



# State of Connecticut

## Department of Environmental Protection



### **Guidance for Delineation of Aquifer Protection Area Boundaries**

#### Introduction

Aquifer protection area boundaries must be established by towns for public water supply wells in stratified drift that serve more than 1000 people. For each well or well field<sup>1</sup>, the water company is required to determine the land area that contributes ground water to the well field. The water company hires a ground water consultant to conduct mapping according to the state Level A mapping regulations. DEP reviews and approves the mapping. After approval, DEP will notify each town into which the mapped area extends and provide a copy of the maps.

#### Delineation Procedures

Once DEP provides the Level A mapping to the town, the municipal zoning, planning, or planning and zoning commission must delineate the aquifer protection areas within one hundred twenty (120) days after notification. Because the mapping is based on numerical ground-water modeling, the boundaries do not necessarily follow physical features visible on the land surface, and may cut across property lines, roads, streams, etc. Therefore, the delineation of the boundaries may be done in one of two manners:

- (1) the boundary line on the level A map can be transferred to the local maps exactly as provided by DEP, or
- (2) the boundary line may be extended out to the nearest identifiable physical feature to clarify the location for administrative purposes.

These options are described in more detail below. In either case, the boundary must be delineated on the zoning district map, or if no zoning district map exists, then it must be delineated on the town's inland wetlands and watercourses map. If the aquifer protection agency is not the agency with jurisdiction over the zoning map (or wetlands map if appropriate), there must be cooperation between the two agencies to accomplish the delineation.

#### Option 1: Delineation of Aquifer Protection Area Boundaries as Provided by DEP

Delineating the aquifer protection area boundaries consists of transferring the Level A

---

<sup>1</sup> A well field is a group of water supply wells in close proximity to one another and typically operated by a single water company.

mapping boundaries<sup>2</sup> onto the town's zoning map. When the boundaries are delineated exactly as provided by DEP, the adoption process must be conducted in accordance with the Regulations of Connecticut State Agencies (RCSA) Section 22a-354i-2. The "Aquifer Protection Area Map Delineation Flow Chart" indicates the necessary actions and timeframes to accomplish the delineation, and it may be used as a checklist for the adoption process. Adopting the boundaries as provided by DEP is a simpler administrative process than option 2 below.

## Option 2: Extension of Aquifer Protection Area Boundaries for Administrative Purposes

As mentioned above, aquifer protection area boundaries do not necessarily follow property lines or identifiable physical features. In order to clarify the location of an aquifer protection boundary, the agency may extend the boundary to coincide with the nearest property line, municipal boundary or topographic feature. The extension must, at a minimum, fully encompass the aquifer protection area bounded by the approved level A mapping, but shall not exceed the distance necessary to clarify the location of the aquifer protection area or facilitate the administration of regulations. When aquifer protection area boundaries are extended for administrative purposes, the adoption process must be done in accordance with RCSA Section 22a-354i-4. The attached "Extension of APA Boundaries Flow Chart" indicates the necessary additional actions and timeframes to accomplish the extended boundary delineation.

The aquifer protection area boundary may not be extended without written approval of the Commissioner, and requires more extensive public notice than adopting the map as provided by DEP. DEP urges towns to carefully consider any proposed boundary extension and to minimize extensions as much as possible.

While boundary extension can facilitate administration of the program, such extensions are vulnerable to challenge by the affected property owners. Existing land use conditions are an important consideration. For example, in residential areas where the aquifer protection area regulations have relatively little impact, extending the boundary to existing property lines may simplify administration. In considering a boundary extension, zoning district lines and property lines should be examined to see how well they match the APA boundary. These lines, road boundaries, topographic features, or easily measurable distances from any such features may be used to extend the boundaries. However, care should be used, particularly where the boundary line runs through a business property and the portion of the property outside the boundary is large enough to be used for other purposes. In that case, if the boundary line is taken directly from the Level A map, the business could conceivably install new uses on their property outside the aquifer protection area. If however, the

