

## 14 Special Well and Boring Construction Areas

### 14.1 Purpose and Intent

The purpose is to monitor wells with the town of West Lakeland's portion of the Baytown-West Lakeland Special Well and Boring Construction Area (SWBCA) to identify those wells where trichloroethene (TCE) and/or carbon tetrachloride (CCl<sub>4</sub>) are present, to ensure whole house granular activated carbon (GAC) filter systems are installed for these wells and to establish requirements for monitoring, maintenance and repairs of GAC filter systems. This ordinance applies only to private drinking water wells on properties platted and approved after April 9, 2002. This ordinance will not apply to wells not intended for human consumption such as monitoring wells, and irrigation wells, community public water supply wells, or wells on property that was platted and approved on or before April 9, 2002.

### 14.2 GAC Filter System Specifications

- 14.2.1 All GAC filter systems meet or exceed the following specifications
- 14.2.2 Two GAC vessels must be connected in series so that all water flows through one vessel first and then through the second vessel. Vessels shall not be equipped to provide automatic backwashing.
- 14.2.3 Each vessel must have continuously wound high-strength polyethylene inner shell and a black rubber base; minimum carbon capacity of 90 pounds; approximate dimension of 15 inch diameter by 4 foot height; minimum pressure rating of 150 psi; rated flow rate of up to 10 gpm; rated pressure drop of less than 4 psi at 10 gpm (with new carbon). Inside the vessel, the outlet of the vessel head shall be fitted with a 1-inch diameter PVC down tube that shall extend to the bottom of the vessel. An appropriately sized screen basket must be installed at the bottom of the down tube.
- 14.2.4 **Carbon Specification.** 8x30 mesh virgin granular activated carbon with minimum iodine number of 1,000. Carbon must meet NSF/ANSI Standards 61 and 53, to avoid arsenic leaching and ensure VOC removal, and must be manufactured entirely from raw materials and not from regeneration of any previously used carbon.
- 14.2.5 **Piping.** Copper and PVC braided tubing; cam lock quick connect fittings used with PVC tubing to facilitate carbon filter change-out; piping diameter equal to existing piping at installation location except ¾ inch is minimum size; minimum pressure rating of 125 psi.
- 14.2.6 **Valves.** Brass; ball type providing watertight shut-off; minimum pressure rating of 150 psi; valve handle orientated for ease of operation.
- 14.2.7 **Sample Ports.** Brass; ball type providing watertight shut-off; minimum pressure rating of 150 psi; valve handle oriented for ease of operation. Alternatively, the sample ports may be integral to vessel head but in either case, the outlet of the sample port must be directed toward the floor.
- 14.2.8 **Flow Meter.** Badger RCDL series disc meter, Model M25 with brass housing, or equivalent and installed upstream of the lead carbon filter orientated for ease of readability.
- 14.2.9 Sample ports must be located before and between the two filter vessels.

**14.2.10** Bypass valve must not be installed to allow bypass around the filter vessels.

### **14.3 GAC Filter Maintenance And Change Out**

**14.3.1** The GAC filter must be changed out using the following standards:

- 14.3.1.1** Verify that there are no appliances running or other active water uses occurring.
- 14.3.1.2** Close the inlet and outlet valves for the GAC filter system.
- 14.3.1.3** Disconnect and remove the lead GAC filter (vessel with spent carbon).
- 14.3.1.4** Disconnect the second GAC filter and reinstall it in the lead position.
- 14.3.1.5** Move the GAC filter with the spent carbon outside for removal of the spent carbon by specialized on-site carbon change-out equipment. The equipment should utilize high vacuum equipment for the extraction of the spent carbon with piping that directly transfers the spent carbon into a container that is suitable for spent carbon transport.
- 14.3.1.6** Rinse the vessel, disinfect, and refill with at least 90 pounds of virgin GAC meeting the same specification as cited for new GAC filter systems under this ordinance. Containerize the rinse/disinfect ion water for transport to licensed facility for proper disposal.
- 14.3.1.7** Install the refilled GAC filter in the secondary position.
- 14.3.1.8** Re-open the inlet and outlet valves for the GAC filter system and check for water leaks. Repair any observed water leaks immediately.

### **14.4 GAC Filter Systems Installation**

A GAC filter system may only be installed under the supervision of a licensed plumber or licensed water conditioning contractor. A GAC filter system must be installed on the water supply system at a point of entry such that it provides for treatment of all water that travels to faucets and fixtures inside the home and other potable outlets on the system. Non-potable outside faucets should not be treated. After each system is installed, it must be filled and pressurized to verify that there are no water leaks. Any water leaks observed must be immediately repaired.

### **14.5 New Well Construction**

New well construction is regulated by Minnesota Department of Health pursuant to Minnesota Statutes, Chapter 1031 and Minnesota Rules, Chapter 4725. New wells may only be constructed with the written approval of the Minnesota Department of Health. Persons interested in constructing a new well within the boundaries of the SWBCA should contact a Minnesota licensed well contractor and submit a request for permission to construct a new well, with proposed plans for well construction, to the MDH Well Management Section.

### **14.6 Well Sampling Requirements Within The SWBCA**

- 14.6.1** Within six (6) months of the effective date of this ordinance each well owner must contact the Washington County Public Health Department and arrange to have a well water sample collected and tested by the Minnesota Public Health Laboratory for VOCs, at the owner's expense.

