

Massachusetts Department of Environmental Protection
Bureau of Resource Protection – Water Supply
Zone II Determination for Existing Sources of Drinking Water

BRP WS 08 Approval of Zone II Delineation

Instructions and Supporting Materials

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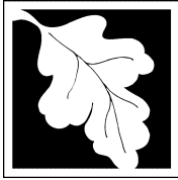
Introduction

MassDEP *Permit Applications*, as well as *Instructions & Support Materials*, are available for download from the MassDEP Web site at www.mass.gov/dep in two file formats: Microsoft Word™ and Adobe Acrobat PDF™. Either format allows documents to be printed.

Instructions & Support Materials files in Microsoft Word™ format contain a series of documents that provide guidance on how to prepare a permit application. Although we recommend that you print out the entire package, you may choose to print specific documents by selecting the appropriate page numbers for printing.

Permit Applications in Microsoft Word™ format must be downloaded separately. Users with Microsoft Word™ 97 or later may complete these forms electronically.

Permitting packages in Adobe Acrobat PDF™ format combine *Permit Applications* and *Instructions & Support Materials* in a single document. Adobe Acrobat PDF™ files may only be viewed and printed without alteration. *Permit Applications* in this format may not be completed electronically.



1. What is the purpose of this approval?

The approval is to determine technical acceptability of supporting data and recommended Zone II delineation for existing wells. Zone II is that area of an aquifer which contributes water to a well under the most severe pumping conditions that can be realistically anticipated (180 days of pumping at safe yield with no recharge from precipitation). Procedures used to delineate Zone II boundaries must follow *Guidelines and Policies for Public Water Systems*, available from the State House Bookstore. The Zone II is delineated to accurately identify land areas which may be appropriate for certain land use restrictions or prohibitions to protect groundwater quality. Zone II approvals are required when implementing various MassDEP programs.

2. Who must apply?

A public water supply system must apply if it has been approved to pump 100,000 gallons per day or greater, but has not yet delineated the existing well's Zone II, and is required to pursue a Water Management Act Permit. Municipalities must apply if they are conducting town-wide or localized groundwater studies for the purpose of enacting zoning and non-zoning controls to protect groundwater recharge areas.

3. What other requirements should be considered when applying for this approval?

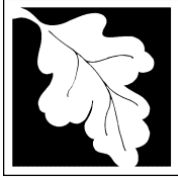
Prior to applying, applicants must be sure that the information provided and the delineation procedure used are consistent with specific requirements outlined in *Guidelines and Policies for Public Water Systems*. Pay careful attention to model documentation because this information weighs heavily in MassDEP's decision to approve the delineation.

Note: Approvals of this type may require MEPA review. Please carefully examine 301 CMR 11.00, the MEPA Regulations, to determine if your project exceeds the MEPA review thresholds, or for more information contact the MEPA Unit of the Executive Office of Environmental Affairs 251 Causeway Street, Suite 900, Boston MA 02114 (617) 626-1020. **MassDEP cannot begin technical review of the application until the MEPA process has been completed, unless otherwise agreed to in writing.** Copies of MEPA filings (with reference to any applicable Transmittal numbers) should be sent to the appropriate program offices in Boston and the MEPA Coordinator in the appropriate Regional Office.

Note: These additional requirements are intended to serve as a guide to the applicant. It does not necessarily include **all** additional requirements.

4. What is the application fee?

The application fee is \$3,235.



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Permit Fact Sheet

5. What is the Primary Permit Location?

PRIMARY PERMIT LOCATION:

Department of Environmental Protection
* Regional Office
Water Supply

*Find your region: <https://www.mass.gov/service-details/massdep-regional-offices-by-community>

What is the Reserve Copy Location?

RESERVE COPY LOCATION:

None required.

6. Where can I get a copy of the timelines?

The timelines are available on the MassDEP Website: <https://www.mass.gov/lists/massdep-fees-timelines>

7. What is the annual compliance fee?

There is no annual compliance fee for this approval.

8. How long is this approval in effect?

The approval of a Zone II delineation is valid until there is a change (increase or decrease) in the withdrawal characteristics of the existing well or until superseded by a subsequently submitted MassDEP-approved Zone II.

9. How can I avoid the most common mistakes made in applying for this approval?

- a. Be sure all Application Completeness Checklist items are completed and included with submitted application.
- b. Review the Division of Water Supply's *Guidelines and Policies for Public Water Systems* regarding what technical criteria are necessary for an approvable submission.
- c. Submit fee and *one* copy of the MassDEP Transmittal Form to: Department of Environmental Protection, P. O. Box 4062, Boston, MA 02211.

10. What are the regulations that apply to this approval?

Where can I get copies?

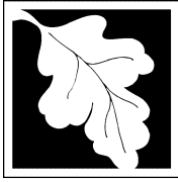
These regulations include, but are not limited to:

- a. Drinking Water Regulations, 310 CMR 22.00.
- b. Timely Action and Fee Provisions, 310 CMR 4.00.
- c. Administrative Penalty Regulations, 310 CMR 5.00.

These may be purchased at:

State House Bookstore
Room 116
Boston, MA 02133
617-727-2834

State House West Bookstore
436 Dwight Street
Springfield, MA 01103
413-784-1376



Application Completeness Checklist

- The MassDEP Transmittal Form is completed: <https://www.mass.gov/service-details/transmittal-form-number-for-massdep-permit-application-payment>
- Application Form BRP WS Application has been completed.

A Conceptual Zone II delineation for a well with planned yields of 100,000 gallons per day and greater must include:

- A description and discussion of the stratigraphy and hydrology of the aquifer using USGS geologic maps, any pertinent USGS or other reports, well logs, and borings from all available sources, including private wells.
- A discussion of water quality as it relates to the groundwater flow system.
- A map of the surficial geology based on USGS GQ series surficial geologic maps, topographic maps, Hydrologic Investigations Atlas, field mapping, and review of the available subsurface data.
- A regional water table or potentiometric surface map showing groundwater flow directions in the region where the Conceptual Zone II is located; the map should be constructed based on water levels obtained from production and monitoring wells, USGS observation well network, and hydraulically connected surface water features.
- For aquifers under confined conditions, a discussion of the hydraulic connection among overlying stratigraphic units, including any overlying unconfined aquifer, the lateral extent of the confining layer, and estimates of leakage through the confining layer.
- A complete land use/sanitary survey of the Conceptual Zone II.
- A discussion of the hydrogeologic system and the likely sources of recharge to the production well.
- Detailed cross-sections through the pumping well site focusing on lateral extent of stratigraphic units.
- Other geological data.

To submit application package:

- Checklist items have been completed.
- Send one copy of the application along with the one page from the MassDEP Transmittal Form to:

Department of Environmental Protection
_____ * Regional Office

Water Supply

*Find your region: <https://www.mass.gov/service-details/massdep-regional-offices-by-community>

- Send fee of \$3,235 in the form of check or money order made payable to *Commonwealth of Massachusetts*, along with one copy from the MassDEP Transmittal Form to:
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211