Massachusetts Department of Environmental Protection
Source Water Assessment and Protection (SWAP) Report
for

Williamstown Water Department

What is SWAP?

The Source Water Assessment Program (SWAP), 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.

Susceptibility and Water Quality

Susceptibility is a measure of a water supply's potential to become contaminated due to land uses and activities within its recharge area.

A source's susceptibility to contamination does *not* imply poor water quality.

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

Actual water quality is best reflected by the results of regular water tests. To learn more about your water quality, refer to your water supplier's annual Consumer Confidence Reports.

Table 1: Public Water System Information

PWS Name	Williamstown Water Department
PWS Address	675 Simonds Road
City/Town	Williamstown
PWS ID Number	1341000
Local Contact	Mr. Edward Rondeau
Phone Number	413-458-3383

Introduction

We are all concerned about the quality of the water we drink. Drinking water wells and reservoirs may be threatened by many potential contaminant sources, including stormwater runoff, 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.

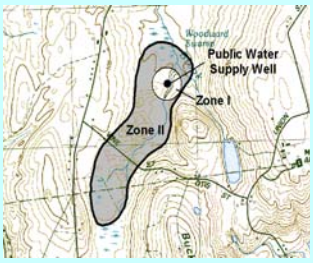
Refer to Table 3 for recommendations to address potential sources of contamination. Department of Environmental Protection (DEP) staff are available to provide information about funding and other resources that may be available to your community.

This report includes the following sections:

1. Description of the Water System
2. Land Uses within Protection Areas
3. Source Water Protection Conclusions and Recommendations
4. Appendices

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 a Zone II protection area.



Glossary

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 (i.e. clay) that resists penetration by water.

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

Zone I: The area closest to a well; a 100 to 400 foot radius proportional to the well's pumping rate. This area should be owned or controlled by the water supplier and limited to water supply activities.

Zone II: The primary recharge area for the aquifer. This area is defined by hydrogeologic studies that must be approved by DEP. Refer to the attached map to determine the land within your Zone II.

Section 1: Description of the Water System

MA GIS Zone II ID # 236 ***Susceptibility: High***

Source Name:	***Source ID***
Stetson Road Well #1	1341000-01G
Stetson Road Well #2	1341000-02G
Green River Well	1341000-03G

Williamstown is a small community in the northwest corner of Massachusetts with a diverse economic base of education, agriculture, retail, industry and residential activity. The Williamstown Water Department maintains and operates three groundwater sources and maintains three reservoirs as emergency sources. The emergency reservoirs, Rattlesnake Reservoir, Paull Brook and Sherman Spring, will not be assessed in this report. All three of the wells withdraw water from the same confined, buried valley, sand and gravel aquifer located within the Hoosic River valley. Two of the wells, Stetson Road wells #1 (01G) and #2 (02G) are located approximately 100 feet apart in the northeast corner of town while the Green River well (03G) is located at the confluence of the Green River with the Hoosic River. Under static (non-pumping) conditions, all three wells are flowing artesian wells due to the confining clay unit that is present at the locations of the wells. The Hoosic River begins in Cheshire and flows primarily north from Cheshire to the center of North Adams where the river valley narrows significantly. The river changes direction and flows west-northwest before its confluence with the Hudson River. There is a deep, buried valley sand and gravel aquifer beneath nearly the entire length of the Hoosic River, in Massachusetts. The portion of the aquifer utilized by the Williamstown and North Adams wells flows beneath the segment of the Hoosic River that flows west-northwest.

The aquifer utilized by the Williamstown and North Adams wells is within a glacially deepened bedrock valley that was filled with sand and gravel during the glacial recession (melting) some 14,000 years ago. Glacial Lake Bascom was formed throughout much of the Hoosic River valley leaving some areas with an extensive clay confining unit overlying a productive sand and gravel aquifer; other areas of the valley do not have a protective clay layer and are sand and gravel throughout. The clay layer pinches out toward the northerly and southerly edges of the aquifer valley and to the east toward the center of North Adams. The confining clay unit pinches out approximately 4,500 feet east of North Adams' Greylock well and about 15,000 feet east of the Green River well. There is also evidence that the aquifer and clay layer are thicker in the vicinity of the Green River well as compared to the Stetson Road wells. The bedrock underlying the aquifer is a fractured dolomite, a calcium/magnesium carbonate, that can potentially contribute significant amounts of water to the sand and gravel aquifer.

Although some portions of the aquifer are protected from activities and land use on the ground surface by the clay layer, the aquifer is considered to be highly vulnerable to contamination because the hydrogeologic barrier (i.e. clay) is not

continuous throughout the developed recharge area. Please refer to the attached map to view the boundaries of the Zone II.

Water from the Williamstown wells is treated with poly-phosphate to sequester (keep in solution) the calcium and magnesium and it is disinfected with chlorine prior to distribution. For current information on monitoring results and treatment processes, and for a copy of the most recent Consumer Confidence Report, please refer questions to the Public Water System contact person listed above in Table 1 .

Section 2: Land Uses in the Protection Areas

The Zone II area for Williamstown's water supplies has a mixture of residential, agricultural, commercial, and industrial land uses (refer to attached map for details). Land uses and activities that are potential sources of contamination are listed in Table 2, with further detail provided in the Table of Regulated Facilities and Table of Underground Storage Tanks in Appendix B.

Key Land Uses and Protection Issues include:

1. Non-conforming Zone I
2. Residential land uses
3. Transportation corridors
4. Hazardous materials storage and use
5. Confirmed oil or hazardous material contamination sites
6. Comprehensive wellhead protection planning
7. Agricultural activities
8. Right-of-Way

The overall ranking of susceptibility to contamination for the system is high, based on the presence of several high threat land uses within the water supply protection areas, as seen in Table 2.