- 14.6.2** A written notice must be sent by the town clerk to any owner that has not complied with the test required by this section informing the owner of the delinquency. If the owner does not comply within sixty (60) days of the notice, the Town is authorized to contract with the County to sample and conduct an analysis of the samples. In this event, the town is authorized to spread the costs associated with testing as a service charge under Minn statute 429.101, and to certify the amount as a special assessment against the property, payable in a single installment.
- 14.6.3** The Minnesota Public Health Laboratory will forward the test results to the Minnesota Department of Health (MDH) Environmental Health Division for review. MDH will send the results and their analysis to the well owner, with copies to the Town Clerk, County, and MPCA. Based upon the analysis provided by Minnesota Department of Health:
- 14.6.3.1** Wells with TCE concentrations equal to or greater than 0.1 µg/L and/or CCl<sub>4</sub> concentrations equal to or greater than 0.2 µg/L will be allowed, provided that within sixty (60) days a granular activated carbon (GAC) filter system is installed, maintained and changed out by the well owner according to the requirements of this ordinance. If the well serves a newly constructed house, the Certificate of Occupancy will not be issued until the GAC filter system has been installed and demonstrated to work in accordance with Section 14.4.1 of this ordinance.
- 14.6.3.2** Wells with TCE at concentrations less than 0.1 µg/L or CCl<sub>4</sub> at concentrations less than 0.2 µg/L may be used without GAC filters, however, the well owner must have the well water tested for VOCs at least every two (2) years. If TCE concentrations reach or exceed 0.1 µg/L or CCl<sub>4</sub> concentrations reach or exceed 0.2 µg/L, a GAC filter system must be installed, maintained and changed out by the owner according to the requirements of this document.
- 14.6.3.3** Testing required by this section is mandatory; however, a well owner may voluntarily test their water at more frequent intervals. If additional samples are collected by the County, the results will be sent to the homeowner, township and county as described in this section. If additional samples are collected by another entity, homeowners are encouraged to send copies of the analytical results to the Town Clerk.
- 14.6.4** Well owners whose wells existed on or before April 9, 2002, need not comply with Sections 14.6.3.1 and 14.6.3.2. This includes well owners whose well is being monitored by the MPCA.

## **14.7 Maintenance Requirements**

- 14.7.1** All pre-existing individual GAC filter systems, as well as those installed under this ordinance, must be operated according to the provisions of this section.
- 14.7.1.1** The GAC must be maintained and changed out in accordance with the requirements of this ordinance.
- 14.7.1.2** The owner of any GAC filter system or the owner's agent shall regularly, but in no case less frequently than every three (3) years from the date of the filter installation or prior change-out, have the GAC filter system inspected and changed out by a licensed plumber or licensed water conditioning contractor.

Proof of the inspection and change-out must be provided to the Town Clerk. The Town Clerk or designated agent must then distribute data copy of this proof to the MPCA and MDH.

- 14.7.1.3** The Town Clerk must send a written notice to any owner that has not complied with the actions required by this section of the code informing the owner of the delinquency. If the owner does not comply within sixty (60) days of the notice, the Town is authorized to contract with a licensed testing agent to complete the test. In this event, the Town is authorized to spread the costs associated with testing as a service charge under Minn Statute 429.101, and to certify the amount as a special assessment against the property, payable in a single installment
- 14.7.1.4** For properties platted and approved prior to April 9, 2002, which have an existing well that is being monitored by the MPCA, or a GAC filter system that is regularly maintained and changed out under their auspices, the owner or the owner's agent need not comply with Section 14.7.1.2
- 14.7.1.5** The owner or occupant of a property is responsible to provide access, at reasonable times, to the Town or its agents, for the purpose of performing inspections and tests required under this ordinance.

#### **14.8 Property Transfer Disclosure**

Upon settlement of a property sale or transfer, the seller must disclose to the buyer the presence of a GAC filter installed under this ordinance.

#### **14.9 Administration**

- 14.9.1** To enforce this ordinance, the Town or its agents may enter a building, property or place for the purpose of sampling well water where there is reason to suspect a GAC is failing to properly function, has been tampered with or modified, or a well exists with TCE concentrations greater than 0.4 µg/L or with CCl<sub>4</sub> concentration of greater than 1 µg/L. All samples must be taken by a technician trained in the collection of samples and the samples must be analyzed by a Minnesota Department of Health-certified laboratory.
- 14.9.2** Prior to executing the Town's right of entry, the Town Attorney, upon approval of the Town Board, must obtain an Administrative Search Warrant from the District Court of Washington County for that purpose. The Town Attorney must also make reasonable efforts to discuss entry with any owner in order that any entry without consent be avoided if reasonably possible.
- 14.9.3** If in the opinion of the Town Board, compliance with this ordinance is not achieved and, therefore, the health and safety of the Town residents is at risk, the Town Board is authorized to contract with a qualified consultant to act as the Town's agent with authority to administer this ordinance.
- 14.9.4** The Town Board is also authorized to enter into joint power agreements with other governmental units or State agencies for the purpose of administering the provisions of this ordinance.

**14.10 Payment to Township**

In order to defray the costs to the town of administering the provisions of this section, any applicant for a building permit for a new residence within the SWSA shall pay to the town a fee of \$500 at the time of application for the building permit. The amount of the fee may be modified by the town board from time to time by resolution to reflect that actual costs to the town of administering the provisions of this code section.