SSTS Advisory Committee Agenda
January 8th, 2015
Pines Edge, 1490 110th St NW, Rice, MN 56367, 320-393-7125, http://www.twinpinesrestaurant.com/

9:30 – 10:00 AM Coffee, treats and conversation

10:00 – 10:10 AM Introductions, agenda review and appointments and vacancies on Committees. Sara Heger & Aaron Jensen

10:10 – 10:30 AM Licensing and certification topics
Goal -- AC informed of ongoing activity and provides suggestions and feedback

1. Build sewer update, Nick Haig
2. Lapsed Certification Retesting Requirements, Nick Haig
3. Winter Soils Continuing Education Policy, Nick Haig

10:30 – 11:00 AM MPCA short update items
Goal -- AC informed of ongoing activity

1. Annual Reports, Aaron Jensen
2. Registered Products Update, Aaron Jensen
3. Staff Update, Jim Ziegler
4. Citation Authority Update, Nicole Blasing
5. Enforcement Actions, Nicole Blasing

11:00 – 12:00 AM Programing and Policy discussions
Goal -- AC informed of ongoing activity and provides input and approval
Inspection manual, Mark Wespetal

12:00 – 12:45 Lunch (payable to restaurant - $7.95 for pizza and pasta buffet)

12:45 – 2:00 Member items for discussion
Goal – Members bring up topics for discussion and consideration

1. Connecting to old asbestos pipe
2. 7081 and design guidance how it’s working out for the industry? Changes needed?
3. Regional advanced inspectors, contracting with others? Gaps in coverage?
4. With technology running at light speed, is there anything we can do about providing software guidance to those LUG’s that don’t provide the information designers need (aerial maps, property lines, contour lines, lake info, etc.)
5. Federal funding – NOWRA activities may more funds available for septic system upgrades?
6. Others

Next meetings in 2015: March 12th, June 11th, September 10th and December 10th
Committee Website: http://septic.umn.edu/events/sstsac/
SSTS AC Meeting
1-8-14
St. Paul Room 2-3 and WebEx

Attendees: Marilee DeGroot, Sara Heger, Aaron Jensen, Mark Wespetal, Nicole Blasing, Ron Thompson, Pete Otterson, Cathy Tran, Gene Soderbeck, Eric Van Dyken, Troy Johnson, Roger Berggren, Dan Switzer, Craig Gilbertson, Terry Neff, Ron Jasperson, Gaylen Goble, Jeff Iverson, Jim Larsen, Greg Halling, and Tom Wirtzfeld

9:30 – 10:00 AM  Coffee, treats and conversation

10:00 – 10:10 AM  Introductions, agenda review and appointments and vacancies on Committees.
Sara Heger & Aaron Jensen – Eric Van Dyken said he’s served two terms on the committee and according to the bylaws; this will be his last meeting. He thanked everyone for the opportunity to serve on the Committee. Sara added an item to the agenda about campgrounds and legislation.

10:10 – 10:30 AM  Licensing and certification topics
Goal -- AC informed of ongoing activity and provides suggestions and feedback
1. Build sewer update, Aaron Jensen
   a. Aaron gave an overview of the Building sewer regulations and Cathy Tran built on the discussion. Marilee asked about grinder stations. Cathy explained that if it is designed by the by the plumbing that the plumber is responsible and if it’s designed by the SSTS professional than it would be sewer. Ron J had a lot of questions about how the when it would apply in 7081. Subsequent to meeting Nick Haig emailed out draft legislation/rules for committee review.

2. Lapsed Certification Retesting Requirements, Aaron Jensen
   a. Aaron went through the handout (attached). How many of these happen? Felt that the one year grace period was a good idea. Its part of doing business to get your CE. Troy thought that there more education about how the CE process works. Sara stated that our current requirements are more strict the most other similar certifications in Minnesota and across the US. Gene said that MPCA is looking for feedback on how this could be made better.

3. Winter Soils Continuing Education Policy, Aaron Jensen
   a. Aaron went over the handout (attached). There was a lot of discussion on the field component on the requirement of the actual having to go into the field for the CEU. Eric stated they were supposed to go to their applicable area of the state to take their CEU’s. Mark clarified that they can take the soils in any part of the state. Sara clarified that the rule does require a field component.

