



**Massachusetts Department of Environmental Protection  
Source Water Assessment and Protection (SWAP) Report  
For  
Whispering Pines Condominiums**

**What is SWAP?**

The Source Water Assessment and Protection (SWAP) program, established under the federal Safe Drinking Water Act, requires every state to:

- ? Inventory land uses within the recharge areas of all public water supply sources;
- ? Assess the susceptibility of drinking water sources to contamination from these land uses; and
- ? Publicize the results to provide support for improved protection.

**SWAP and  
Water Quality**

Susceptibility of a drinking water source does *not* imply poor water quality. Actual water quality is best reflected by the results of regular water tests.

Water suppliers protect drinking water by monitoring for more than 100 chemicals, treating water supplies, and using source protection measures to ensure that safe water is delivered to the tap.

Prepared by the  
Massachusetts Department of  
Environmental Protection,  
Bureau of Resource Protection,  
Drinking Water Program

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**Table 1: Public Water System (PWS) Information**

<i><b>PWS NAME</b></i>	Whispering Pines Condominiums
<i><b>PWS Address</b></i>	2221 State Highway
<i><b>City/Town</b></i>	Eastham
<i><b>PWS ID Number</b></i>	4086011
<i><b>Local Contact</b></i>	Lynn Klokman/Russell Tierney (Certified Operator)
<i><b>Phone Number</b></i>	(508) 481-6659/(888) 377-7678

<i><b>Well Name</b></i>	<i><b>Source ID#</b></i>	<i><b>Zone I (in feet)</b></i>	<i><b>IWPA (in feet)</b></i>	<i><b>Source Susceptibility</b></i>
Well #1	01G	166	495	Moderate
Well #2	01G	166	495	Moderate

**Introduction**

We are all concerned about the quality of the water we drink. Drinking water wells may be threatened by many potential sources of contamination, including septic systems, road salting, and improper disposal of hazardous materials. Citizens and local officials can work together to better protect these drinking water sources.

**Purpose of this report:**

This report is a planning tool to support local and state efforts to improve water supply protection. By identifying land uses within water supply protection areas that may be potential sources of contamination the assessment helps focus protection efforts on appropriate best management practices (BMPs) and drinking water source protection measures. Department of Environmental Protection (DEP) staff are available to provide information about funding and other resources that may be available to your community.

**This report includes:**

1. Description of the Water System
2. Discussion of Land Uses within Protection Areas
3. Recommendations for Protection
4. Attachments, including a Map of the Protection Areas

**1. Description of the Water System**

The wells for the Whispering Pines Condominiums are located in a wooded area west of the condominiums, see attached map. Well #1 has a Zone I of 166 feet and an Interim Wellhead Protection Area (IWPA) of 495 feet. Well #2 has a default Zone I of 166 feet and an IWPA of 495 feet. The IWPA provides an interim protection area for a water supply well when the actual recharge area has not been delineated. The actual recharge area to the well may be significantly larger or smaller than the IWPA. The wells are located in an aquifer with a high vulnerability to contamination due to the absence of hydrogeologic barriers that can prevent contaminant migration. Please refer to the attached map of the Zone I and IWPA.

The well serving the facility has no treatment at this time. The DEP requires public water

### What is a Protection Area?

A well's water supply protection area is the land around the well where protection activities should be focused. Each well has a Zone I protective radius and an Interim Wellhead Protection Area (IWPA).

- **The Zone I** is the area that should be owned or controlled by the water supplier and limited to water supply activities.
- **The IWPA** is the larger area that is likely to contribute water to the well.

In many instances the IWPA does not include the entire land area that could contribute water to the well. Therefore, the well may be susceptible to contamination from activities outside of the IWPA that are not identified in this report.

### What is Susceptibility?

Susceptibility is a measure of a well's potential to become contaminated due to land uses and activities within the Zone I and Interim Wellhead Protection Area (IWPA).

suppliers to monitor the quality of the water. For current information on monitoring results and treatment, please contact the Public Water System contact person listed above in Table 1. Drinking water monitoring reporting data is also available on the web via EPA's Envirofacts website at [http://www.epa.gov/enviro/html/sdwis/sdwis\\_query.html](http://www.epa.gov/enviro/html/sdwis/sdwis_query.html).

## 2. Discussion of Land Uses in the Protection Areas

There are a number of land uses and activities within the drinking water supply protection areas that are potential sources of contamination.