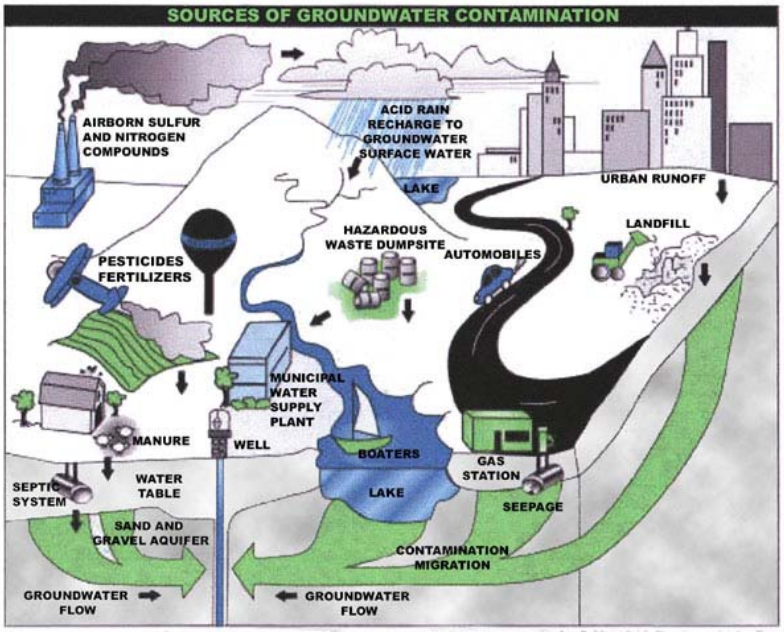
1. Non-conforming Zone Is – The Zone I for each of the wells is a 400 foot radius around the wellhead. Massachusetts drinking water regulation (310 CMR 22.00 Drinking Water) requires public water suppliers to own the Zone I, or control the area through a conservation restriction. Only water supply activities, or non-threatening activities are allowed in the Zone I. However, many public water supplies were developed prior to the Department's regulation and contain non-water supply activities such as homes and public roads as well as other land not owned by the water supplier. Within the Zone I of Stetson Road Wells 01G and 02G there are four and three residences, respectively, that are served by municipal sewer, recreational activities and facilities, a sewer main, and a public way. As part of a recent agreement to develop a skateboard park in the Zone I,

Benefits of Source Protection

Source Protection helps protect public health and is also good for fiscal fitness:

- Protects drinking water quality at the source
- Reduces monitoring costs through the DEP Waiver Program
- Treatment can be reduced or avoided entirely, saving treatment costs
- Prevents costly contamination clean-up
- Preventing contamination saves costs on water purchases, and expensive new source development

Contact your regional DEP office for more information on Source Protection and the Waiver Program.



the town has agreed to pave the presently unpaved roadway and parking area near the wells and install stormwater controls to protect the area from street and parking lot runoff. In addition, a confirmed hazardous waste release site that has undergone extensive remediation, is adjacent to the Stetson Road wells. Although there is no currently reported impact to the water quality of the wells, there is continued, long term monitoring of the water quality at the wells. The DEP Bureau of Waste Site Cleanup (BWSC) is overseeing the activities and investigation related to that site. For additional information about confirmed release sites contact the BWSC at 413-784-1100.

What are "BMPs?"

Best Management Practices (BMPs) are measures that are used to protect and improve surface water and groundwater quality. BMPs can be structural, such as oil & grease trap catch basins, nonstructural, such as hazardous waste collection days or managerial, such as employee training on proper disposal procedures.

The Zone I for well 03G is entirely owned by the water supplier but contains a sewer interceptor, and portions of the Green and Hoosic Rivers.

Zone I Recommendations:

- ✓ To the extent possible, remove or minimize non-water supply activities within the Zone Is to comply with DEP's Zone I requirements.
- ✓ Use best management practices (BMPs) for the storage, use, and disposal of hazardous materials such as water supply chemicals and maintenance chemicals.
- ✓ Contact Williams College to formalize an agreement to prohibit the use of fertilizers and pesticides on the playing fields.
- ✓ Do not use or store pesticides, fertilizers, road or any other chemicals within the Zone Is.
- ✓ Prohibit new non-water supply activities in the Zone Is.
- ✓ Contact the property owners to be sure they are aware that they are within the Zone I and Zone II of the well(s). Provide them with information about BMPs.
- ✓ Consider options for future acquisitions of land such as Right of First Refusal or conservation restrictions.

2. Residential Land Uses – Approximately 36% of the Zone II area consists of residential areas. While most of the Zone II area is served by the municipal sewer system, a very small, rural area of the Zone II along Route 43 is served by onsite septic systems. If managed improperly, activities associated with residential areas can contribute to drinking water contamination. Common potential sources of contamination include:

- **Septic Systems** – Improper disposal of household hazardous chemicals to septic systems is a potential source of contamination to the groundwater because septic systems lead to the ground. If septic systems fail or are not properly maintained they can be a potential source of microbial contamination.
- **Household Hazardous Materials** - Hazardous materials may include automotive wastes, paints, solvents, pesticides, fertilizers, and other substances. Improper use, storage, and disposal of chemical products used in homes are potential sources of contamination.
- **Heating Oil Storage** - If managed improperly, Underground and Aboveground Storage Tanks (UST and AST) can be potential sources of contamination due to leaks or spills of the fuel oil they store.
- **Stormwater** – Catchbasins transport stormwater from roadways and adjacent

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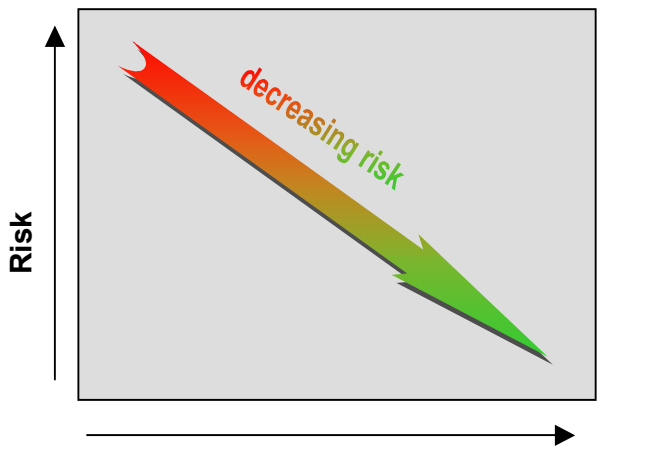

Figure 2: Risk of contamination decreases as source protection increases. This is true for public water systems of any susceptibility ranking, whether High, Moderate, or Low.

Potential Source of Contamination vs. Actual Contamination

The activities listed in Table 2 are those that typically use, produce, or store contaminants of concern, which, if managed improperly, are potential sources of contamination (PSC).

