



# PRESS-SEAL GASKET CORPORATION

Providing products and services that protect our planet's clean water supply

March 5, 2007

Administrative Law Judge Eric Lipman  
Office of Administrative Hearings  
100 Washington Square, Ste. 1700  
Minneapolis, MN 55401-2138

Re: Comments to MN ISTS Code 7080 changes

Sir:

This comment will address MN Code 7080.0130 "Sewage Tanks" Subpart 1. A.:

Subpart 1. **General.** All tanks, regardless of material or method of construction, must:

A. be watertight, including at all tank and riser joints, riser connections, and pipe connections;

Specifically, the term "watertight" as it relates to the pipe-to-structure connection is somewhat ambiguous and can be open to interpretation. As these connections are integral to the effective long-term performance of ISTS systems and represent less than .0007 percent of the total system cost, it would be prudent to reference an **ASTM baseline performance standard which has already been established for this specific connector application.** In setting minimum performance requirements, this standard strives to ensure the long-term performance of this connection. In essence, a connection that tests to be "watertight" initially may not be "watertight" one day, one month or one year after the effects of differential soil settlement and/or pipe deflection which is not uncommon.

My recommendation (with regard to the connector) is to reference **ASTM Standard C1644 - 06 "Standard Specification for Resilient Connections Between Reinforced Concrete On-Site Wastewater Tanks and Pipes"** (attached) for this application. This standard sets specific test requirements for connectors in straight alignment, axial pipe deflection and shear load as well as addressing material requirements. At a minimum, these requirements establish a benchmark as to how the term "watertight" should be defined. There are connector products currently utilized for this application on a limited basis in Minnesota and other states which meet the above referenced ASTM standard.

Respectfully Submitted,

Tim Press

Press-Seal Gasket Corporation

# Precast Systems

## Concrete Products

116 E. Highway 12 • Box 56 • Darwin, Minnesota 55324  
Bus: 320-693-8440 • 1-888-693-8440 • Fax: 320-693-9593  
www.darwinconcrete.com

### SSTS CODE CHANGES

#### 7080.1910 Tank Strength; General

Line 65.22 thru 66.12 Subpart 1. Requirements. Tanks, fittings, risers and apertures must

A. be capable of supporting long-term vertical loads for the conditions in which the tank will be placed. These loads include, but are not limited to, saturated soil load, based on 130 pounds per cubic foot, and concentrated wheel load of 1,800 pounds;

B. be capable of withstanding a lateral load for the conditions the tank will be placed, with a minimum lateral load of 62.4 pounds per cubic foot;

C. Be capable of withstanding any other loads or stresses placed upon the tank;

D. not be subject to excessive corrosion and degradation from sewage or sewage gases, including risers and maintenance hole covers; and

E. be structurally capable of withstanding exposure and stresses from freezing conditions.

Remove item "C" from Code: This item should be eliminated because it is not realistic. Item A & B in 7080.1910 address the loading rates in an appropriate way.

#### 7080.2010 Tank Testing

Line 76.11 thru 76.22 Subp. 2 Structural integrity of design test. The structural integrity of each model of tank produced must be verified to determine the horizontal and vertical loads that the tank can withstand when empty. Tanks must be reverified for structural if the design, materials or construction methods are modified. A licensed professional engineer shall certify in writing if different models are similar enough so that the structural integrity information for one model is valid for other models. Verifications must be submitted to the commissioner. The commissioner shall maintain and make available the verifications upon request. All poured-in-place tanks must be verified..

Add to code: Vacuum testing can be used to verify the structural integrity of each model of tank. This would be an alternative method of proof testing tanks. Other than just calculations. To actually put the tanks under the stresses they will be subject to in the field would confirm the integrity of the tanks.

Using a given 1 inch of mercury (Hg) how can we compute load on a tank?

A. convert inches of Hg to pounds per square inch using a standard atmospheric pressure of 14.7 psi.

B. convert resulting load in pounds per square inch (psi) to pounds per square foot (psf) commonly associated with the loading for a tank at a given burial depth.