#### Key issues include:

1. **non-water supply activities in Zone Is;**
2. **above ground storage tanks (AST) with heating oil;**
3. **septic systems;**
4. **residential development; and**
5. **local roads and vehicle parking.**

The overall ranking of susceptibility to contamination for the well is moderate, based on the presence of moderate rankings of non-water supply uses within the protection area and the lack of ownership or control of the entire Zone I areas.

1. **Zone Is** – Currently, the wells do not meet DEP's Zone I regulations, which allow only water supply related activities in the Zone I and require that the land within the Zone I be owned or controlled by the public water system. The Whispering Pines Condo's Zone Is contains residential uses and the public water supplier does not own or control all the land encompassed by the Zone Is. Please note that systems not meeting DEP Zone I requirements must get DEP approval and address Zone I issues prior to increasing water use or modifying systems.

#### Recommendations:

- ✓ Do not use or store pesticides, fertilizers or road salt within the Zone I.
  - ✓ Educate residents about water supply protection issues.
2. **Aboveground Storage Tanks (ASTs)** – ASTs with heating fuel can contaminate groundwater if improperly managed and spills or leaks occur.
    - ✓ **Recommendation:** Inspect and maintain tanks to prevent leaks and spills

**Table 2: Table of Activities within the Water Supply Protection Areas**

Potential Contaminant Sources	Zone I	IWPA	Threat	Potential Concern
Septic systems and cesspools	Yes	Yes	Moderate	Bacteria, viruses, and nitrate. Improper disposal of hazardous materials
Local roads and parking	Yes	Yes	Moderate	Stormwater runoff, spills
Lawns	Yes	Yes	Moderate	Fertilizer and pesticide use
Above ground storage tanks	Yes	Yes	Moderate	Leaks, spills
Residential development	Yes	Yes	Moderate	Runoff from lawns, septic systems, underground/above ground storage tanks

\* For more information on Contaminants of Concern associated with individual facility types and land uses please see the SWAP Draft Land Use / Associated Contaminants Matrix on DEP's website - [www.state.ma.us/dep/brp/dws/](http://www.state.ma.us/dep/brp/dws/).

## Glossary

**Zone I:** The area closest to a well; a 100 to 400 foot radius proportional to the well's pumping rate. To determine your Zone I radius, refer to the attached map.

**IWPA:** A 400 foot to ½ mile radius around a public water supply well proportional to its pumping rate; the area DEP recommends for protection in the absence of a defined Zone I. To determine IWPA radius, refer to the attached map.

**Zone II:** The primary recharge area defined by a hydrogeologic study.

**Aquifer:** An underground water-bearing layer of permeable material that will yield water in a usable quantity to a well.

**Hydrogeologic Barrier:** An underground layer of impermeable material that resists penetration by water.

**Recharge Area:** The surface area that contributes water to a well.

- ✓ Install containment structures designed to hold 110% of the tanks contents.
- 3. Septic Systems** – There are approximately twenty residential structures located in the IWPA and all use septic systems or cesspools for sanitary waste disposal.
- Recommendation:**
- ✓ Never dispose of household hazardous materials down drains leading to septic systems or cesspools.
  - ✓ Septic system components should be inspected and maintained on a regular basis.
- 4. Residential Development** – There is medium density residential development within the IWPA.
- Recommendation:**
- ✓ If possible, contact residents in the IWPA about water supply protection.
  - ✓ Ensure to educate residents on proper storage, use and disposal of household hazardous materials including fertilizers and pesticides.
- 5. Local roads and vehicle parking** – Local roads and vehicle parking exist throughout the IWPA. Accidents, spills and leaks from vehicles are all potential contaminant sources to groundwater wells.
- Recommendation:**
- ✓ Continue to maintain contact with the Fire Department about spills.
  - ✓ Ensure that stormwater drainage is directed away from the wellheads.

Implementing the following recommendations will reduce the system's susceptibility to contamination.