It is important to understand that a release may never occur from the potential source of contamination provided facilities are using best management practices (BMPs). If BMPs are in place, the actual risk may be lower than the threat ranking identified in Table 2. Many potential sources of contamination are regulated at the federal, state and/or local levels, to further reduce the risk.

Table 2: Land Use in the Protection Areas (Zones I and II)

For more information, refer to Appendix B: Regulated Facilities within the Water Supply Protection Area

Land Uses	Quantity	Threat	Potential Contaminant Sources*
Agricultural			
Fertilizer/Pesticide Storage or Use Orchards/crops	3	M	Fertilizers/Pesticides: leaks, spills, improper handling, or over-application
Livestock Operations other than dairy	2	M	Manure (microbial contaminants): improper handling
Manure Storage or Spreading	3	H	Manure (microbial contaminants): improper handling
Commercial			
Auto Repair/Body Shops	10	H	Spills, leaks, or improper handling of automotive fluids, and solvents
Railroad Tracks	1	H	Over-application or improper handling of herbicides, leaks or spills of transported
Airport	1	H	Spills, leaks, improper handling of hazardous materials; deicers, large quantities of petroleum products
Funeral Homes	Few	L	Hazardous chemicals: spills, leaks, or improper handling
Laundromats	1	L	Wash water: improper management
Beauty Salons	3	L	Hazardous chemicals
Car/Truck/Bus Washes	1	L	Vehicle wash water, soaps, oils, greases, metals, and salts: improper management
Gas Stations	3	H	Automotive fluids and fuels: spills, leaks, or improper handling or storage
Bus and Truck Terminals	2	H	Fuels and maintenance chemicals: spills, leaks, or improper handling
Cemeteries	2	M	Over-application of pesticides: leaks, spills, improper handling; historic embalming fluids

Table 2 Continued

Activities	Quantity	Threat*	Potential Source of Contamination
Industrial			
Chemical Manufacture Or Storage	1	H	Chemicals and process wastes: spills, leaks, or improper handling or storage
Miscellaneous			
Schools	3	M	Laboratories, cleaning materials, fertilizers
Electroplaters	1	H	Solvents and other chemicals: spills, leaks, or improper handling or storage
Large Quantity Hazardous Waste Generators	1	H	Hazardous materials and waste: spills, leaks, or improper handling or storage
Small Quantity Hazardous Waste Generators	6	M	Hazardous materials and waste: spills, leaks, or improper handling or storage
Oil or Hazardous Material Release Sites (MCP-21E)	18	—	Tier Classified Oil or Hazardous Materials Sites are not ranked due to their site-specific character. See Appendix B.
Transmission Line Rights-of-Way : Natural gas	1	H/L	Construction and corridor maintenance, handling and use of herbicides
Transportation Corridors	Numerous	H/M	Accidental leaks or spills of fuels and other hazardous materials, over-application or improper
Underground Storage Tanks	Numerous	H	Spills, leaks, or improper handling or storage of hazardous materials and waste
Very Small Quantity Hazardous Waste	Numerous	L	Hazardous materials and waste: spills, leaks, or improper handling or storage
Aboveground Storage Tanks	Numerous	M	Spills, leaks, or improper handling or storage of hazardous materials and waste
Landfill (closed, one reported dumping site)	2	H	Leachate. The landfill that appears on the map near well 03G is a complaint/historic site. MA DEP DSW has no information in its files.
Residential			
Fuel Oil Storage	Numerous	M	Fuel oil: spills, leaks, or improper handling
Lawn Care / Gardening	Numerous	M	Pesticides: over-application or improper use, storage and disposal
Septic Systems	Few	M	Hazardous chemicals: microbial contaminants, and improper disposal. Sewers available in most of the Zone II

Table 2 Continued

Activities	Quantity	Threat*	Potential Source of Contamination
Miscellaneous			
Stormwater Drains/ Retention Basins	Numerous	L	Debris, pet waste, and chemicals in stormwater from roads, parking lots, and lawns
Underground Storage Tanks	Numerous	H	Stored materials: spills, leaks, or improper handling
Utility Substation Transformers	1	L	Chemicals and other materials potentially including PCBs: spills, leaks, or improper handling
Aquatic Wildlife	Occasional	H	Microbial contaminants
Clandestine Dumping	Few	H	Unknown chemical threat

Notes:
1. When specific potential contaminants are not known, typical potential contaminants or activities for that type of land use are listed. Facilities within the watershed may not contain all of these potential contaminant sources, may contain other potential contaminant sources, or may use Best Management Practices to prevent contaminants from reaching drinking water supplies.
2. For more information on regulated facilities, refer to Appendix B: Regulated Facilities within the Water Supply Protection Area information about these potential sources of contamination.
3. For information about Oil or Hazardous Materials Sites in your protection areas, refer to Appendix C: Tier Classified Oil and/or Hazardous Material Sites.

*** THREAT RANKING** - The rankings (high, moderate or low) represent the relative threat of each land use compared to other PSCs. The ranking of a particular PSC is based on a number of factors, including: the type and quantity of chemicals typically used or generated by the PSC; the characteristics of the contaminants (such as toxicity, environmental fate and transport); and the behavior and mobility of the pollutants in soils and groundwater.

properties to the ground. As flowing stormwater travels, it picks up debris and contaminants from streets and lawns. Common potential contaminants include lawn chemicals, pet waste, and contaminants from automotive leaks, maintenance, washing, or accidents. Visit the Nonpoint Source pollution web site for additional information and assistance at http://www.state.ma.us/dep/brp/wm/nonpoint.htm.

Residential Land Use Recommendations:

- ✓ Educate residents on best management practices (BMPs) for protecting water supplies. Distribute the fact sheet "Residents Protect Drinking Water" which provides BMPs for common residential issues and is available in Appendix A and on www.mass.gov/dep/brp/dws/protect.htm.
- ✓ Work with planners to control new residential developments in the water supply protection area.
- ✓ Promote BMPs for stormwater management and pollution controls.
- ✓ Continue proactive inspection of areas within the Zone II and continue supporting the removal of USTs and upgrading of septic systems or connection to the municipal sewer. Be sure Williamstown officials are aware that they can utilize municipal incentive programs to fund removal of USTs, upgrade septic systems as well as remove lead paint from residential properties.