C. make a table based upon this relationship.

D. 1 inch of Hg =  $\frac{14.7 \text{ psi}}{29.92 \text{ in HG}} = 0.4913 \text{ psi}$  So, 1 inch of Hg is about  $\frac{1}{2}$  psi

E. 1 pound per square foot (psf) =  $\frac{0.4913 \text{ lb} \times 144 \text{ square inches}}{\text{square inch to square foot}} = 70.7 \text{ psf}$

An alternative method for converting inches of mercury to psi is the conversion chart from [www.convert-me.com](http://www.convert-me.com): 1" mercury = .4911527 psi

$.4911527 \times 144 = 70.7 \text{ lbs per sq foot}$   
(Sq In to Sq Ft)

So 1" mercury = 70.7 lbs per sq foot

RECEIVED  
2007 MAR 27 AM 8:59  
ADMINISTRATIVE  
HARRIS

<u>Vacuum Test Chart</u>		
<u>Inches of Hg</u>	<u>psi</u>	<u>psf</u>
1	0.491157	70.7
2		141.4
3		212.1
4		282.8
5		353.5
6		424.2
7		494.9
8		565.6
9		636.3
10		707.0
11		777.7
12		848.4
13		919.1

<u>Soil</u> <u>@ 120# p/cu ft</u>	
<u>Burial</u> <u>Depth</u>	<u>Inches of</u> <u>Mercury</u>
1'	1.69
2'	3.39
3'	5.09
4'	6.78
5'	8.48
6'	10.18
7'	11.88

<u>Soil</u> <u>@130 # p/cu ft</u>	
<u>Burial</u> <u>Depth</u>	<u>Inches of</u> <u>Mercury</u>
1'	1.83
2'	3.67
3'	5.51
4'	7.35
5'	9.19
6'	11.03
7'	12.87

### 7080.2010 Tank Testing

Line 76.23 thru 77.18 Subp 3 Watertightness Test.

A. Of all sewage tanks manufactured, every 25<sup>th</sup> tank produced must be tested for watertightness. At least one tank per year, per model must be tested for watertightness. All poured-in-place tanks shall be tested for watertightness. Records of testing must be maintained by the manufacturer for three years and must be available to the commissioner and local unit of government is requested. Tanks must be tested and meet or exceed the requirements of subitems (1) to (3):

1. When empty, a tank must maintain a vacuum of at least two inches of mercury for five minutes without loss of pressure
2. Concrete tanks must hold water for one hour, without loss, after the tank has been filled with water to the top of the tank, let stand for 24 hours, and then refilled to the same lever, and
3. Fiberglass-reinforced polyester or polyethylene sewage tanks must hold water without loss for one hour after being filled.

B. Sewage tanks that do not pass the tests listed in items A, subitems (1) to (3), must not be used until repaired and retested. The repair and retest procedure must be repeated until the tank passes the test or the tank must not be used.

The precast manufacturing process is much like an assembly line with nearly identical procedures used day in and day out to manufacture most of our products. With computerized batch plants, (controls that distribute all the ingredients used to make concrete) and moisture sensors (microwave technology that reads how much moisture is in the aggregates then adjusts the recipes accordingly). This eliminates the variables that producers had to struggle with years ago. Most precasters are using this type of technology today. Testing every 25<sup>th</sup> tank would be a costly and unnecessary procedure. A yearly test of each model would show that you have the right procedures in place to make the proper products. (The State of Wisconsin tests one tank of each model every 5 years.)

Tanks must be tested and meet or exceed the requirements of subitems (1) to (3).

Change to code: Tanks must be tested and meet or exceed the requirements of Sub items 1 or 2 or 3. (Talked to Mark Wespetal and he agreed that this was a typing error).

If you have any questions, please feel free to contact me.

Sincerely,  
Mark Smith

*Mark Smith*  
3-20-07



RECEIVED

2007 MAR 16 AM 9:15

ADMINISTRATIVE  
HEARINGS

Board of Commissioners  
Lake County Courthouse  
601 Third Avenue  
Two Harbors, MN 55616  
Phone: 218-834-8320 Fax: 218-834-8360  
Website: [co.lake.mn.us](http://co.lake.mn.us)

First District - Vacant  
Second District - Derrick Goutermont  
Third District - Scott Larson  
Fourth District - Paul Bergman  
Fifth District - Lenore Johnson

March 15, 2007

Administrative Law Judge Eric Lipman  
Office of Administrative Hearings  
100 Washington Square, Suite 1700  
Minneapolis, Minnesota 55401-2138

RE: SSTS CODE CHANGES – Public Hearing on April 18 & 20, 2007

Dear Judge Lipman:

Enclosed is Lake County Resolution No. 07031328 passed by the Lake County Board of Commissioners at their meeting on March 13, 2007, providing Lake County's comments on the proposed changes to Minnesota Rules Chapter 7080.

Thank you for your consideration of these comments.

