

**Wisconsin DNR Program Guidance  
For Septage Considerations in Municipal Wastewater Facility Planning  
And for Application of Zero Percent Clean Water Fund Loans**

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New legislation for septage disposal and management as contained in the Assembly Bill 449 was signed into law on April 14, 2006 by Governor Doyle and is now in effect as Wisconsin Act 347. The new legislation covers various aspects of septage management. This Department program guidance document does not describe all aspects of the new legislation but addresses those aspects that relate to the municipal wastewater facility planning process implemented under Chapter NR 110 of the Wisconsin Administrative Code. This guidance also describes how to calculate the portion of a project that may qualify for the 0% interest rate Clean Water Fund (CWF) loan that will now be available for septage receiving facilities and the portion of treatment capacity that is for septage.

It is anticipated that certain administrative codes will need to be revised to fully implement these statutory changes but the statutes are currently in effect and municipalities may now request the 0% CWF loan for new qualifying projects. The 0% loan may also be requested for projects currently in planning, or recently approved, or if a project is being refinanced.

The statutory language of the newly created s. 281.41 (3) addresses facility planning as shown in **Attachment 1**. In summary, if a municipality is planning for a treatment facility upgrade that will result in a capacity increase of 20% or more, then they are **required to evaluate** the need to include septage receiving facilities and additional treatment capacity specifically for septage. The method for determining the 20% capacity increase is not specified in the statutes. It is recommended that the determination be based on either wastewater flow or biochemical oxygen demand (BOD). Municipalities are **encouraged** to include an assessment of septage needs per s. 281.41 (3) procedures even if the project provides less than a 20% increase. **The 0% CWF loan will be available for qualifying proposals even if the capacity upgrade is not greater than 20%.**

The general concept of the new legislation is to increase awareness of septage disposal needs and to promote the provision of adequate facilities for receiving septage and to encourage capacity for its treatment unless adequate alternative treatment or disposition options are available. An incentive to address septage needs is created by providing the 0% Clean Water Fund loan for septage receiving facilities and the portion of the treatment capacity necessary to treat the septage component.

The newly created statutes do not change the existing s. 281.49 (7) statutory requirement that “a municipal sewage treatment system which is required to accept and treat septage shall provide adequate facilities for the introduction of septage into the sewage system”. The requirement to “accept and treat”

septage is addressed by s. 281.49 (2), (3) and (4). In general, facilities are excepted from the requirement to accept and treat septage only if the acceptance of septage is incompatible with the treatment system or would cause operating or performance problems. Of course, any existing facility that becomes engaged in a planning analysis for an upgrade should evaluate, to some extent, the possible correction of these operating or performance problems such that it would become possible to accept and treat septage.

In summary, all projects will need to continue to provide adequate facilities to receive septage at the wastewater facility in accordance with s. 281.49, Statutes. Proposed projects including a 20% capacity increase will now be **required** to evaluate the addition of treatment capacity for septage. ***Although the municipality is required to evaluate this, in accordance with s. 281.41 (3) (d), they are not required to actually include treatment capacity for septage.***

The Department recommends the same septage needs evaluation be conducted in situations where the project provides less than a 20% capacity increase, but the municipality wishes to seek a 0% CWF loan. It should be kept in mind that all elements of wastewater facility planning are subject to the NR 110 planning requirement that a proposal be specifically demonstrated to be necessary and cost-effective. On a statewide basis, the Department recognizes a need to promote increased septage disposal options, but it is also recognized that on a project specific basis there may still be situations where it would not make sense to invest in septage receiving or treatment capacity.

The **receiving capacity** of septage receiving facilities is not necessarily the same as the **treatment capacity** to be built into the treatment facility for septage. The treatment capacity for septage is referring to capacity that is specifically allocated to septage and is **in addition** to the capacity normally provided under s. NR 110.09 (2) (j) 2. for sewer residential, commercial, institutional and industrial wastewater sources. In some cases, a municipality may want to add facilities to receive septage, but not actually build in additional treatment capacity just for septage. The municipality essentially uses its capacity reserve for future sewer development for septage treatment until that sewer development actually occurs. This design practice remains acceptable.

### **Outline of Septage Needs Analysis**

Any evaluation of septage needs must be conducted for a 20-year planning period in accordance with s. NR 110.09 (1) (a). The analysis shall be premised on serving the needs for existing and expected future Private Onsite Wastewater Treatment Systems (POWTS), which includes holding tanks, within a designated “Septage Service Area” as defined in s. 281.41 (3) (a). The “Septage Service Area” is not the same as the “Planning Area” used for ch. NR 110 facility planning. The size and location of the Septage Service Area will be primarily established by the municipality. In areas subject to sewer service area planning under ch. NR 121, regional planning agencies may be consulted to possibly assist with the development of septage service areas.

The relationship between neighboring Septage Service Areas will need to be carefully considered. When septage treatment capacity is to be provided for a certain Septage Service Area, the service area should normally be delineated so it does not overlap Septage Service Areas of other municipalities. This is necessary so that local costs or state financial assistance are not incurred to provide excessive (redundant) treatment capacity for the same service area. However, some limited redundancy (service area overlap)

may be acceptable in order to ensure that disposal options will exist in the event of operational difficulties that might force a treatment plant to refuse acceptance of septage for a period of time.

