



Department of Environmental Protection

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Wellhead Protection Guidance The Best Effort Requirement 310 CMR 22.21(1) (updated 4/2014)

1. WHAT IS THE BEST EFFORT REQUIREMENT?

Massachusetts Drinking Water Regulations, 310 CMR 22.00, require public water systems (PWS) to protect Zone II recharge areas with municipal controls (bylaws, ordinances or health regulations). Local controls must meet Massachusetts Department of Environmental Protection (MassDEP) Wellhead Protection Regulations 310 CMR 22.21(2). However, when a PWS is not part of the municipality in which the Zone II is located, it is not always an easy task for the water supplier to obtain the required protection. For these PWS an alternative wellhead protection compliance standard is provided for under the Best Effort Requirement, 310 CMR 22.21(1).

2. WHO DOES THE BEST EFFORT REQUIREMENT APPLY TO?

The Best Effort Requirement applies to:

- All non-municipal PWS with a MassDEP approved Zone II; and
- All municipal PWS with a MassDEP approved Zone II located in (or extending into) another community.
 - Non-Municipal PWS [310 CMR 22.21(1)(d)]: *No public water supply well or well-field designed to pump 100,000 gallons per day or more shall be placed online unless the cities and towns in which any part of the Zone II of the proposed well or well-field is located have wellhead protection zoning or non-zoning controls in effect that prohibit siting within the Zone II the land uses set forth in 310 CMR 22.21(2)(a) and 310 CMR 22.21(2)(b) unless designed in accordance with the performance standards specified therein. If the public water system is owned or controlled by an entity other than a municipality, the proponent must demonstrate to the Department's satisfaction that it has*

used its best efforts to have all cities and towns in which the Zone II is located establish such zoning or non-zoning controls.

- Municipal PWS [310 CMR22.21(1)(e)]: *No public water supply well or wellfield designed to pump 100,000 gallons per day or more shall be placed online unless the cities and towns in which any part of the Zone II of the proposed well or well-field is located have wellhead protection zoning or non-zoning controls in effect that prohibit siting within the Zone II the land uses set forth in 310 CMR 22.21(2)(a) and 310 CMR 22.21(2)(b) unless designed in accordance with the performance standards specified therein. If the Zone II of a municipal public water system extends into another municipality, the must also demonstrate to the Department's satisfaction that it has used its best efforts to have all cities and towns into which the Zone II extends establish such zoning or non-zoning controls within the Zone II.*

3. HOW DOES A PWS COMPLY WITH THE BEST EFFORT REQUIREMENT?

To achieve compliance the PWS must demonstrate they have used their *best efforts* in encouraging the community to protect the Zone II. At a minimum the PWS must:

1. Request local officials (i.e. Planning Board, Board of Health, Board of Selectmen) to protect the Zone II with local controls that prohibit the land uses cited in 310 CMR 22.21(2)(a)(1) through (b)(7); and
2. Provide local officials with a copy of the Zone II map and Wellhead Protection Regulations 310 CMR 22.21(2); and
3. Provide MassDEP with documentation that steps 1 and 2 above have been accomplished. Documentation may include:
 - ✓ a copy of the letter requesting protection of the Zone II; or
 - ✓ a copy of the meeting minutes describing discussions held with local officials to protect the Zone II.

Upon submittal of the required documentation, MassDEP will provide the PWS with a *Letter of Compliance with the Best Effort Requirement*.

4. WHAT IF THE COMMUNITY PROTECTS THE ZONE II AFTER THE PUBLIC WATER SUPPLIER HAS SUBMITTED THEIR BEST EFFORT DOCUMENTATION ?

Municipal officials need time to review the wellhead protection information. The adoption or amendment process of bylaws/ordinances can often take a year or more. While some communities enact Board of Health Regulations (as these can be adopted quickly), most communities choose zoning controls to protect Zone IIs. As a result it is not uncommon for a PWS to have submitted their best effort documentation while a community is actively pursuing the requested protection.

If a municipality adopts protection measures after the PWS has met the Best Effort Requirement the PWS should send MassDEP a copy of the protection controls. If the controls sufficiently

prohibit all the land uses under 310 CMR 22.21(2), MassDEP will provide the PWS with a *Letter of Compliance with MA Wellhead Protection Regulations*. Once a Zone II is fully protected by the community, the PWS is no longer subject to meeting the Best Effort Requirement for that particular Zone II (as delineated).

5. WHAT IF THE COMMUNITY ALREADY PROTECTS THE ZONE II?

If the community already protects the Zone II with local controls the PWS should submit these documents. If the municipal protection controls adequately prohibit **all** of the land uses in 310 CMR 22.21(2); MassDEP will issue the PWS a *Letter of Compliance with Wellhead Protection Regulations*.

If the community's protection controls meet only some of the Wellhead Protection Regulations, or if the designated protection area (as cited in the local control, such as an Aquifer Protection District) covers only part of the Zone II, then the PWS must satisfy the Best Effort Requirement.