3. Transportation Corridors – State Routes 2 and 43 and other roads (5% of the Zone II land area) run through the Zone II of the wells. Local roads are common throughout the Zone II. Roadway construction, maintenance, and typical highway use can all be potential sources of contamination. Accidents can lead to spills of gasoline and other potentially dangerous transported chemicals. Roadways are frequent sites for illegal dumping of hazardous or other potentially harmful wastes. De-icing materials, automotive chemicals and other debris on roads are picked up by

stormwater and wash into catchbasins. In addition, railroad tracks run directly through the Zone II. Rail corridors serving passenger or freight trains are potential sources of contamination due to chemicals released during normal use, track maintenance, and accidents. Accidents can release spills of train engine fluids and commercially transported chemicals.

There is also an airport within the Zone II. The airport has commercial and industrial activities as well as a working airport. The same threats associated with other transportation, commercial and industrial uses apply to the airport with the additional threat from large quantities of fuel stored on site.

Transportation Corridor Recommendations:

- ✓ Identify stormwater drains and the drainage system along transportation corridors. Wherever possible, ensure that drains discharge stormwater outside of the Zone II and that the stormwater is appropriately treated.
- ✓ Work with the municipality and State to have catchbasins inspected, maintained, and cleaned on a regular schedule. Street sweeping reduces the amount of potential contaminants in runoff.
- ✓ Work with local emergency response teams in North Adams to ensure that any spills within the Zone II can be effectively contained and that they area aware of the Zone II so that they will notify you when a release occurs.
- ✓ Work with local watershed groups to institute a Storm Drain Stenciling Program. For more information on how to develop a storm drain stenciling program go to http://www.earthwater-stencils.com.
- ✓ If storm drainage maps are available, review the maps with emergency response teams. If maps aren't available yet, work with town officials to investigate mapping options such as the upcoming NPDES Phase II Stormwater Rule requiring some larger communities to complete stormwater mapping.
- ✓ Work with local officials during their review of the railroad right of way Yearly Operating Plans to ensure that water supplies are protected during vegetation control.
- ✓ Notify community officials of potential USDA funding for mitigation and prevention of runoff pollution through the Environmental Quality Incentives Program (EQIP). The USDA web site is www.ruraldev.usda.gov or call Bruce Philbrick, at the local office in Pittsfield office at 413-443-6867 (his e-mail address is bruce. philbrick@mapittsfie.fsc.usda.gov). Review the fact sheet available online and call the local office of the NRCS for assistance http://www.nrcs.usda.gov/programs/farmbill/2002/pdf/EQIPFct.pdf.
- ✓ Visit DEP's Nonpoint Source Pollution web site for additional information and assistance at http://www.state.ma. us/dep/brp/wm/nonpoint.htm.

4. Hazardous Materials Storage and Use – Approximately 13% of the land area within the Zone II has commercial or industrial land uses. Many small businesses and industries use hazardous materials, produce hazardous waste products, and/or store large quantities of hazardous materials in USTs/ASTs (see Appendix B for a list of registered facilities). If hazardous materials are improperly stored, used, or allowed to enter, they become potential sources of contamination. Hazardous materials should <u>never</u> be disposed of to a septic system or floor drain leading directly to the ground.

Hazardous Materials Storage and Use Recommendations:

- ✓ Educate local businesses on best management practices for protecting water supplies. Distribute the fact sheet "Businesses Protect Drinking Water" which provides BMP's for common business issues and is available in Appendix A and on www.mass.gov/dep/brp/dws/protect.htm.
- ✓ Work with the Board of Health and local businesses to register those facilities that are unregistered generators of hazardous waste or waste oil. Partnerships between businesses, water suppliers, and communities enhance successful public drinking water protection practices.
- ✓ Work with your local fire department and the Board of Health to review emergency response plans and to coordinate response actions.
- ✓ Educate local businesses on Massachusetts floordrain requirements. See brochure "Industrial Floor Drains" for more information.
- ✓ The USDA has various funding sources for government, non-government organizations and agricultural facilities through programs such as those listed on the USDA web site http://search.sc.egov.usda.gov/.

5. Presence of Oil or Hazardous Material Contamination Sites – The Zone II contains numerous DEP Tier Classified Oil and/or Hazardous Material Release Sites indicated on the map as Release Tracking Numbers 1-0000122, 1-0000126, 1-0000342, 1-0000437, 1-0000460, 1-0000475, 1-0000584, 1-0000881, 1-0001061, 1-0010694, 1-0010727, 1-0013902, 1-0000534, 1-0000541, 1-0012431, 1-0000367, 1-0010789, 1-0011635, 1-0010659, 1-0000916, 1-0011737, 1-0014471, 1-0000876, 1-0000503, 1-0014594, and 1-0010969. Refer to the attached map and Appendix 3

for more information. Contact the Springfield Regional Office, Bureau of Waste Site Cleanup at (413) 784-1100, for the current status of these sites; the Williamstown Water Department also has current information on the Coles Avenue site.

Oil or Hazardous Material Contamination Sites Recommendation:

- ✓ Continue your current active monitoring of sites near the wells. Monitor progress on any ongoing remedial action conducted for the known oil or contamination sites both in Williamstown and in North Adams. Contact the DEP Bureau of Waste Site Cleanup for further information regarding those sites.

6. Agricultural Activities – There are several farms within the Zone II. Approximately 14% of the land use within the Zone II has cropland and pastureland. Pesticides and fertilizers have the potential to contaminate a drinking water source if improperly stored, applied, or disposed. If not contained or applied properly, animal waste from barnyards, manure pits and field application are potential sources of contamination to ground and surface water.