Sincerely,

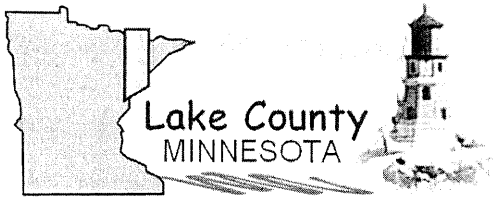
Wilma H. Rahn  
Administrative Clerk of the Board

/whr

cc: Carol Nankivel, MPCA  
Lake County Board of Commissioners  
Matthew Huddleston, Planning and Zoning Administrator, Lake County

Wilma H. Rahn  
Administrative Clerk of the Board

AN EQUAL OPPORTUNITY EMPLOYER  
COMMITTED TO SERVICE...UNITED IN SAFETY



Board of Commissioners  
Lake County Courthouse  
601 Third Avenue  
Two Harbors, MN 55616  
Phone: 218-834-8320 Fax: 218-834-8360  
Website: [co.lake.mn.us](http://co.lake.mn.us)

First District - Vacant  
Second District - Derrick Goutermont  
Third District - Scott Larson  
Fourth District - Paul Bergman  
Fifth District - Lenore Johnson

## RESOLUTION NO. 07031328

### COMMENTS ON PROPOSED CHANGES TO MINNESOTA RULES CHAPTER 7080

WHEREAS, the Minnesota Pollution Control Agency has proposed changing Minnesota Rules Chapter 7080 to Minnesota Rules Chapter 7080, 7081, 7082 and 7083; and

WHEREAS, the Lake County Planning and Zoning Department is responsible for administering these rules; and

WHEREAS, Lake County has a vested interest in these changes and how they will affect the County; and

RESOLVED, the Lake County Board of Commissioners has the following comments on the proposed rule changes:

#### Positive comments about the rule changes:

- Instead of one rule the MPCA has proposed 4 separate rules- Chapter 7080 (small systems up to 3 homes or other establishments 2500 gpd or less) Chapter 7081 (mid sized systems over 3 homes or other establishments greater than 2500 gpd) Chapter 7082 (Local requirements for septic programs) Chapter 7083 (licensing). Separating the rules makes the rules easier to navigate.
- More training will be required to be able to design larger systems. This is a good thing as these systems are more complicated and need additional expertise.
- We believe it is good that a separate rule was created for larger systems and provides different standards for these systems. Although these new standards as written have some potential issues as noted below.
- New technologies will be required to be tested by a third party and registered with the MPCA. This is a good thing as local units of government won't have the burden to determine which technologies work.

#### Potential Issues/concerns with the proposed rule changes:

- New rules require more training and technical review. We may have trouble meeting these requirements without additional staff and money.
- The new rules require that we field verify soils before permitting. This issue should be left up to individual local units of government. This isn't practical for Lake County. We can make this verification when we inspect the systems. In a large County such as ours it is not worth the mileage and fees to just check the soils for all sites. If a designer has a potential problem soil they can request a site visit on a case by case basis.

Wilma H. Rahn  
Administrative Clerk of the Board

AN EQUAL OPPORTUNITY EMPLOYER  
COMMITTED TO SERVICE...UNITED IN SAFETY

- Operating permits are required for certain systems. Operating permits are a good idea but a burden on our resources. These permits require homeowners to submit certain information on a regular basis to have their permit renewed. We have to track this information and follow-up if it hasn't been submitted.
- On larger systems the rules hold local units of government responsible to determine if there is a potential threat to regional water table, aquifer or water supply. We don't have the tools and there are not specific requirements to help make these determinations.
- Larger systems could potentially require nitrogen reduction. Local units of government will be responsible for this determination. Again, we don't have the tools, training or standards to apply this.
- Larger systems could potentially require phosphorus reduction. Local units of government will be responsible for this determination. Again, we don't have the tools, training or standards to apply this.
- Larger systems will require ground water mounding calculations. We have not been provided any information on how we will accomplish this.
- It appears the legislature is going to provide the University of Minnesota 3 million dollars to study some of the issues mentioned above regarding larger systems. This is backwards. We should complete the study on these issues before we write the rules.
- We need the details on how we are going to deal with these large systems that we are responsible for before the rules proceed any further. If the rules don't change regarding larger systems we believe the MPCA should regulate systems over 5000 gallons per day instead of the current 10,000 gallon per day threshold. They should permit them and be responsible for inspecting them.

FURTHER RESOLVED, The rules as currently proposed will place a financial and resource burden on the County without adequate funding from the State; and

FURTHER RESOLVED, The Lake County Planning and Zoning Director will be submitting additional, more detailed comments/concerns on the proposed rule changes.