6. WHAT IF THE COMMUNITY DOES NOT RESPOND TO THE REQUEST FOR PROTECTING THE ZONE II?

The PWS is only subject to meeting the Best Effort Requirement. Once the PWS has submitted the proper documentation to MassDEP they have satisfied the Best Effort Requirement.

However if the community does not pursue the requested protection, the PWS will (at some time) again be subject to meeting the Best Effort Requirement. The following activities may trigger a repeat demonstration of *best effort*:

- ✓ New source approval;
- ✓ Monitoring waiver application;
- ✓ Water withdrawal permit reviews or amendments;
- ✓ Zone II re-delineations;
- ✓ Sanitary Survey stipulations; and
- ✓ Other events requiring a MassDEP review (i.e replacement well) and it is more than 3 years since the last *best effort* demonstration by the PWS.

The goal of the Best Effort Requirement is to fully protect public drinking water supplies. Having to conduct a repeat of the *best effort* is really an opportunity for the PWS. Local boards often change members every few years. New members mean a new chance for the PWS to discuss the importance of drinking water quality, and the necessity of having comprehensive local protection controls.

For additional information about the Best Effort Requirement, please contact the MassDEP Drinking Water Program at 617-292-5700 or visit the Drinking Water Program webpage at: <http://www.mass.gov/eea/agencies/massdep/water/drinking/>.



MA Wellhead Protection Regulations 310 CMR 22.21(2)¹

[with selected excerpts from the Source Approval Regulations]

310 CMR 22.21(1) Source Approval

(c) No public water supply well or well-field designed to pump 100,000 gallons per day or more shall be constructed, expanded or replaced unless the Department finds in writing that the proponent has drafted wellhead protection zoning or non-zoning controls that prohibit siting within the Zone II the land uses set forth in 310 accordance with the performance standards specified therein.

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 Requirement for drafting municipal wellhead protection controls

(d) No public water supply well or well-field designed to pump 100,000 gallons per day or more shall be placed on-line unless the cities and towns in which any part of the *Zone II of the proposed well or is located have wellhead protection zoning or non-zoning controls in effect that prohibit siting within the Zone II the land uses set forth in 310 CMR 22.21(2)(a) and 310 CMR 22.21(2)(b)* unless designed in accordance with the performance standards specified therein. If the public water system is owned or controlled by an entity other than a municipality, the proponent must demonstrate to the Department's satisfaction that it has used its *best efforts* to have those cities and towns in which the Zone II is located establish such zoning or non-zoning controls.

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 Best Effort required for non-municipal public water systems

(e) Notwithstanding 310 CMR 22.21(d)(2), no public water supply well or designed to pump 100,000 gallons per day or more that will be used in a public water system owned or operated by a municipality, and is located within that municipality, shall be placed on-line *unless the municipality has wellhead protection zoning or non-zoning controls in effect that prohibit siting within the Zone II the land uses set forth in 310 CMR 22.21(2)(a) and 310 CMR 22.21(2)(b)* unless designed in accordance with the performance standards specified therein. If the Zone II of a municipal public water system extends into another municipality, the water supplier must also demonstrate to the Department's satisfaction that it has used its *best efforts* to have all cities and towns into which the Zone II extends establish such zoning or non-zoning controls.

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 Best Effort required when the Zone II is located in another community

310 CMR 22.21(2) Wellhead Protection

(a) Wellhead protection zoning and non-zoning controls submitted to the Department in accordance with 310 CMR 22.21(1), shall collectively prohibit the siting of the following land uses within the Zone II, or Zone III

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 Land uses prohibited in Zone II

¹ as amended through 2001

if the criteria of 310 CMR 22.21(1)(f) have been met, of the proposed well or , whichever is applicable:

1. landfills and open dumps, as defined in 310 CMR 19.006;
2. landfills receiving only wastewater residuals and/or septage (wastewater residuals “mono-fills”)
3. automobile graveyards and junkyards, as defined in MGL. c. 140B, §1;
4. stockpiling and disposal of snow or ice removed from highways and streets located outside of Zone II that contains sodium chloride, chemically treated abrasives or other chemicals used for snow and ice removal;
5. petroleum, fuel oil and heating oil bulk stations and terminals, including, but not limited to, those listed under Standard Industrial Classification (SIC) Codes 5171 and 5983, not including liquefied petroleum gas. SIC Codes are established by the U.S Office of Management and Budget and may be determined by referring to the publication, Standard Industrial Classification Manual and any subsequent amendments thereto;
6. treatment or disposal works subject to 314 CMR 5.00, for wastewater other than sanitary sewage. This prohibition includes, but is not limited to, treatment or disposal works related to activities under the Standard Industrial Classification (SIC) Codes set forth in 310 CMR 15.004(6) (Title 5), except the following:
 - a. the replacement or repair of an existing system(s) that will not result in a design capacity greater than the design capacity of the existing system(s);
 - b. treatment works approved by the Department designed for the treatment of contaminated ground or surface waters and operated in compliance with 314 CMR 5.05(3) or 5.05(13); and
 - c. publicly owned treatment works, or POTW;
7. facilities that generate, treat, store or dispose of hazardous waste that are subject to MGL. c. 21C and 310 CMR 30.000, except for the following:
 - a. very small quantity generators, as defined by 310 CMR 30.000;
 - b. household hazardous waste collection centers or events operated pursuant to 310 CMR 30.390;
 - c. waste oil retention facilities required by MGL. c. 21, § 52A; and
 - d. treatment works approved by the Department designed in accordance with 314 CMR 5.00 for the treatment of contaminated ground or surface waters