Agricultural Activities Recommendation:

- ✓ Work with farmers in your protection areas to make them aware of your water supply and to encourage the use of a US Natural Resources Conservation Service (NRCS) farm plan to protect water supplies. Review the fact sheet available online at http://www.nrcs.usda.gov/programs/farmbill/2002/pdf/EQIPFct.pdf. Contact Bruce Philbrick at the local office in Pittsfield office at 413-443-6867 (his e-mail address is bruce.philbrick@mapittsfie.fsc.usda.gov.)
- ✓ Encourage the farmers and grounds managers to incorporate an Integrated Pest Management (IPM) approach into their pest management program. IPM is an ecologically-based approach to pest control that links together several related components, including monitoring and scouting, biological controls, mechanical and/or other cultural practices, and pesticide applications. By combining a number of these different methods and practices, satisfactory pest control can be achieved with less impact on the environment.
- ✓ Work with farmers, nurseries, and grounds managers to ensure that pesticides and fertilizers are being stored within a structure designed to prevent runoff.
- ✓ The USDA has various funding sources for government, non-government organizations and agricultural facilities through programs such as those listed on the USDA web site http://search.sc.egov.usda.gov/. One program in particular, the Environmental Quality Incentives Program (EQIP), may be utilized in a variety of projects from DPW stormwater management to farm nutrient management designed to protect surface and groundwater. Review the fact sheet available online at http://www.nrcs.usda.gov/programs/farmbill/2002/pdf/EQIPFct.pdf. Contact Bruce Philbrick at the local NRCS office in Pittsfield office at 413-443-6867 (his e-mail address is bruce.philbrick@mapittsfie.fsc.usda.gov).
- ✓ Work with hobby farmers by supplying them with information about protecting their own wells and the public water supply by encouraging the use of BMPs. Refer to http://www.state.ma.us/dep/brp/dws/dwspubs.htm and http://www.state.ma.us/dep/consumer/animal.htm#dwqual for additional resources.

Top 5 Reasons to Develop a Local Wellhead Protection Plan

❶ Reduces Risk to Human Health

❷ Cost Effective! Reduces or Eliminates Costs Associated With:

- Increased groundwater monitoring and treatment
- Water supply clean up and remediation
- Replacing a water supply
- Purchasing water

❸ Supports municipal bylaws, making them less likely to be challenged

❹ Ensures clean drinking water supplies for future generations

❺ Enhances real estate values – clean drinking water is a local amenity. A community known for its great drinking water is a place people want to live and businesses want to locate.

7. Protection Planning – Currently, although the municipality has water supply protection controls in place, the entire Zone II and recharge areas are not protected by controls that meet DEP's Wellhead Protection regulation 310 CMR 22.21(2). Protection planning protects drinking water by managing the land area that supplies water to a well. A Wellhead Protection Plan coordinates

community efforts, identifies protection strategies, establishes a timeframe for implementation, and provides a forum for public participation. The Wellhead Protection Grant program resources (when funded) are available to help communities develop a plan for protecting drinking water supply wells.

Protection Planning Recommendations:

- ✓ Develop a Wellhead Protection Plan. Establish a protection team, and refer them to http://mass.gov/dep/brp/dws/protect.htm for a copy of DEP's guidance, "Developing a Local Wellhead Protection Plan."
- ✓ Coordinate efforts with local officials in Williamstown and North Adams to compare local wellhead protection controls with current MA Wellhead Protection Regulation 310 CMR 22.21(2). For more information on DEP land use controls see http://mass.gov /dep/brp/dws/protect.htm.
- ✓ Work with the DEP and the local boards to review if North Adams regulates floordrains; be sure to include floordrain controls that meet 310 CMR 22.21 (2).

9. Right-of-Way – There are three different rights-of-way (ROW) within the Zone II: electric, sewer and railroad. The risk from the sewer pipeline is from a possible rupture of the line, potentially allowing the contents to enter into the water supply. Normal maintenance of any ROW, including electrical line ROWs, can introduce contaminants to a water supply through herbicide application for vegetation control. The over-application or improper handling of herbicides is a potential source of contamination.

Right-of-Way Recommendations:

- ✓ Review the ROW Yearly Operating Plan (YOP) to ensure Best Management Practices are implemented with regard to vegetation control in the Zone II, and that the utility has accurate information regarding the locations of the wells and the Zone Is. Review the maps the utilities use, and provide them with up-to-date maps if necessary.
- ✓ Work with local fire departments in both Williamstown and North Adams to review emergency response plans. Updates to this plan should include the utility rights-of-way and coordination with the owner/operator of the utilities using the right-of-way.
- ✓ Continue working with the DPW regarding maintenance of the sewer line and storm drains.

Other land uses and activities within the Zone II that are potential sources of contamination are included in Table 2. Refer to Appendix B for more information about some of these land uses and registered Underground Storage Tanks (USTs). One additional land use identified in the SWAP assessment was the solid waste landfill sites. A referral was sent to the Division of Solid Waste to review and modify, as appropriate, the outline of the identified solid waste facilities within the Zone II. For further information on these facilities contact the Springfield Regional Office, Bureau of Waste Prevention, division of Solid Waste at 413-755-2212.

Identifying potential sources of contamination is an important initial step in protecting your drinking water sources. Further local investigation will provide more in-depth information and may identify new land uses and activities that are potential sources of contamination. Once potential sources of contamination are identified, specific recommendations like those below should be used to better protect your water supply.

Section 3: Source Water Protection Conclusions and Recommendations

What is a Zone III?

A Zone III (the secondary recharge area) is the land beyond the Zone II from which surface and ground water drain to the Zone II and is often coincident with a watershed boundary.

The Zone III is defined as a secondary recharge area for one or both of the following reasons:

1. The low permeability of underground water bearing materials in this area significantly reduces the rate of groundwater and potential contaminant flow.

2. The groundwater in this area discharges to a surface water feature such as a river, rather than discharging directly into the aquifer.

Additional Information

To help with source protection efforts, more information is available by request or online at mass.gov/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

Contact Catherine V. Skiba in DEP's Springfield Office at (413) 755-2119 for more information and assistance on improving current protection measures.

Copies of this report have been provided to the public water supplier, City and abutting community boards.

Current Land Uses and Source Protection:
As with many water supply protection areas, the system Zone II contains potential sources of contamination. However, source protection measures reduce the risk of actual contamination, as illustrated in Figure 2. The water supplier is commended for taking an active role in promoting source protection measures in the Water Supply Protection Areas through:

- being knowledgeable about activities within the Zone II area and proactively pursuing mitigation of threats,
- working with Williamstown to adopt Wellhead Protection bylaws and a floor drain regulation.