Adopted: March 13, 2007

Commissioner Larson moved the adoption of the foregoing resolution and the same was declared adopted upon unanimous yeas vote of all members present. Absent: None

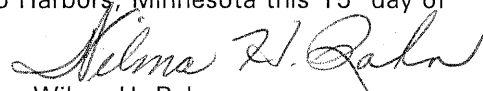
State of Minnesota)

ss.

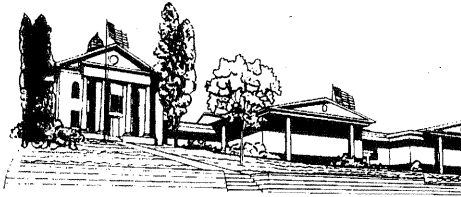
County of L A K E)

I, Wilma H. Rahn, Clerk of the Board, Lake County, Minnesota, do hereby certify that I have compared the foregoing resolution with the original filed in my office on the 13<sup>th</sup> day of March, 2007, and that the same is a true and correct copy of the whole thereof.

WITNESS my hand and seal of office at Two Harbors, Minnesota this 15<sup>th</sup> day of March, 2007.



Wilma H. Rahn  
Clerk of the Board



# Dodge County Environmental Quality

22 6<sup>th</sup> St East • Dept. 391 • Mantorville, MN 55955-2230  
Phone: 507-635-6273 • Fax: 507-635-6193  
Email: mark.gamm@co.dodge.mn.us  
In-County Toll Free: 888-600-5169

RECEIVED  
APR 11 2007  
AM 9:21  
ADMINISTRATIVE  
HEARINGS

April 3, 2007

Honorable Eric Lipman  
Administrative Law Judge  
Office of Administrative Hearings  
100 Washington Square, Suite 1700  
Minneapolis, Minnesota 55401-2138

*Dear Judge Lipman:*

*Please consider the following comments by Dodge County for the public hearing regarding the proposed amendments to rules governing subsurface sewage treatment systems, Minnesota Rules chs. 7080, 7081, 7082 and 7083:*

## **Part 7080.0050; Purpose and Intent**

### **Line 1.8 to 2.26:**

Comment 1: It appears that the purpose and intent of the rule has changed significantly from a goal to provide a “*framework for permitting*” based on “*practical field applications*” to prescriptive regulatory processes without consideration for practical applications or administrative flexibility to Local Units of Government (LUG). We believe that the Statement of Need and Reasonableness (SONAR) does not adequately address the substantive changes to this part as it relates to the prescriptive permitting and inspection requirements. Because of the wide diversity in the state, we believe that providing flexibility in permitting and inspection requirements should still be a primary tenant of the rule.

## **Part 7082.0500; Permit Program for SSTS**

### **Line 22.25 – 22.27: Subpart 3.A, regarding infield verification of seasonally saturated soil or bedrock.**

Comment 1: It is not clear how MPCA will interpret this part of the rule or who will bear the cost of the soil verification requirement. The SONAR (page 315) indicates that local governments must “*send staff or their contracted employee out to the site....*” However, this cost is not included in the on-going administrative cost estimate reported in SONAR (Appendix 1). Rather, the cost is included in the ISTS Capital Cost (Appendix 2) implying that the owner or designer could independently contract for this soil verification. To add further confusion, SONAR (page 384) indicates that counties will bear the additional cost to “*check soil conditions in the field*”.

Comment 2: We do not believe that this requirement will result in the desired outcomes. The SONAR (page 315) indicates that a benefit of soil verification is to reduce the risk of a contractor installing a poorly designed system and “*spoil*” the site through error. To obtain this benefit the soil verification must be completed before construction begins. However, most counties currently conduct compliance inspections during or after construction is complete. A close look at the county survey results provided by MPCA in SONAR (page 315) reveals that only 15 counties out of 87 (17%) reported that they verify soils prior to construction. Therefore, we believe it’s prudent to question if the proposed rule will actually result in the desired outcome. We do not believe that it will. In fact, we believe that the requirement is ineffective and an unnecessary financial burden to SSTS owners and counties.

Comment 3: We do not believe that the MPCA has gathered enough information to judge the financial burden of this requirement. It appears that the MPCA is rationalizing an insignificant impact to counties to administer this requirement by stating in SONAR (page 315) that “*only 26 percent of counties responding to the survey do not (currently) verify the soils*”. However, a closer look at the survey results indicates that only 70 percent of the counties responded to the survey. Additionally, the MPCA states in SONAR (page 384) that: “*75% of the local permitting authorities currently verify soils at the time of design/construction*”. However, survey data previously reported on page 315 of SONAR indicates that only 45 counties verify soils. We believe that SONAR does not accurately evaluate the current conditions, estimated benefits, and cost of this requirement.