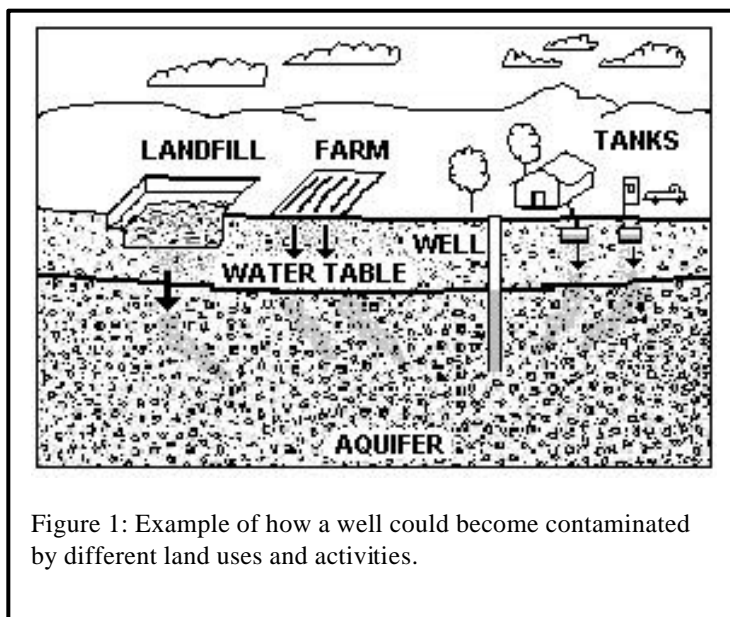
## 3. Protection Recommendations

Implementing protection measures and best management practices (BMPs) will reduce the wells' susceptibility to contamination.

### Priority Recommendations:

#### Zone I:

- ✓ Ensure no cesspools exist within the Zone I.
- ✓ Keep additional non-water supply activities out of the Zone I.



- ✓ Whenever possible, remove all non-water supply activities from the Zone I to comply with DEP's Zone I requirements.
- ✓ Consider well relocation if Zone I threats cannot be mitigated.
- ✓ Post water supply protections signs in the Zone I and IWPA.
- ✓ Prohibit public access to the well and pumphouse by locking facilities.
- ✓ Conduct regular inspections of the Zone I. Look for illegal dumping or evidence of vandalism.
- ✓ Use Best Management Practices (BMPs) and restrict activities that could pose a threat to the water supply.
- ✓ If it's not feasible to purchase privately owned land within the Zone I at this time, consider a conservation restriction that would prohibit potentially threatening activities or a right of first refusal to purchase the property.
- ✓ Keep road and parking lot drainage away from the well.
- ✓ Do not use or store pesticides, fertilizers or road salt within the Zone I.

### For More Information:

Contact Isabel Collins in DEP's Lakeville Office at (508) 946-2726 for more information and for assistance in improving current protection measures.

More information relating to drinking water and source protection is available on the Drinking Water Program web site at:

[www.state.ma.us/dep/brp/dws/](http://www.state.ma.us/dep/brp/dws/)

### Additional Documents:

To help with source protection efforts, more information is available by request or online at [www.state.ma.us/dep/brp/dws/](http://www.state.ma.us/dep/brp/dws/) including:

1. Water Supply Protection Guidance Materials such as model regulations, Best Management Practice information, and general water supply protection information.
2. MA DEP SWAP Strategy
3. Land Use Pollution Potential Matrix
4. Draft Land/Associated Contaminants Matrix

Copies of this assessment have been made available to the public water supplier and town boards.

### Training and Education:

- ✓ Train all staff on proper hazardous material use, disposal, emergency response, and best management practices; include custodial staff, groundskeepers and certified operator. Post labels as appropriate on raw materials and hazardous waste.
- ✓ Post drinking water protection area signs at key visibility locations.
- ✓ Work with your community to ensure that stormwater runoff at the road is directed away from the well and is treated according to DEP guidance.

### Facilities Management:

- ✓ Inspect and maintain the integrity of the ASTs and ensure all are properly contained.
- ✓ Septic system components should be located, inspected, and maintained on a regular basis.

### Planning:

- ✓ Work with local officials in town to include the facility's IWPA in an Aquifer Protection District Bylaw and to assist you in improving protection.
- ✓ Supplement the SWAP assessment with additional local information and incorporate it into water supply educational efforts. Use a land use inventory to assist in setting priorities, focusing inspections, and creating educational activities.

### Funding:

The Department's Wellhead Protection Grant Program provides funds to assist public water suppliers in addressing wellhead protection through local projects. Protection recommendations discussed in this document may be eligible for funding under that program. For additional information, please refer to DEP's web site. Other funding opportunities are described in *Grant and Loan Programs: Opportunities for Watershed Protection, Planning and Implementation* at <http://www.state.ma.us/dep/brp/mf/files/glprgm.pdf>.

Citizens and community officials should use this SWAP report to spur discussion of local drinking water protection measures.

## 6. Attachments

- Map of the Public Water Supply (PWS) Protection Area.
- Recommended Source Protection Measures Fact Sheet
- Your Septic System Brochure
- Healthy Schools Fact Sheet
- Source Protection Sign Order Form