8. floor drainage systems **in existing** facilities, in industrial or commercial hazardous material and/or hazardous waste process areas or storage areas, which discharge to the ground without a DEP permit or authorization. Any existing facility with such a drainage system shall be required to either seal the floor drain (in accordance with the state plumbing code, 248 CMR 10.00²), connect the drain to a municipal sewer system (with all appropriate permits and pre-treatment), or connect the drain to a holding tank meeting the requirements of all appropriate DEP regulations and policies.

- (b) Wellhead protection zoning and non-zoning controls submitted to the Department in accordance with 310 CMR 22.21(1), shall collectively prohibit the siting of the following land uses within the Zone II, or Zone III if the criteria of 310 CMR 22.21(1)(f) have been met, of the proposed well or well-field, whichever is applicable, unless designed in accordance with the specified performance standards:
 1. storage of sludge and septage, unless such storage is in compliance with 310 CMR 32.30 and 310 CMR 32.31;
 2. storage of sodium chloride, chemically treated abrasives or other chemicals used for the removal of ice and snow on roads, unless such storage is within a structure designed to prevent the generation and escape of contaminated runoff or leachate;
 3. storage of commercial fertilizers; unless such storage is within a structure designed to prevent the generation and escape of contaminated runoff or leachate;
 4. storage of animal manures, unless such storage is within a structure designed to prevent the generation and escape of contaminated runoff or leachate.
 5. storage of liquid hazardous materials, as defined in MGL. c. 21E, and/or liquid petroleum products unless such storage is above ground level AND on an impervious surface in container(s) AND either:
 - (a). in above ground tank(s) within a building on an impervious surface OR;
 - (b). 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;
 6. the removal of soil, loam, sand, gravel or any other mineral substances within four feet of the historical high groundwater table elevation (as determined from monitoring wells and historical water table fluctuation data compiled by the United States Geological Survey), unless the substances removed are re-deposited within 45 days of removal on site to achieve a final grading greater than four feet above the historical high water mark, and except for excavations for the construction of building foundations, the installation of utility works, or wetland restoration work conducted in accordance with a valid Order of Condition issued pursuant to MGL. c. 131, § 40
 7. land uses that result in the rendering impervious any lot or parcel more than 15% or 2500 square feet, whichever is greater, unless a system for artificial recharge of precipitation is provided that will not result in the degradation of groundwater quality.

² Formerly 248 CMR 2.00. Amended 2005.



Best Effort Sample Letters

These Samples are taken from actual Best Effort letters

LETTERHEAD

Date

Dear Local Official [planning board and board of health/or board of selectmen]

As the Water Superintendant for the Town of ----, it is my job to insure that our public drinking water wells are protected from potential land uses that could degrade drinking water quality. This is not only good practice but also a requirement of the Massachusetts Department of Environmental Protection (MassDEP) under the Drinking Water Regulations, 310 CMR 22.00.

As you can see from the enclosed map, the Zone II recharge area of our public wells extends into your community. I am requesting that you protect this portion of the Zone II with municipal controls that prohibit the land uses in MA Wellhead Protection Regulations 310 CMR 22.21(2).

As required by MassDEP, I have enclosed a copy of the Zone II map and the Wellhead Protection Regulations. Thank you in advance for your attention to this matter, your cooperation is greatly appreciated.

Sincerely,

DWP Manager

Cc: MassDEP

Dear Local Official [planning board and board of health/or board of selectmen]

The water supply recharge area of our public water well is located within the boundaries of (Name of Town). In an effort to ensure the continued quality of this source; I am requesting that you include the recharge area (the Zone II) into your local protection efforts.

To effectively prevent potential sources of contamination from reaching drinking water supplies, the Massachusetts Department of Environmental Protection encourages communities to adopt drinking water supply protection bylaws and health regulations. These controls should prohibit the land uses and activities cited in the Massachusetts Wellhead Protection Regulations 310 CMR 22.21(2).

For your convenience I am providing you with a copy of the Zone II map and the Wellhead Protection Regulations. We appreciate your consideration into this matter and would be happy to meet with you to discuss protection strategies. If you have any questions I can be reached at [phone].

Sincerely,

Director of Operations/DPW

Cc: MassDEP