Source Protection Recommendations:
To better protect the sources for the future:

- ✓ Continue inspecting the Zone Is regularly, and when feasible, remove any non-water supply activities.
- ✓ Establish an Aquifer Protection Committee and educate residents on ways they can help you to protect drinking water sources.
- ✓ Work with emergency response teams to ensure that they are aware of the stormwater drainage in your Zone II and to cooperate on responding to spills or accidents.
- ✓ Continue your partnership with local businesses to ensure the proper storage, handling, and disposal of hazardous materials.
- ✓ Coordinate and implement a plan for Williamstown and North Adams to remove underground storage tanks, as appropriate, to protect the aquifer from contamination.
- ✓ Monitor progress on any ongoing remedial action conducted for the known oil or contamination sites.
- ✓ Work with farmers in your protection areas to make them aware of your water supply and to encourage the use of a NRCS farm plan to protect water supplies.
- ✓ Develop and implement a Wellhead Protection Plan.
- ✓ Work with the municipal Planning Department to target and prioritize assessment of properties within the Zone II in both Williamstown and North Adams.
- ✓ Continue working with the Board of Health to conduct inspections and implement hazardous materials strategies.
- ✓ Continue efforts to encourage other municipalities to protect the aquifer.

Conclusions:
These recommendations are only part of your ongoing local drinking water source protection. Additional source protection recommendations are listed in Table 3, the Key Issues above and Appendix A.

➢ **Partner with Local Businesses:**
Since many small businesses and industries use hazardous materials and produce hazardous waste products, it is essential to educate the business community about drinking water protection. Encouraging partnerships among businesses, water suppliers, and communities will enhance successful public drinking water protection practices.

➢ **Educate Residents:**
If managed improperly, household hazardous waste, septic systems, lawn care, and pet waste can all contribute to groundwater contamination. Hazardous materials include automotive wastes, paints, solvents, pesticides, fertilizers, and other substances. If a septic system fails or is not properly maintained, it could be a potential source of microbial contamination. Animal waste is also a source of microbial contamination.

➢ **Provide Outreach to the Community:**
Public education and community outreach ensure the long-term protection of drinking water supplies. Awareness often generates community cooperation and support. Residents and business owners are more likely to change their behavior if they know where the wellhead protection recharge area is located; what types of land uses and activities pose threats; and how their efforts can enhance protection.

➢ **Plan for the Future:**
One of the most effective means of protecting water supplies is local planning, including adoption of local controls to protect land use and regulations related to watersheds and groundwater protection. These controls may include health ordinances/regulations, discharge prohibitions, general ordinances, and zoning bylaws/ordinances that prohibit or control potential sources of contamination within the protection areas.

➢ **Other Funding Sources:**

Other grants and loans are available through the Drinking Water State Revolving Fund, the Clean Water State Revolving Fund, and other sources. For more information on grants and loans, visit the Bureau of Resource Protection's Municipal Services web site at: http://mass.gov/dep/brp/mf/mfpubs.htm. The USDA also has various funding sources for government, non-government organizations and agricultural facilities through programs such as those listed on the USDA web site http://search.sc.egov.usda.gov/nrcs.asp?qu=eqip&ct=NRCS. One program in particular, the Environmental Quality Incentives Program (EQIP) may be utilized in a variety of projects from DPW stormwater management to farm nutrient management designed to protect surface and groundwater. Review the fact sheet available on line and call the local office of the NRCS for assistance http://www.nrcs.usda.gov/programs/farmbill/2002/pdf/EQIPFct.pdf.

The Massachusetts Department of Food and Agriculture's Agricultural Environmental Enhancement Program (AEEP) provides funding to farmers to install a variety of water quality protection practices. For more information on the program contact the coordinator, Susan Phinney, at (617) 626-1772, Susan.Phinney@state.ma.us.

DEP staff, informational documents, and resources are available to help you build on this SWAP report as you continue to improve drinking water protection in your community. When funding is available, the Department's Wellhead Protection Grant Program provides funds to assist public water suppliers in addressing water supply source protection through local projects. Protection recommendations discussed in this document may be eligible for funding under the Grant Program. If funding is available, each spring DEP posts a new Request for Response for the grant program (RFR) on the website http://www.comm-pass.com/.

The assessment and protection recommendations in this SWAP report are provided as a tool to encourage community discussion, support ongoing source protection efforts, and help set local drinking water protection priorities. Citizens and community officials should use this SWAP report to spur discussion of local drinking water protection measures. The water supplier should supplement this SWAP report with local information on potential sources of contamination and land uses. Local information should be maintained and updated periodically to reflect land use changes in the Zone II. Use this information to set priorities, target inspections, focus education efforts, and to develop a long-term drinking water source protection plan.

Section 4: Appendices

A. Protection Recommendations
B. Regulated Facilities within the Water Supply Protection Area
C. Table of Tier Classified Oil and/or Hazardous Material Sites within the Water Supply Protection Areas
D. Additional Documents on Source Protection

Table 3: Current Protection and Recommendations

Protection Measures	Status	Recommendations
Zone I		
Does the Public Water Supplier (PWS) own or control the entire Zone I?	**YES** (03G) **NO** (01G & 02G)	Follow Best Management Practices (BMPs) that focus on good housekeeping, spill prevention, and operational practices to reduce the use and release of hazardous materials. Pursue acquiring control of Zone I lands not owned by the supplier by purchase or conservation restriction.
Is the Zone I posted with "Public Drinking Water Supply" Signs?	**YES**	Additional economical signs are available from the Northeast Rural Water Association (802) 660-4988.
Is the Zone I regularly inspected?	**YES**	Continue monthly inspections of drinking water protection areas. Increase frequency when possible.
Are water supply related activities the only activities within the Zone I?	**YES**	Continue monitoring and controlling activities in Zone I. Consider Right of First Refusal, purchase of conservation restriction, etc.
Municipal Controls (Zoning Bylaws/Ordinances, Health Regulations, and General Bylaws/Ordinances)		
Does the municipality have Wellhead Protection Controls that meet 310 CMR 22.21 (2)?	**YES**	The Williamstown zoning controls meet DEP's wellhead protection requirements.
Do neighboring communities protect the water supply protection areas extending into their communities?	**NO**	Work with North Adams to review existing zoning and non-zoning controls and request that they include your wellhead protection area in their water supply protection controls once they have been promulgated.
Planning		
Does the PWS have a local Wellhead Protection Plan?	**NO**	Work with the North Adams to create comprehensive protection plans. For more guidance, follow "Developing a Local Wellhead Protection Plan" and other guidance available at: www.state.ma.us/dep/brp/dws.
Does the PWS have a formal "Emergency Response Plan" to deal with spills or other emergencies?	**YES**	Augment the plan by developing a joint emergency response plan with fire department, Board of Health, DPW, and local and state emergency officials. Coordinate emergency response drills with local teams.
Does the municipality have a wellhead protection committee?	**YES**	Include representatives from citizens' groups, neighboring communities, and the business community as committee members. Work together with North Adams to develop comprehensive protection.
Does the Board of Health conduct inspections of commercial and industrial activities?	**PARTIAL**	Williamstown has a floor drain regulation. North Adams does not. For more guidance, see "Hazardous Materials Management: A Community's Guide" at www.state.ma.us/dep/brp/dws/files/hazmat.doc
Does the PWS provide wellhead protection education?	**PARTIAL**	Aim education efforts at schools and commercial, industrial, and municipal uses within the Zone II.