Comment 4: The SONAR, Appendix 2, the MPCA has significantly underestimated the cost for the “*infield soil check*” at \$75 per SSTS. To obtain the stated benefit the soils should be checked prior to construction. We are not aware of any independent licensed contractor that charges less than \$175 per inspection. It is not reasonable to assume that the work can be completed for \$75 per site. In fact we estimate that in Dodge County alone, our annual cost to satisfy this requirement will be about \$14,000 or about \$200 per new SSTS. We believe that a more accurate estimate of cost may lead to a better evaluation of the practicality and burden of the rule.

Comment 5: We believe that SONAR does not adequately address alternatives to this standard or flexibility in enforcement. It is very prescriptive. For example: we believe that there are many locations in the county where the soil restriction layer is not a factor in design (such as deep loess). In these situations, a single soil evaluation from a licensed designer will be sufficient to accurately design a SSTS. However, the proposed rule does not offer this flexibility.

#### **Part 7082.0600, System Management:**

#### **Line 24.2, Subpart 1.A; require and approve management plans for all SSTS:**

Comment 1: We believe that the requirement to mandate and approve management plans for all SSTS places an unnecessary burden on LUG. Although the rule requires the LUG to require and approve a management plan, SONAR (page 307) indicates that “*active enforcement*” is not required. However, when a standard is in ordinance, it is perceived by many people that the county should enforce it. Therefore, the liability for

LUG will increase upon claims that septic systems have failed due to improper maintenance because the LUG failed to enforce the management plan. Given that the MPCA does not expect the county to enforce management plans, is there a better way to encourage proper SSTS management without increasing county workload and liability? There is no discussion of alternatives in SONAR. And there is no allocation of cost to LUG for dealing with claims that management plans were not enforced.

Comment 2: We believe that the cost to the owner for the preparation of the management plan should be considered a capital cost not an operational cost as defined in SONAR Appendix 3. The cost of preparing the management plan will be incurred during permitting of SSTS; therefore it will likely be seen as an additional cost to construct a SSTS.

Comment 3: In the justification section, the SONAR (page 315) indicates that the proposed management plan requirement “replaces the current requirement in Minn. R. 7080.0305, subp. 7”. However, we believe that this part has been repealed.

#### **Chapter 7082.0700; Inspection Program:**

#### **Lines 28.2 – 28.5, Subpart 3.C and lines 29.23 – 30.13, Subpart 4.B (2); regarding vertical separation distance reports:**

Comment 1: We do not believe that SONAR adequately considers less burdensome alternatives to this requirement. The premise for requiring two independent soil investigations on a single site is to remove the likelihood of an error. However, all individuals and businesses certified to conduct the soil evaluations are similarly trained and licensed. It seems impractical for equally qualified individuals to conduct duplicate evaluations when one qualified evaluation has the same authority. If poorly designed systems are a problem, we believe a less expensive alternative would be to improve the training and licensing requirements for designers. This option is not discussed in the SONAR.

Comment 2: We believe that the benefit of this requirement is overstated and therefore poses an unnecessary burden on SSTS owners and LUG. The SONAR (page 384) indicates that soil “verification should minimize SSTS failures that occur when local permitting authorities issue compliance certificates without checking soil conditions” and that “these situations have occurred frequently”. However, the SONAR provides no data to support this conclusion or assumption. Our experience refutes this conclusion. In fact, we are aware of only 1 SSTS out of 1030 permits issued in our county that have failed due to improper soil evaluation. We believe that the MPCA should provide data that illustrates the true extent of the problem and how it justifies the expense of the proposed soil verification requirement.

Comment 3: We believe that this requirement may be harmful to the intent of the rule. The SONAR (page 324-325) indicates that a benefit of this requirement is that it will create a “permanent record of the soils” and therefore eliminate the need for any soil characterization during future compliance inspections. We believe that this “owner safeguard” may exempt failing systems from meeting separation requirements due to changes in hydrology. This risk may be pronounced in areas with historic high water

levels and where artificial drainage systems have been in-place for many years. In addition, this standard assumes that long term weather conditions and local hydrology will remain unchanged forever, which is an unlikely scenario. The allowance for counties to be more restrictive and require soil verification, at a site with two previous confirming soil reports, is impractical and costly to implement. SONAR does not address the possible negative consequences of the rule and the cost to LUG to be more restrictive.