If septage receiving facilities are provided but without the provision of any septage treatment capacity, then it is less important to ensure that Septage Service Areas are separate. This reflects a scenario where the municipality would be able to initially receive septage but at some point within the 20-year planning period they would no longer have the capability to accept septage. Although not required, the Department generally recommends that septage treatment capacity for the 20-year design condition be provided as a better long-term solution to address septage needs.

Once a Septage Service Area is determined, the municipality may conduct an analysis as outlined in the following steps. This analysis must be conducted for projects proposing a capacity increase of 20% or more. The new statutory language specifically states that “the owner is required only to use data or other information that has previously been collected, whether by the owner or by others, and the owner is not required to conduct new research”. The term “new research” means work such as field surveys or other efforts to create new data.

1. Estimate the numbers of existing and expected future POWTS in the septage service area but outside of the sewer service area. The expected future POWTS over a 20-year planning period must be identified in accordance with s. NR 110.09 (1) (a). Projections for any lesser planning periods are optional (such as a 10-year planning period).

Data on existing POWTS and past POWTS permitting trends may be available from the local county department responsible for sanitary permits. Local comprehensive plans may provide land use information. Water Quality Management plans prepared by regional planning agencies may also be a source of useful information.

2. Estimate the initial and future volume and characteristics of the septage to be generated in the septage service area. Standard information on septage characteristics can be obtained from standard industry references such as:
  - a. “Recommended Standards for Wastewater Facilities”, 2004 Edition (Appendix). A report of the Wastewater Committee of the Great lakes – Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers. Published by: Health Education Services Division.
  - b. U.S. Environmental Protection Agency – Process Design Manual – Surface Disposal of Sewage Sludge and Domestic Septage. EPA/625/K-95/002. September 1995.
  - c. “Design of Municipal Wastewater Treatment Plants” – Fourth edition. Water Environment Federation Manual of Practice 8, Volume 2. 1998.
3. As stated in s. 281.41 (3) (d), the information and analysis of the septage service area is “... for the purpose of assuring that septage disposal needs are considered in the decision-making process ...”. This “needs assessment” should include consideration of feasible alternative methods for disposal of the septage. In most cases it will not, however, be

necessary to prepare detailed cost analyses of these alternatives for comparison in a cost-effective analysis.

Feasible alternatives to be considered include:

- a. Land application of septage. Identify what land application sites are currently available and the availability of potential future application sites. Assess hauling distances and associated factors based on locations of POWTS and land application sites. Consider the potential future loss of land application sites due to urban growth.
- b. Disposal of septage in wastewater treatment facilities. Because septage has different characteristics than normal municipal wastewater, the treatment facilities and capacity added for septage should consider septage volume, BOD, solids, and grease loading factors. The compatibility of introducing septage into existing or proposed treatment processes should be considered. Disposal at either the facility under study or at neighboring treatment facilities should be evaluated.

The scope and level of detail for the consideration of alternatives can be adjusted for project specific circumstances. If the Department concurs that septage needs and disposal options are readily apparent, then the consideration of alternatives under a. or b. above may be minimal. Although it will normally not be necessary to conduct a detailed cost-effectiveness analysis comparing the transport of septage to different treatment facilities, it is certainly still important that neighboring treatment facilities coordinate their planning efforts and that cost-effectiveness is promoted in the process of delineating a septage service area for a particular treatment facility.

4. Consider the potential for contracts with private sewage systems owners, licensed disposers, or municipalities to assure delivery of septage to a wastewater treatment facility. This would include recognition of servicing agreements for large holding tanks (greater than or equal to 3,000 gallons per day) as required under s. NR 113.07 (1) (e).
5. Make a proposal for septage receiving facilities and treatment capacity based on the overall assessment of septage disposal needs and options. The septage needs evaluation and facility recommendations will be performed within the context of the NR 110 facility planning study and thus will be subject to the environmental review procedures applicable under chs. NR 110 and NR 150. Although the provision of septage treatment capacity is optional, if it is proposed, the Department must still make a plan review determination under s. NR 110.09 (1) (a) that the proposal is necessary and cost-effective.

### **Septage Receiving Facilities**

The *Recommended Standards for Wastewater Facilities* (“Ten State Standards”), 2004 Edition, includes information in an Appendix on design considerations for receiving septage. It is recommended that this information be used for guidance.

## **Funding Aspects**

The newly created s. 281.58 (12) (a) 5. states:

“The interest rate for the portion of the project that provides facilities for receiving and storing septage and capacity for treating septage is zero percent.”

The newly revised s. 281.58 (8) (b) 1. states (in part):

“Except as provided in subd. 2. and par. (k), the amount of reserve capacity for a project eligible for financial assistance through a method specified under sub. (6) (b) is limited to that future capacity required to serve the users of the project expected to exist within the sewer service area of the project and that future capacity required to serve the need expected to exist outside of the sewer service area of the project for septage that is reasonably likely to be disposed of in the project 10 years after the project is estimated to become operational.”

