

## Septic Systems & Title 5 New Construction

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**Whether you're building a new septic system or upgrading an existing one, there are Title 5 requirements that apply to new construction.**

If you are building a new septic system (including a conventional septic system or an innovative/alternative (I/A) system) or upgrading an existing one, there are Title 5 requirements that must be followed in order to prevent damage to human health and the environment. Whether or not you are the person actually doing the construction, it is always the system owner's responsibility to ensure things are done in accordance with Title 5 regulations. If you have questions related to building or expanding a new Title 5 system, you should contact your local Board of Health directly as they are the primary regulatory authority for new construction.

Bear in mind that building a new septic system or upgrading an existing one is very different from repairing a system that has failed. If your septic system has failed, you need to take action to fix it. Failing septic systems are expensive to repair or replace, and poor maintenance is often the culprit. Check with a **septic system professional** or your local Board of Health if you have problems with your system. If you have financial hardship, you may want to look at opportunities for financial assistance.

For new construction of a system, the first step is to go to your Hatfield Board of Health as well as your local Building Department. You will need to obtain permits from both separately. You should initially provide each department with a verbal explanation of what you're proposing.

In your initial conversation with the Board of Health and Building Department, it is important to ask them what Title 5 requirements and local requirements must be complied with in your particular case, and what specific approvals are needed from them. Both Departments will give you applications to be completed and returned. Once the Board of Health and Building Department have approved your applications, they will send you a letter in writing that either a) approves the request, b) approves the request but with specific conditions that must be met or c) denies the request.

Also, the Board of Health will tell you whether MassDEP has to approve any of the applications. MassDEP reviews an application only after the Board of Health has made a final decision. You must ensure that all of the necessary approvals from the Board of Health, the Building Department, and MassDEP, if appropriate, are received before you or anyone else begins any work.

Depending on the type of work you're proposing and approved for, you may need to hire a licensed system inspector to verify the location of system components, and perform the necessary work. There can be a variety of professionals involved: designer, soil evaluator, installer, inspector. However, even if you've hired a licensed inspector or system designer to do the work, you as the system owner are always responsible for your system. As work is being

completed, you should be getting regular and detailed information and receipts from the professionals you've hired. For more information, refer to the Local Septic Management Homeowner Checklist.

If you have specific questions, contact your Hatfield Board of Health for additional information.

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### **What is a Septic System?**

Septic systems are individual wastewater treatment systems (conventional septic systems, innovative/alternative (I/A) systems, or cesspools) that use the soil to treat small wastewater flows, usually from individual homes. They are typically used in rural or large lot settings where centralized wastewater treatment is impractical.

There are many types of septic systems in use today. While all systems are individually designed for each site, most systems are based on the same principles.

A conventional septic system consists of a septic tank, a distribution box and a drainfield, all connected by pipes, called conveyance lines.

Your septic system treats your household wastewater by temporarily holding it in the septic tank where heavy solids and lighter scum are allowed to separate from the wastewater. This separation process is known as primary treatment. The solids stored in the tank are decomposed by bacteria and later removed, along with the lighter scum, by a professional septic tank pumper.

After partially treated wastewater leaves the tank, it flows into a distribution box, which separates this flow evenly into a network of drainfield trenches. Drainage holes at the bottom of each line allow the wastewater to drain into gravel trenches for temporary storage. This effluent then slowly seeps into the subsurface soil where it is further treated and purified (secondary treatment). A properly functioning septic system does not pollute the groundwater.

### **How often should I pump out my septic system?**

Regular maintenance is the most important thing in making sure your septic system works well.

Regular pumping helps prevent solids from escaping into the drainfield and clogging soil pores. **While pumping frequency is a function of use, MassDEP recommends that systems be pumped at least once every three years for homes not having a garbage disposal. If the home's system has a garbage disposal, it should be pumped every year.**

If you are a nonresidential system owner, you should determine how often to pump based on prior accumulation and pumping records. Often you can look at pumping intervals to gauge your pumping schedule (i.e., previously did you wait too long before having your tank pumped and it was filled to capacity, or could you have waited a little longer to pump?).