---

<sup>2</sup> The Level A mapping submitted to DEP by the water companies shows an "area of contribution" where water levels in the aquifer are directly affected by the pumping well(s); one or more "recharge area(s)" which are areas that topographically drain into the area of contribution; and "indirect recharge areas" which are watershed areas for surface water bodies that flow across the area of contribution. The map provided to the town by DEP shows a boundary that is the combined area of contribution and recharge area(s). The indirect recharge areas are not regulated under the program and are not included on the map provided by DEP nor in the aquifer protection area. The DEP map may also show a 500 ft. buffer line around the well(s), which is discussed under the heading "security issues" on the next page.

aquifer protection area boundary is extended out to the property line, the business could reasonably argue against such a boundary extension.

### Notice Requirements

The aquifer protection agency must carry out the proper public notice requirements for the delineation. The notice should appear in the newspaper and include a map or a detailed description of the aquifer protection area and the name, address and telephone number of a representative of the municipal aquifer protection agency who may be contacted for more information.

### Availability of Aquifer Protection Area Map

A map of the delineated aquifer protection area boundaries must be made available for inspection in the Office of the Town Clerk or the Agency.

### Effective Date of Map

The effective date of the map is important in that it sets the date for the eligibility of facilities to register. The effective date is the date of publication of the map in the newspaper or otherwise established by the Agency. To verify completion of the delineation process, send a copy of the map with the effective date to the DEP Aquifer Protection Program.

### Requesting Maps of Special Scale or Electronic Format

Final (Level A) maps will be (or have been) provided to towns as the mapping is approved by DEP. However, if the town needs an additional copy, a special scale to match the existing zoning map, or would like the map in electronic format (as a GIS shape file), please do not hesitate to contact us at (860) 424-3020.

### Security Issues

Specific water supply well locations should not be shown on delineated maps or made available to the general public, for security-related reasons. However, regulated entities must be able to determine if they are within 500 feet of the well field, because commercial fuel oil tanks are only regulated under the program if they are within 500 feet of the well field. The DEP can provide a map to the town showing a 500-foot radius line. Because the approximate location of the supply wells could be determined from this information, it should not be publicly disseminated. The town may either:

- (1) Make a separate map showing the 500-foot line that is kept on file at the Town Clerk or the agency's office and may not be copied or borrowed. The businesses within the aquifer protection area would be required to come in and check the map to determine if they are located within the 500-foot line; or

- (2) The agency and water utility can review the inventory of land uses within the 500-foot area. Because the area is relatively small and the water company typically owns much of the land within that area, there may be very few facilities within the 500-foot area. It may therefore be more efficient (for both the registrants and the agency staff) for agency staff to notify potential registrants that are within the 500-foot area. Additional security issues regarding the mapping can be referred to DEP or to the water company that owns the wells.

#### Challenges to Aquifer Protection Area Boundaries

In accordance with CGS Section 22a-354n, no person may challenge the boundaries of the aquifer protection area at the local level unless the challenge is based solely on a failure by the agency to properly delineate the boundaries in accordance with state regulations. Any other challenge must be in the form of a petition to the DEP in accordance with the mapping regulations under RCSA section 22a-345b-1(j).

**Aquifer Protection Area Map Delineation Flow Chart**  
**(RCSA Sec. 22a-354i-2)**

**Action**

**Time Table/Notes**

Place boundary on municipal zoning map (or if no zoning map, then wetlands map) and include an effective date of map

.....

Delineation must be completed for each well field not later than 120 days after being notified by DEP of level A mapping approval



Publish notice of delineation in newspaper including:  
1) A map or a detailed description of the APA  
2) Name, address, telephone number of a representative of the municipal aquifer protection agency who may be contacted for more information

Effective date of the map is the date of publication in the newspaper or another date established by the Agency



To verify delineation of aquifer protection area on zoning map, send a copy of the map with the effective date to DEP



Make map available in the office of the town clerk or agency