Comment 4: We believe that this requirement is too prescriptive and is an unnecessary burden to existing SSTS owners. The MPCA's premise in the SONAR is that it is a benefit to existing owners because it eventually reduces the cost of compliance inspections (because verified soil conditions are valid forever). However, the cost to the owner is not discussed. For systems that do not have dually verified soil reports (and that's nearly everyone in our county right now), the cost for a compliance inspection will nearly double. This reality is not included in the SONAR's cost estimates or discussion. We do not believe that it is practical for an owner or his/her contractor to independently hire another licensed contractor to verify soil separation for the sole purpose of reducing future inspection costs.

Comment 5: We also believe that for existing SSTS, that do not have two independent soil reports, a single soil report during the first inspection would not jeopardize the stated outcome because additional inspections at a later date could satisfy this exemption from future soil separation reports.

#### **Line 31.27 – Line 33.27, Subpart 5; Seasonally Saturated Soil Disagreements:**

Comment 1: The requirement for two soil separation reports will significantly increase the LUG's expense to resolve disagreements. The SONAR does not include the ongoing administrative cost to arbitrate conflicting soil evaluations. The SONAR (page 384) indicates that inaccurate soil characterization "*occurs frequently*" but the MPCA does not allocate cost to counties for conflict resolution, arbitration, and litigation that will result from conflicting soil reports.

Comment 2: The SONAR does not address the additional risk LUG face by approving or conducting the soil verifications. By doing so, the LUG will increase its exposure to claims that SSTS's have failed due to inadequate soil characterizations and will bear the financial burden to investigate and resolve the claims. We believe it is a significant issue and should be considered as a part of the statutory requirement specific to MPCA's review.

#### **Statutory Considerations and Economic Review**

##### Comment 1:

We believe that the MPCA has not accurately estimated the cost of this rule amendment. For example:

1. SONAR (page 384) indicates that LUG will face annual administrative cost of \$2100 which includes the cost to "*check soil conditions in the field*". However, Appendix 1 does not include this cost line item. We estimate that Dodge County alone will spend nearly \$14,000 per year to verify soils prior to construction.

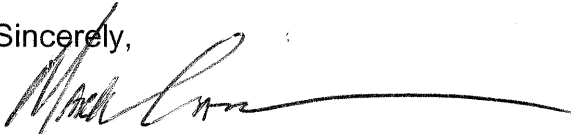
2. Appendix 1 does not include the cost of complaint investigation, dispute resolution, or litigation due to new permitting and inspection criteria.
3. Appendix 1 does not include the cost of maintaining required license.
4. Appendix 2: we believe that the estimated cost for the "*infield soil check*" should be a least \$175 per site instead of the current estimate of \$75 per site. To produce the desired outcome, this service will require an additional trip to the site prior to construction.
5. Appendix 3: we believe that the cost of preparing the management plan should be included in the ISTS Capital Cost (Appendix 2) because the management plan is required as a part of the construction permit. Appendix 7: the cost for the additional compliance inspection requirements (2 soil reports, tank tightness testing, etc...) for existing ISTS is not included in the cost estimate.
6. Appendix 7: we do not believe it is accurate for SONAR (page 383) to indicate that "*current ISTS will save \$940 under the proposed rule due to the relaxing of compliance standards*" because this allowance does not apply to all current ISTS owners. How is this assumption calculated? We believe that the vast majority of the 500,000 ISTS owners will someday face compliance inspection costs that will be double of what they would have paid without the rule amendment.

Comment 2:

We also believe that the SONAR should address how LUGs will pay for additional costs and the ramifications to property tax payers and SSTS owners. The SONAR indicates that a state grant will pay for about ½ of the LUG transitional costs but there is no mention of how the LUG will pay for the other ½ of the transitional cost. In addition, the SONAR does not discuss how LUG will pay for the on-going administrative costs. Who will ultimately pay for these local services?

Please contact me if you have any questions.

Sincerely,



Mark Gamm  
Dodge Environmental Quality Director

Cc. Don Gray, Chairperson, Dodge County Board of Commissioners  
David McKnight, Dodge County Administrator  
Sandra Schaefer, Dodge County Septic System Coordinator  
Carol Nankivel, MPCA

# EKLIN SOIL TESTING AND INSPECTIONS, INC.

299 Cimarron  
Lake Elmo, MN 55042  
(651) 337-1300

Judge Eric Lipman  
Office of Administrative Hearings  
100 Washington Square  
Suite 1700  
MPLS, MN 55401-2138

April 2, 2007

Judge Eric Lipman:

Subject: Rule change for ISTS Code, Minnesota Pollution Control Agency

Rule 7081.0150-0170, soil evaluation, use of soil pits or backhoe borings

I do not feel soil pits should be mandatory on all sites or lots. On an over cast or cloudy day or in a wooded area, it is next to impossible to read the soils 5' or 6' deep in this condition. When a hand auger is used, you can take the auger into a more lighted area to read the soils.

