight at any one time or exceeding reportable quantities under listed under 40 CFR 302, 7-1-05 edition or as amended, provided that an adequate spill prevention, control, and countermeasure (SPCC) plan in accordance with 7(E)(2) is approved by the Fire Chief.
 - b. Any use that will render impervious more than 15 percent of any lot that is 0.38 acres or larger or 2,500 square feet of any lot that is less than 0.38 acres.¹
 - c. Any activities that involve blasting of bedrock.
 - d. General service and repair shops, including but not limited to: furniture stripping, painting, and refinishing; photographic processing; printing; appliance and small engine repair; boat repair, service and refinishing; refrigeration, heating, ventilating and air conditioning shops.
 - e. Metalworking shops, including, but not limited to: machine shops; metal plating shops; heat treating shops; smelting shops; and jewelry making shops.
 - f. Manufacturing facilities, including but not limited to: electronics and chemical manufacturing, processing, and reclamation; paper, leather, plastic, fiberglass, rubber, silicon and glass making; pharmaceutical production; pesticide manufacturing; and chemical preservation of wood and wood products.
 - g. Receipt, processing and storage of ferrous and non-ferrous metals and related byproducts produced in the recycling of vehicles, appliances and other predominately metal items.
 - h. Laboratories and professional medical offices, including but not limited to: medical, dental, and veterinary offices; and research and analytical laboratories.
 - i. Cleaning services, including but not limited to: dry cleaner; laundromats; and car washes.
 - j. Storage of petroleum or related products in quantities greater than 550 gallons for on-premises use.
- 2. In granting a Conditional Use Permit the Planning Board must first determine:
 - ~~a.~~ The applicant has demonstrated the proposed use and design are consistent with the purpose of this Article.²

Comment [ED6]: This is a little confusing. Is this exempting homeowners who fix their own cars at their residences?

PB should interpret what this means and modify text so that it is more clear.

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Comment [ED7]: I bumped down the threshold here and modified the SPCC performance standards section.

According to the Pipeline and Hazardous Materials Safety Administration's Emergency Response Guidebook, large spills are considered to involve volumes greater than 55 US gallons (208 liters) for liquids and those exceeding 660 pounds (300 kilograms) for solids with regard to initial isolation and protection action distances.

a.

~~b. The proposed use That the proposed use is not a prohibited use (as listed in Section 5-B of this Article); and~~

b. ~~W~~will be in compliance with the Performance Standards in Section 7 of this Article as well as all applicable local, state and federal requirements and the criteria of Article 4, Section 9, D of this ordinance.

3. The Planning Board, at its discretion, may require a performance guarantee or bond, in an amount and with surety conditions satisfactory to the Board, to be posted to ensure completion of construction of any facilities and the future monitoring and/or periodic inspection of same required for compliance with the Performance Standards. Additionally, The Planning Board, at its discretion, may require routine monitoring and inspection activities to assure, confirm and document compliance with Performance Standards and other applicable provisions of this Article IX-A.

c. D. Exemptions.

A. The Town Transfer Station and associated operations on Pudding Hill Road are exempt from the provisions of this article.

B. Storage of any liquid that is gaseous at atmospheric temperatures and pressures, such as propane.

Section 6 State Primary Sanitary Wellhead Protection Area Radii

The area around a public water supply well known as the sanitary wellhead protective radii must be maintained in its natural state as required by New Hampshire Department of Environmental Services. The size of this area ranges from 75 to 400 feet, depending on the amount of water withdrawn from the well. Refer to Env Dw 301 or 302 (for community water systems) and Env-Dw 405.14 and 406.12 (for other public water systems) for radius sizes.

~~The area within 400 feet of an identified public water supply wellhead is hereby designated as a Primary Wellhead Protection Area.~~

~~Land use in this area is strictly limited to protect this critical water resource. The provisions of this section apply to these areas in addition to those for the Aquifer and Wellhead Protection Overlay District.~~

~~The following land uses are permitted in the Primary Wellhead Protection Area. All other land uses are prohibited in these areas.~~

~~Construction, operation, and maintenance of wells, dams and water conservation apparatus.~~

~~Conservation, education and recreational activities that do not cause erosion or necessitate the application of chemicals.~~

~~Maintenance and repair of any existing structure, provided that there is no increase in the area of impermeable surfaces.~~

~~Town Transfer Station and operations on Pudding Hill Road.~~

Section 7 Performance Standards

A. All uses within the Aquifer and Wellhead Protection Overlay District shall conform to the standards and practices delineated in the following documents on file with the Planning Board, unless this Ordinance specifies more strict standards:

1. Manual of Best Management Practices for Agriculture in New Hampshire, NH Dept. of

Comment [ED8]: Here is some proposed language that would direct the board and applicants to the state regs. It is not intended to give the PB any authority to enforce those regs. Please modify language if you do not think this is clear.