APPENDIX B:
REGULATED FACILITIES WITHIN THE WATER SUPPLY PROTECTION AREA

DEP Permitted Facilities

DEP Facility Number	Facility Name	Street Address	Town	Activity Class	Permitted Activity	Facility Description
	Allied Auto Parts/Napa	432 State Road	North Adams	VSQG	Handlr	Repair
34605	Bator R B	Lime St	North Adams	VSQG	Handlr	
131418	Berkmatics Inc	59 Demond Ave	North Adams	SQG	Handlr	
	Braytonville Garage Inc.	10 State Road	North Adams	VSQG	Handlr	Repair
35642	Collision Shop	5r River St	North Adams	VSQG	Handlr	Repair
131910	Commonwealth Sprague (AAG, Inc.)	11 Brown Street	North Adams	RES	Plant	Manufacturer
		11 Brown Street	North Adams	LQG	Handlr	
		11 Brown Street	North Adams	LQG-MA	Handlr	
		11 Brown Street	North Adams	SWMIN	Disch	
		11 Brown Street	North Adams	LQTU	Turrpt	
136848	Cumberland Farms #2148	594 Mohawk Trail	North Adams	FULDSP	Fuel Dispenser	Gas Station
130570	Excelsior Printing Co	60 Roberts Drive	North Adams	VSQG	Handlr	Printer

130570	Excelsior Printing Co	60 Roberts Drive	North Adams	VQG-MA	Handlr	Printer
136769	Getty 629	148 Eagle St	North Adams	FULDSP	Fuldsp	Gas Station
262542	Getty 630	326 State Rd	North Adams	FULDSP	Fuldsp	Gas Station
135802	Gibbs Oil 1372	303 State Rd	North Adams	FULDSP	Fuldsp	Gas Station
330609	Haddad Motors Of North Adams	179 State Road	North Adams	VSQG	Handlr	Sales/Repair
330609	Haddad Motors Of North Adams	179 State Road	North Adams	VQG-MA	Handlr	Sales/Repair
28269	K M Motor Sales Inc	51 W Main St	North Adams	VSQG	Handlr	Sales/Repair
23034	Maxymillian Technologies Inc	86 S.Main St	North Adams	RCLY		
133673	Ma Elec Co North Adams Satellite	74 Brown St	North Adams	VSQG	Handlr	
130572	Modern Aluminum Anodizing	510 State Rd	North Adams	BLW-SW	Handlr	Manufacturing
130572	Modern Aluminum Anodizing	510 State Rd	North Adams	BLW-IW	Epic	Manufacturing
130572	Modern Aluminum Anodizing Corp	510 State Rd	North Adams	SQG	Disch	Manufacturing
130572	Modern Aluminum Anodizing Corp.	510 State Rd	North Adams	LQTU	Handlr	Manufacturing
177916	Monro Muffler Brake Number 148	207 State Rd	North Adams	SQG	Turrpt	Repair
303529	North Adams Dswm Illegal Site	Massachusetts Ave	North Adams	ILLGL		

34561	North Adams Tire & Service	163 River St	North Adams	VSQG	Handlr	Repair
28270	Scarafoni Dick Ford Inc	179 State Rd	North Adams	VSQG	Handlr	Sales/Repair
136797	State Road Shell	1 State Rd	North Adams	FULDSP	Fuldsp	Gas Station
28840	Sun Cleaners	111 River St	North Adams	VSQG	Handlr	Cleaners
28840	Sun Cleaners	111 River St	North Adams	BLW-AQ	Plant	
186425	Turboprop International Inc	Harriman & W Airport State Rd	North Adams	SQG	Handlr	Manufacturing
33085	Verizon - New England Inc	Telco Ln	North Adams	SQG-MA	Handlr	
30318	Walt's Service Center	54 River St	North Adams	VSQG	Handlr	Repairs
	West End Auto Body, Inc.	362 State Road, Route 2	North Adams	VSQG	Handlr	Repairs
26052	BICC General	160 Water Street	Williamstown	VSQG-SQG	Handlr	
	Bob's Mobil Station	259 Main Street	Williamstown	VSQG	Handlr	Repair
	Carol Cable Company, Inc.	160 Water Street	Williamstown	VSQG	Handlr	
	Carpinello's Service Center	364 Main Street	Williamstown	VSQG	Handlr	Repair
173102	Cole Field Landfill-Williams College	Williams College	Williamstown	LF		
175316	Cumberland Farms #2091	446 Main St (Rte 2)	Williamstown	FULDS	Fuel Dispenser	Gas station
175342	O'Connells Convenience Plus 18	259 Main St	Williamstown	FULDS	Fuel Dispenser	Gas station

175354	Getty 30548	391 Main St	Williamstown	FULDS		Gas station
294012	Williamstown Phase II Landfill	Off Simonds Rd, Adjacent To Cole Fld.	Williamstown	LF		
	Dr.Ira Lapidus	182 Adams Road	Williamstown	VSQG	Handlr	
	Dr.Joshua Kleederman	172 Adams Road	Williamstown	VSQG	Handlr	
	G E M Environmental Inc.	610 N. Hoosac Rd.	Williamstown	SQG	Handlr	
	Gardner Chevrolet Inc/Agway	600 Main Street	Williamstown	VSQG	Handlr	
	General Cable Company	160 Water Street	Williamstown	VSQG	Handlr	
	Photech Imaging Systems Inc.	330 Cole Avenue	Williamstown	VSQG	Handlr	Closed
	Purple Kings Farm Inc.	6 John Street	Williamstown	VSQG	Handlr	
	Ron's Getty	391 Main Street	Williamstown	VSQG	Handlr	Gas station
	The Spoke	408 Main Street	Williamstown	VSQG	Handlr	
	Town of Williamstown Pub.Sch.	96 School Street	Williamstown	VSQG	Handlr	
	Village Auto Repair	610 North Hoosic Road	Williamstown	VSQG	Handlr	Repair
	Williams College	40 Morley Dr.	Williamstown	VSQG	Handlr	