I feel a backhoe is very helpful in determining the depth of bedrock or heavy rock soil. We use a hoe quite often for this soil. The cost of using a backhoe would increase the cost of each job by about \$400.00 as you would have to figure 4 hours for a backhoe. This would put a burden on home owners or contractors.

Rule 7080.2030, Distribution of effluent


I question the need for cleanouts on pressure distribution. This is just another fitting that could leak or blow.

Advanced Treatment Systems

There are many of us testers that through the years have designed multi systems. I hope the MPCA takes into consideration experience and years in business and not just depend on engineering degrees.

I wish to thank you for being able to comment on issues. I feel I have merit and should have consideration.

Thank you,

  
Dale Eklin  
Certification No. 695

RECEIVED  
2007 APR -4 AM 9:18  
ADMINISTRATIVE  
HEARINGS

## Summary of SSTS Rule Changes

	Minnesota licensed professional engineer.
7080.1920 - .1990	<b>Septic Tank Design and Capacity; Use of Multiple or Compartmentalized Tanks; Septic Tank Baffles; Septic Tank Access; Tank Construction and Transport</b> – specifies required tank geometry and increases required capacity for residential septic tanks. Describes design and use of multiple or compartmentalized tanks, and construction and placement of baffles. Requires a maintenance hole to be installed over each baffle and so access can be gained within six feet of all tank walls. Requires precast concrete tanks to be constructed to National Precast Concrete Association's best practices for Precast Concrete On-site Wastewater Tanks (2005); and fiberglass and polyethylene tanks to meet International Association of Plumbing and Mechanical Officials' Material and Property Standards for Prefabricated Septic Tanks, Standard PS 1-2006. Specifies requirements for tank integrity protection during shipping and installation.
7080.1980	<b>Location and Installation of Tanks</b> – This rule section details requirements for placement of tanks. Limits the depth of tank burial. Requires insulation of tanks and maintenance hole covers to R-10. Requires tank connections and joints to meet national standards.
7080.2010	<b>Tank Testing</b> – Requires that all tank designs be verified by a licensed professional engineer to meet appropriate standards. Requires that every 25 <sup>th</sup> tank manufactured, and that at least one tank per year, per model, be tested for watertightness by showing they meet specified standards.
7080.2020 - .2030	<b>Tank Identification; Effective Date of Tank Requirement Changes</b> – Specifies how tanks should be labeled. Delays required conformance to new tank standards for three years after effective date of rules.
7080.2030	<b>Distribution of Effluent</b> – Specifies standards for supply pipes; establishes minimum slope and other factors for gravity and pressure distribution; requires more perforations per distribution lateral. Requires cleanouts on all <u>pressure distribution systems</u> that are accessible from final grade.
7080.2100	<b>Dosing of Effluent</b> – specifies requirements for dosing chambers and pumps for both gravity and pressure distribution
7080.2150	<b>Treatment and Dispersal</b> – sets general requirements for all soil treatment and dispersal areas, including setbacks. Requires use of registered components; requires that all components and sealants meet or exceed a 25-year design life; continues to require a minimum of three-foot separation for soil treatment systems; requires use of original soil for the absorption area; specifies sizing based on soil texture, structure, and percolation rates using specified soil sizing factors for trenches or bed and a absorption ratio for mounds; and requires vegetative growth over completed system.