- Agriculture, ~~June 2014~~ [July 2017](#), or as amended.
2. Best Management Practices to Control Nonpoint Source Pollution--A Guide for Citizens and Town Officials, NH DES, WD-03-42, January, 2004, or as amended.
 3. Best Management Practices, New Hampshire Code of Administrative Rules, Env-Wq 401, or as amended.
 4. State of New Hampshire Septage Management Rules, New Hampshire Code of Administrative Rules, Env-Wq 1600, or as amended
 5. State of New Hampshire Sludge Management Rules, New Hampshire Code of Administrative Rules, Env-Wq 800, or as amended.
 6. ~~Best Management Practices for Forestry: Protecting New Hampshire's Water Quality, University of New Hampshire Cooperative Extension, 2005, or as amended.~~ [Best Management Practices for Erosion Control on Timber Harvesting Operations, UNH Cooperative Extension, 2016, or as amended.](#)
 7. Pesticide Management Guidelines for Groundwater Protection, UNH Cooperative Extension, November 1992, or as amended.
 8. Manual of Best Management Practices--Biosolids, UNH Cooperative Extension, 1995, or as amended.
- B. For any use that will render impervious more than 15 percent of any lot that is 0.38 acres or larger or more than 2,500 square feet of any lot smaller than 0.38 acres, a stormwater management plan shall be prepared. The stormwater management plan shall comply with New Hampshire Stormwater Manual Volumes 1-3, December 2008 (or as amended), NH Department of Environmental Services. Such plan shall address control of parking lot pollutants including but not limited to petroleum product residue.²
- C. Design shall accommodate equipment failures and operational errors without environmental impact, including:
1. Below ground level--removal and replacement of leaking parts, a leak detection system with monitoring, and an overflow protection system.
 2. Above ground level--liquid and leaching monitoring of primary containment systems, the replacement or repair and cleanup and/or repair of the impervious containment surface.
- D. All underground storage facilities shall conform to the requirements of DES Rules Env-Wm-1401 as revised.
- E. ~~All~~ [Regulated substances](#)
1. ~~Regulated substances~~ stored in containers with a capacity of five gallons or more must:
 - ~~a.~~ [Be](#) stored in product-tight containers on an impervious surface designed and maintained to prevent flow to exposed soils, floor drains, and outside drains; and
 - [a.](#)
 - [b.](#) [Be](#) secured against unauthorized entry by means of a door and/or gate that is locked when authorized personnel are not present and must be inspected weekly by the facility owner.
 2. [Conditional uses as described under Section 5\(C\)\(1\)\(a\) using regulated substances shall submit a spill control and countermeasure \(SPCC\) plan to the Fire Chief, who shall determine whether the plan will prevent, contain, and minimize releases from ordinary or catastrophic events such as spill, floods, or fires that may cause large releases of regulated substances. It shall include:](#)
 - [a. A description of the physical layout and a facility diagram, including all surrounding surface waters and wellhead protection areas.](#)
 - [b. Contact list and phone numbers for the current facility response coordinator\(s\), cleanup contractors, and all appropriate federal, state, and local agencies who must](#)

Comment [ED9]: Does the Board want to exempt private residences from this standard? The model exempts private residences from the whole ordinance.

- be contacted in case of a release to the environment. 3)
- c. A list of all regulated substances in use and locations of use and storage;
- d. A prediction of the direction, rate of flow, and total quantity of regulated substance that could be released where experience indicates a potential for equipment failure.
- e. A description of containment and/or diversionary structures or equipment to prevent regulated substances from infiltrating into the ground.
- f. List of positions within the facility that require training to respond to spills of regulated substances.
- g. Prevention protocols that are to be followed after an event to limit future large releases of any regulated substance.

- ~~E.F.~~ Outdoor storage areas for regulated substances, associated material or waste must be protected from exposure to precipitation and must be located at least 50 feet from surface water or storm drains, at least 75 feet from private wells, and outside the sanitary protective radius of wells used by public water systems.
- ~~F.G.~~ Secondary containment must be provided for outdoor storage of regulated substances in regulated containers and the containment structure must include a cover to minimize accumulation of water in the containment area and contact between precipitation and storage container(s).
- ~~G.H.~~ Containers in which regulated substances are stored must be clearly and visibly labeled and must be kept closed and sealed when material is not being transferred from one container to another.
- ~~H.I.~~ Prior to any land disturbing activities, all inactive wells on the property, not in use or properly maintained at the time the plan is submitted, shall be considered abandoned and must be sealed in accordance with We 604 of the New Hampshire Water Well Board Rules.
- ~~I.J.~~ Blasting activities shall be planned and conducted to minimize groundwater contamination. Excavation activities should be planned and conducted to minimize adverse impacts to hydrology and the dewatering of nearby drinking water supply wells.
- ~~J.K.~~ All ~~Limited and Regulated~~ Conditional Uses as defined in Section 5 C of this Article shall also be subject to the following:
 1. Submission of an Environmental Protection Plan prepared by an appropriately licensed expert that:
 - a. Demonstrates conformance to DES rule ENV-Wq-401 "Best Management Practices for Groundwater Source Protection".
 - b. Specifies the amount and composition of any industrial or commercial waste that will be generated on-site and details the method for disposal of such waste outside of the Aquifer and Wellhead Protection Overlay District.
 - c. Provides description of a routine inspection and monitoring program.
 2. ~~Submission of a Spill Prevention, Control and Countermeasure (SPCC) Plan when using regulated substances to the Madbury Fire Chief and the Madbury Planning Board. The Fire Chief shall determine whether the plan will prevent, contain, and minimize releases from ordinary or catastrophic events such as spills, floods or fires that may cause large releases of regulated substances. It shall include:~~
 - a. ~~Information consistent with Developing Your Stormwater Pollution Prevention Plan: A Guide for Industrial Operators (US EPA, Feb 2009 or as amended). The plan shall demonstrate that the use will:~~
 - (1) ~~Meet minimum stormwater discharge setbacks between water supply wells and constructed stormwater practices as found within the Innovative Land Use Planning Techniques: A Handbook for Sustainable Development, Section 2.1 Permanent (Post-Construction) Stormwater Management, (DES, 2008 or later edition); and~~