Underground Storage Tanks

Facility Name	Address	Town	Description	Tank Type	Tank Leak Detection	Capacity (gal)	Contents
Gibbs Oil	303 State Street	North Adams	Gas Station	1 Wall		10,000	Gasoline
				1 Wall		10,000	Gasoline
				1 Wall		10,000	Gasoline
				1 Wall		550	Fuel Oil
Getty Station	326 State Street	North Adams	Gas Station	1 Wall		10,000	Gasoline
				1 Wall		8,000	Gasoline
				1 Wall		8,000	Gasoline
O'Connell Oil Associates, Inc.	1 State Street	North Adams	Gas Station	2 Walls	Interstitial Monitoring	10,000	Gasoline
				2 Walls	Interstitial Monitoring	10,000	Gasoline
				2 Walls	Interstitial Monitoring	10,000	Gasoline
Carpinellos Service Center	364 Main St	Williamstown	Service Station	2 Walls	Approved	8,000	Gasoline
				2 Walls	Approved	8,000	Gasoline
				2 Walls	Approved	8,000	Gasoline
Cumberland Farms #2091	446 Main St	Williamstown	Gas Station	2 Walls	Interstitial Monitoring	8,000	Gasoline
				2 Walls	Interstitial Monitoring	12,000	Gasoline

General Photo Products Company	330 Cole Ave	Williamstown					
Getty Station #30548	391 Main St	Williamstown	Gas Station	1 Wall	Interstitial Monitoring	8,000	Gasoline
				1 Wall	Interstitial Monitoring	8,000	Gasoline
				1 Wall	Interstitial Monitoring	8,000	Gasoline
O'Connell Oil Associates Inc	259 Main St	Williamstown	Gas Station	2 Walls	Interstitial Monitoring	10,000	Gasoline
				2 Walls	Interstitial Monitoring	10,000	Gasoline
				2 Walls	Interstitial Monitoring	10,000	Gasoline
Williamstown Public School	96 School St	Williamstown	School	2 Walls	Interstitial Monitoring	10,000	Fuel Oil

For more information on underground storage tanks, visit the Massachusetts Department of Fire Services web site: http://www.state.ma.us/dfs/ust/ustHome.htm

Note: This appendix includes only those facilities within the water supply protection area(s) that meet state reporting requirements and report to the appropriate agencies. Additional facilities may be located within the water supply protection area(s) that should be considered in local drinking water source protection planning.

APPENDIX C – Table of Tier Classified Oil and/or Hazardous Material Sites within the Water Supply Protection Areas

DEP's datalayer depicting oil and/or hazardous material (OHM) sites is a statewide point data set that contains the approximate location of known sources of contamination that have been both reported and classified under Chapter 21E of the Massachusetts General Laws. Location types presented in the layer include the approximate center of the site, the center of the building on the property where the release occurred, the source of contamination, or the location of an on-site monitoring well. Although this assessment identifies OHM sites near the source of your drinking water, the risks to the source posed by each site may be different. The kind of contaminant and the local geology may have an effect on whether the site poses an actual or potential threat to the source.

The DEP's Chapter 21E program relies on licensed site professionals (LSPs) to oversee cleanups at most sites, while the DEP's Bureau of Waste Site Cleanup (BWSC) program retains oversight at the most serious sites. This privatized program obliges potentially responsible parties and LSPs to comply with DEP regulations (the Massachusetts Contingency Plan – MCP), which require that sites within drinking water source protection areas be cleaned up to drinking water standards.

For more information about the state's OHM site cleanup process to which these sites are subject and how this complements the drinking water protection program, please visit the BWSC web page at http://www.state.ma.us/dep/bwsc. You may obtain site -specific information two ways: by using the BWSC Searchable Sites database at http://:www.state.ma.us/dep/bwsc/sitellst.htm, or you may visit the DEP regional office and review the site file. These files contain more detailed information, including cleanup status, site history, contamination levels, maps, correspondence and investigation reports, however you must call the regional office in order to schedule an appointment to view the file.

The table below contains the list of Tier Classified oil and/or Hazardous Material Release Sites that are located within your drinking water source protection area.

Table 1: Bureau of Waste Site Cleanup Tier Classified Oil and/or Hazardous Material Release Sites (Chapter 21E Sites) - Listed by Release Tracking Number (RTN)

RTN	Release Site Address	Town	Contaminant Type
1-0000122	376 State St (Rte 8)	North Adams	Oil
1-0000126	Brown St	North Adams	
1-0000342	180 River St	North Adams	
1-0000437	Cole St	North Adams	
1-0000460	87 Marshall St	North Adams	
1-0000475	1 State Road	North Adams	Oil

1-0000534	156 River St	North Adams	Oil
1-0000541	Harriman & West Airport	North Adams	Oil and Hazardous Material
1-0000584	580 West Main St	North Adams	
1-0000881	Rte 2	North Adams	
1-0001061	51 Waldon Street	North Adams	
1-0010694	708 State Rd	North Adams	Oil
1-0010727	74 Brown St	North Adams	Hazardous Material
1-0012431	74 Brown St	North Adams	Hazardous Material
1-0013902	Blackington St	North Adams	Hazardous Material
1-0000367	Cole Avenue	Williamstown	Oil
1-0010789	State Rd	Williamstown	Oil And Hazardous Material
1-0011635	Cole Avenue	Williamstown	
1-0010659	330 Coleman Ave	Williamstown	Oil
1-0000916	391 Main St	Williamstown	
1-0011737	Water St / Rt 43	Williamstown	Oil And Hazardous Material
1-0014471	364 Main Street	Williamstown	Oil
1-0000503	59 Water St	Williamstown	
1-0010969	681 Simonds Rd	Williamstown	Hazardous Material
1-0014535	269 Cole Ave	Williamstown	

For more location information, please see the attached map. The map lists the release sites by RTN.