## Summary of SSTS Rule Changes

Rule Part	Topic
7081.0010	<b>Purpose and Intent</b>
7081.0020	<b>Definitions</b>
7081.0040	<b>State Regulation</b> – establishes scope of local and MPCA permitting programs.
7081.0050	<b>Federal Regulation</b> – reflects federal law in defining all SSTS serving two-family dwellings or larger, and all non-sewage subsurface systems as Class V Injection Wells, and refers to federal regulations in this regard. Requires that all septage generated from MSTs be treated and dispersed according to federal requirements, cited.
7081.0060	<b>Local Regulation</b> – requires that local regulation of MSTs conform to the requirements of 7081.
7081.0070	<b>Variance Procedures</b> – establishes framework for local variances for individual MSTs and prohibits variances from specified minimal environmental protection outcomes.
7081.0080	<b>Performance and Compliance Criteria</b> – defines “imminent threat” for MSTs. Establishes ground water protection requirements, including standards for protection of aquifers from nitrogen contamination. Requires that MSTs be operated in conformance with their operating permit to be in compliance.
7081.0100	<b>Professional Requirements</b> – refers to certification and licensing provisions of the new 7083 for MSTs work
7081.0110 - .0140	<b>Sewage Flow Determination</b> – These sections of rule specify the methods and values to be used in determining sewage flow for design. These standards must be used by local governments in determining flow for determining permitting thresholds. Standards are provided for ten or fewer dwellings, 11 or more dwellings, and other establishments. Values for infiltration and inflow flow increases are provided.
7081.0150	<b>Necessity of Soil and Site Evaluation</b> – requires that soil and site evaluations be conducted for MSTs design.
<del>7081.0160</del> <del>- .0170 -</del>	<b>Preliminary Evaluation; Field Evaluation</b> – sets requirements for initial desk-top evaluation of proposed sites. Field evaluation elements are specified, including geomorphic description, past and current land use, description of surface features, use of soil pits for soil observation, description of soils, determination of soil’s infiltration capacity, comparison with soil survey.
7081.0180	<b>Soil Interpretation for System Design</b> – lists nine soil elements that must be considered in system design, including developing an approximation of the rise in groundwater from system operation as determined by groundwater mounding calculations.
7081.0190	<b>Site Protection</b> – requires that the proposed soil treatment and dispersal areas be protected from disturbance, compaction and other damage.
7081.0200	<b>Soil and Site Report</b> – specified required information in this report
7081.0210	<b>Groundwater Investigation</b> – requires designers to ascertain

**SYSTEM CLASSIFICATION AND RESPONSIBILITIES** - This table provides information on the new "types" in the proposed ISTS rule (7080), and is included in this issue as a tool to help you as you review the rule.

System Classification	System Description	Designer Installer Inspector	Permits Required	Management and Maintenance Requirements
<p>Type I</p> <p><i>Systems meet specified requirements</i></p> <p><i>Previously Standard systems</i></p>	<p>Trenches, Beds, At-grades, Mounds, and Grey water systems</p> <p>Use registered distribution products; standard flow, tankage and distribution sizing</p>	<p>Basic Designer</p> <p>Installer</p> <p>Inspector</p>	<p>Permit to construct</p>	<p>Management Plan when designed</p> <p>Maintainer to pump and perform other needed maintenance</p>
<p>Type II</p> <p><i>Systems meet specified requirements</i></p> <p><i>Previously Alternative systems</i></p>	<p>Type I systems used where:</p> <ul style="list-style-type: none"> <li>• Rapidly permeable soils</li> <li>• Floodplains</li> </ul> <p>Use registered distribution products; standard flow, tankage and distribution sizing</p> <p>Privies and holding tanks</p>	<p>Basic Designer</p> <p>Installer</p> <p>Inspector</p>	<p>Permit to construct</p> <p>Operating permit recommended for holding tanks</p>	<p>Management Plan when designed</p> <p>Maintainer to pump and perform other needed maintenance</p>
<p>Type III</p> <p><i>Systems meet specified requirements</i></p> <p><i>Previously Other systems</i></p>	<p>Type I systems but:</p> <ul style="list-style-type: none"> <li>• Vary from standard Type I designs</li> <li>• Use registered distribution media products</li> <li>• Rely on the soil to provide treatment</li> <li>• Downsizing must control flow</li> </ul>	<p>Basic Designer</p> <p>Installer</p> <p>Inspector</p>	<p>Permit to construct</p>	<p>Management Plan when designed</p> <p>Maintainer to pump and perform other needed maintenance</p>
<p>Type IV</p> <p><i>Systems meet specified requirements</i></p> <p><i>New category - Performance systems 'with help'</i></p>	<p>Advanced treatment systems registered for use in MN, coupled with subsurface soils dispersal per code specifications (maximum loading rates, use of pressure distribution, timed dosing) - less separation distance required</p> <p>Use registered products</p>	<p>Advanced Designer</p> <p>Installer</p> <p>Inspector</p>	<p>Permit to construct</p> <p>Operating permit</p>	<p>Perform operation and maintenance in accordance with operating permit</p> <p>Maintainer and Service Provider to perform needed maintenance</p>
<p>Type V</p> <p><i>Systems must protect public health and the environment</i></p> <p><i>Previously Performance system</i></p>	<p>Performance systems that:</p> <ul style="list-style-type: none"> <li>• Protect public health</li> <li>• Protect groundwater</li> <li>• Protect surface water</li> </ul>	<p>Advanced Designer</p> <p>Installer</p> <p>Inspector</p>	<p>Permit to construct</p> <p>Operating permit</p>	<p>Perform operation and maintenance in accordance with operating permit</p> <p>Maintainer and Service Provider to perform needed maintenance</p>