In order to determine the project costs allocated for septage receiving facilities and for septage treatment capacity the Department will use the “parallel cost percentage” calculation methodology that is currently employed under s. NR 162.04 (1) (c) for determining project costs qualifying for market rate, or less than market rate, loans.

A description of the modified parallel cost percentage calculation is provided in **Attachment 2**. The result of the calculation is that three fractions will be determined to identify the portions of the eligible total project cost that will receive either the market rate loan, the less than market rate loan, or the 0% rate loan.

The amount of treatment capacity for septage that will be eligible for the 0% loan is limited to the capacity to serve existing POWTS plus future POWTS expected up to 10 years after the project becomes operational. Any reserve capacity for septage needs beyond the 10-year time period would only be eligible for a market rate loan. Although a municipality must evaluate septage needs over a 20-year planning period, they are not actually required to provide any septage treatment capacity. This also means a municipality could choose to provide some amount of septage capacity less than what is projected as necessary for the 20-year planning period. Thus, it is possible that a municipality could choose to provide septage treatment capacity for a 10-year planning period and then obtain the 0% loan for all the septage capacity to be provided in the plant. Despite this limitation on the funding of future reserve capacity, the incremental cost associated with providing a 20-year reserve may be minimal and the Department generally recommends that a 20-year septage capacity reserve be provided where the need is established.

Please contact Jason Knutson, Wastewater Section Chief, in the Bureau of Water Quality for additional information regarding this guidance or Lisa Bushby, Clean Water Fund Coordinator, in the Bureau of Community Financial Assistance concerning loan information.

Wastewater Section Chief  
Jason Knutson – (608) 267-7894  
E-Mail: Jason.Knutson@wisconsin.gov

Clean Water Fund Coordinator  
Lisa Bushby - (608) 358-3330  
E-Mail: Lisa.Bushby@wisconsin.gov

## Attachment 1

SECTION 22. 281.41 (3) of the statutes is created to read:

281.41 (3) (a) In this subsection, “septage service area” means the area containing private sewage systems served or anticipated to be served by a sewage disposal plant during the planning period.

(b) If an owner proposes a sewage disposal plant or an extension of an existing sewage disposal plant that increases the capacity of the existing plant by at least 20 percent, the department shall require that owner, in preparing a plan under this section, to address the need for, and include plans for, the disposal of septage, as defined in s. 281.48 (2) (d). The department shall require an owner to address all of the following under this paragraph:

1. The amount of septage produced throughout the septage service area and the expected increase in septage production during the planning period.
2. The capacity for the disposal of septage during the planning period on land within the septage service area, in the sewage disposal plant, and by other available methods.
3. The location of private sewage systems within the septage service area, and the distances required to haul septage for disposal either on land or in the sewage disposal plant.
4. The potential for contracts with private sewage system owners, licensed disposers, as defined in s. 281.49 (1) (b), or municipalities to assure delivery of septage to the sewage disposal plant.

(c) In addressing the need for the disposal of septage and the information required under par. (b), the owner is required only to use data or other information that has previously been collected, whether by the owner or by others, and the owner is not required to conduct new research.

(d) The information required under par. (b) is for the purpose of assuring that septage disposal needs are considered in the decision-making process for sewage disposal plant planning, but par. (b) does not require construction of facilities for the handling or disposal of septage.

## Attachment 2

### Parallel Cost Percentage Methodology For Projects Including Septage Receiving Facilities or Septage Capacity

The existing requirements for calculating the Parallel Cost Percentage are in s. NR 162.04 (1) (c). The DNR web page guidance on this is at:

<https://dnr.wi.gov/Aid/documents/EIF/Guide/pcperc.html>

The first step of the calculation as described in the web guidance will remain the same.

The second step remains the same except the septage capacity reserve beyond a 10-year time period will be added as an item only eligible for a market rate loan. So the “reduced capacity” condition identified in step two will be determined by subtracting the items listed as 2, a., b., c., and d., plus the reserve septage capacity beyond the 10-year time period.

The eligible project costs should then be estimated for the two design conditions and the ratio of the reduced capacity design cost divided by the total design capacity cost will result in a fraction that when applied to the total project cost will indicate the project cost eligible for either the 0% loan or the less than market rate loan.

RC = cost associated with reduced capacity condition

DC = cost associated with total design capacity

PC = RC/DC = the parallel cost percentage expressed as a decimal

Where:

EM = amount of project costs eligible for market rate loan

TP = total project cost eligible for CWF financing

Then:  $EM = (TP) \times (1-PC)$

And:  $TP \times PC =$  Project costs eligible **for either** 0% or less than market rate

In order to then separate out the 0% and less than market percentage rate portions, another design condition and associated cost (RC<sub>2</sub>) needs to be estimated.

RC<sub>2</sub> = cost associated with capacity condition without market rate items and without septage receiving facilities or septage capacity

Where: ELM = amount of project costs eligible for less than market rate loan

EZ = amount of project costs eligible for Zero % rate loan

ELM =  $(TP) \times (RC_2 / DC)$

And:  $EZ = (TP) \times [(RC - RC_2) / DC]$