Comment [ED10]: Replaced with language from the model ordinance in Section E(2)

- ~~(1) Maintain a minimum of four feet vertical separation between the bottom of a stormwater practice that infiltrates or filters stormwater and the average seasonal high water table as determined by a licensed hydrogeologist, soil scientist, engineer or other qualified professional as determined by the Planning Board.~~
- ~~b. A description of the physical layout and a facility diagram, including all surrounding surface waters and wellhead protection areas.~~
- ~~c. Contact list and phone numbers for the facility response coordinator, cleanup contractors, and all appropriate federal, state, and local agencies who must be contacted in case of a release to the environment.~~
- ~~d. A list, including amounts, of all regulated substances in use and locations of use and storage;~~
- ~~e. A prediction of the direction, rate of flow, and total quantity of regulated substance that could be released where experience indicates a potential for equipment failure.~~
- ~~f. A description of containment and/or diversionary structures or equipment to prevent regulated substances from infiltrating into the ground.~~
- ~~g. Flood control:

 - ~~(1) For all underground facilities including, but not limited to, a monitoring system and secondary standpipe above the 100-year flood control level, for monitoring and recovery.~~
 - ~~(2) For above ground facilities, an impervious containment dike, above the 100-year flood level, capable of containing 100 percent of the primary containment facility with an overflow recovery catchment area (sump).~~~~
- ~~h. Fire control plans shall include:

 - ~~(1) A safe fire fighting procedure.~~
 - ~~(2) A fire retarding system.~~
 - ~~(3) Provision for dealing safely with any other health and technical hazards that may be encountered by disaster control personnel in combating fire. Hazards to be considered are pipes, liquids, chemicals, or open flames in the immediate vicinity.~~~~
- ~~3.2. Documentation that the applicant has addressed any recommendations provided by the Madbury Water Resources Board, Madbury Conservation Commission and Madbury Fire Department.~~
- ~~4.3. The Planning Board may require additional independent hydrogeological study or other technical review and analysis of sites and applications. The costs of all such review and analysis shall be borne by the applicant.~~

Section 7 Existing Non-Conforming Uses

~~Existing non-conforming uses may continue without expanding or changing to another non-conforming use, but must be in compliance with all applicable state and federal requirements, including Env-Wq 401, Best Management Practices Rules.~~

Section 8 Administration

- ~~A. Routine monitoring and inspection activities required by the Conditional Use Permit shall be performed by the Selectmen's delegate at reasonable times with prior notice to the landowner.~~
- ~~A.B. Spill Response Plans must be reviewed annually by the Selectmen's delegate. All properties within the Aquifer and Wellhead Protection Overlay District using or storing regulated substances in containers with a capacity of five or more gallons not subject to a Conditional Use Permit shall be subject to inspection under this Article.~~
- ~~B.C. Annually the operator of a sand and gravel extraction operation shall prepare a report for the Town documenting compliance with the requirements of this Article. Pursuant to NH RSA 155-E:11, II the requirements of this section may be waived if the applicant~~

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Comment [ED11]: Fire Chief?

Comment [ED12]: Covered more clearly in A

demonstrates that such excavation will not adversely affect water quality and that written notice of such exception shall be recorded in the Registry of Deeds, and one copy filed with the NH Department of Environmental Services.

- | ~~G.D.~~ The Building Inspector or Selectmen's delegate may require changes to facility designs and environmental protection plans to correct deficiencies in aquifer and wellhead protection.
- | ~~D.E.~~ The Selectmen may revoke a Conditional Use Permit if they find risks to an aquifer or wellhead unacceptable.
- | ~~E.F.~~ The owner and/or operator of a facility operating under a Conditional Use Permit shall report all incidents involving liquid or chemical material release to the Building Inspector or Selectmen's delegate.
- | ~~F.G.~~ The Building Inspector or Selectmen's delegate will receive reports of spills, leaks or containment failures and investigate and make referrals as appropriate.
- | ~~G.H.~~ For Conditional Use Permits requiring periodic monitoring or inspection, a narrative description of these requirements shall be recorded at the Registry of Deeds for Strafford County. The description shall comply with the requirements of NH RSA 478:4-a.