An amazing number of system owners believe that if they haven't had any problems with their systems, they don't need to pump out their tanks. Unfortunately this is a serious and sometimes costly misconception. As your system is used, solid materials settle to the bottom of the tank, forming a sludge layer. Grease and lightweight materials float to the surface of the septic tank as scum.

Normally, properly designed tanks have enough space for up to three to five years' safe accumulation of sludge. When the sludge level increases beyond this point, sewage has less time to settle properly before leaving the tank. As the sludge level increases, more solid wastes escape into the soil absorption system (SAS). If the SAS becomes so clogged that it cannot absorb liquid at the rate at which it enters the tank, the plumbing will "back up" or unsanitary wastewater will bubble to the surface.

When hiring a pumper, be sure the local Board of Health has licensed them, and always make sure you get a paid receipt from the pumper that spells out the details of the transaction (how many gallons were pumped out of the tank, the date, the charges, and any other pertinent results). Retain this receipt for your records. The pumper sends a copy of this report to the local Board of Health.

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## **Title 5 Frequently Asked Questions**

### Questions about Title 5 that you may need to know

#### Who regulates septic systems?

Local Boards of Health are the primary regulatory authorities. However, MassDEP is involved in certain approvals, including many innovative/alternative technology approvals, shared systems, large systems and many variance requests. In addition, MassDEP is responsible for overseeing local implementation of Title 5 and provides local governments with training and technical assistance.

Your first contact for questions about septic systems should be your local Board of Health.

#### When did Title 5 go into effect?

The most recent version of Title 5 (310 CMR 15.000) took effect on September 9, 2016.

#### What is the difference between a cesspool and a septic system?

A cesspool is a pit which acts as both a settling chamber for solids and a leaching system for liquids. The use of cesspools may overload the capacity of the soil to remove bacteria, viruses, and phosphorus, and to nitrify ammonia and organic nitrogen compounds. A conventional septic system has a tank where solids can settle and begin to degrade, a distribution box, and a soil absorption system (SAS) that further treats the effluent by removing some of the bacteria, viruses, phosphorus, and nitrogen.

#### Does Title 5 require every cesspool to be replaced?

No. Only those cesspools that exhibit signs of hydraulic failure, are located extremely close to private or public water supplies, or otherwise fail to protect or pose a threat to public health, safety or the environment will need to be upgraded (310 CMR 15.303). Also, cesspools must be upgraded prior to an increase in design flow (e.g., the addition of a bedroom to a home or seats to a restaurant).

#### What is maximum feasible compliance?

The concept of maximum feasible compliance (MFC) is "do the best you can with what you've got." Wherever feasible, a failed system must be upgraded to full compliance with Title 5. If this is not possible, in many instances the local Board of Health is authorized to approve a Local Upgrade Approval that brings the system as close to full compliance as possible in accordance with certain minimum criteria. (310 CMR 15.404-405).

#### What happens if I cannot meet the minimum requirements of maximum feasible compliance in repairing a failed system?

You generally will have to apply to the local Board of Health for a variance from Title 5 requirements. Title 5 provides a number of options for situations where a variance is required, including use of an innovative/alternative technology or a shared system.

In many cases, MassDEP also must approve a variance once it has been approved by the Board of Health.

#### What are Nitrogen Sensitive Areas?

Areas that have been determined by MassDEP to be particularly sensitive to pollution from nitrogen in sewage. Interim Wellhead Protection Areas and Zone IIs of public water supplies are specifically identified as nitrogen sensitive areas. Title 5 also allows for the designation of nitrogen sensitive embayments based on appropriate scientific evidence. (310 CMR 15.214).

Title 5 has special requirements for repairing failed systems and for the construction of new systems in Nitrogen Sensitive Areas. Talk with your local Board of Health or your system designer for details.

What are "tight tanks" and how are they regulated?

Tight tanks are similar to septic tanks, except that they have no outlet and must be pumped out at regular intervals. Title 5 strongly discourages the use of tight tanks, but they are allowed in situations where an existing system has failed and there is no other feasible alternative. Tight tanks are not allowed for new construction or increases in design flow.

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