10:30 – 11:00 AM  MPCA short update items
Goal -- AC informed of ongoing activity
1. Annual Reports, Aaron Jensen
   a. Aaron talked about the 2014 annual report. The 2014 annual report spreadsheets were emailed to LGU’s starting in the second week of December. There are two additions and eight questions deleted on the spreadsheet this year. The first addition is just a better clarification of Alternative Local Standards (ALS). The first three questions have been reworded or added to help clarify ALS. Please read the questions carefully. The second
addition is just a quick question added to the inspector tab to identify the person that has taken the SSTS administrative training. The deleted questions were not used to tabulate the annual report, so they were removed from this spreadsheet. As usual the reports are due back by February 1st of 2015 or sooner if you choose to get them done early. Aaron Jensen in the St. Paul office is in charge of sending out and receiving all of the reports, so if you have any questions please contact him.

2. Registered Products Update, Aaron Jensen
   a. Aaron went over to the product registration. There is still some disconnect on where the manuals are located. Troy needs the peat filter manual. We will discuss this issue again with the TAP committee. Eric made a motion to recommend that the agency develop a better process for design and installation manuals for registered products. Seconded by Troy. Passed unanimously

3. Staff Update, Gene Soderbeck
   a. Gene went over the opening that we will have to shadow Mark. It will be posted hopefully this week. Kristi Kalk is the new person in the Marshall office and Pat Shelito will retire in Feb and they hope to fill that position in the Duluth office.

4. Citation Authority Update, Nicole Blasing
   a. Nicole went over the ticketing authority and the plan to move forward with that plan. The spring of 2015 is the goal to start issuing citations. Marilee asked if they could be informed of the citation. Nicole asked if that would be helpful for counties and they said yes. The MPCA will look into the appropriate time to notify the LGU of the citation and incorporate it into the new process. Ron T asked about the violations that were ticketable. Nicole went through the different violation categories per Statute. Pete asked if there was a referral framework that could be developed. Pete asked what about ongoing enforcement, could they be issued a ticket. Nicole stated that an existing enforcement case might be able to be issued a field citation. It will depend on the specifics of the case and how far along it is in the enforcement process.

5. Enforcement Actions, Nicole Blasing
   a. Nicole went over the enforcement actions for the third quarter (July – September 2014). 65 total for the agency and 14 for SSTS. 21% of the agency enforcement. MPCA’s fourth quarter enforcement summary will be released soon.

11:00 – 12:00 AM Programing and Policy discussions

Goal -- AC informed of ongoing activity and provides input and approval
Inspection manual, Mark Wespetal

Mark did an introduction to the background and necessity for the inspection manual. We are hoping to get some feedback from everyone. Terry went over some of the issues that he found in the guidance. Wanted to make it clear that the some of the discretion things should maybe left out of the manual and left up the inspector. Mark explained why he included the discretion. He was using experience from past decisions or discussions. Sara said that she felt that the discretion is needed, often questioned and should be included in the manual. Eric Stated the language needs to be non specific and not go above and beyond the rule. Ron J is concerned that we are not expanding the definition of a failure. Mark said he tried hard to be clear what was rule and what was recommended. Eric V said that contractors don’t really differentiate between the rule or recommendation, they just see that it is written down and therefor it has to be done that way. Sara said that they get a lot of calls about inspections and this document was developed to provide help and also help clarify how midsized systems and type IV systems should be inspected. Eric felt that this would never be used in there county. Eric expressed frustration as the issue of reporting failures on non-work time is included in the
manual even though it was previously discussed at the AC meeting and voted down. Mark stated that it is in statute that if you see a failure you are required to report it. As policy we decided to make that a recommendation instead of a statute. Troy and Jeff felt that it would look better on the U of M letterhead versus MPCA letterhead. Sara stated that she is not sure how to move forward. Should it be a workgroup or how we should move forward with it? Terry suggested to wait for comments at MOWA and decide if a workgroup is needed. Merilee asked if this would be circulated to the inspectors before the session, so they could review it. It will be posted online as draft for an extended time. Let Mark know if you would like to volunteer to be on this committee.

Other legislation topics: Campgrounds. Mark explained the issue that may require legislation. The discussion is about seasonal flow and not being considered environmental impact since its seasonal even though it is over 10,000 gpd by Tables in 7081. The agency is currently looking at alternatives to the state permit. Nicole went through the costs of a SDS permit. Ron explained other costs associated with the SDS permit in addition to the permit. Ron asked if it was limited to campgrounds only or a broader topic of seasonal. It is a broader topic of seasonal. Tom W was wondering if there could be some relief on the 9300 cost and if they could use foresight to alleviate the administrative costs for gaining a permit. Greg stated that many expansions are triggering the permit requirement. Troy is always been a proponent that we should not have two different flows. The design flow and permit flow. Mark stated that they should be designing to the permit flow and then you can control what goes to the STA, but they should be designing on the permit flow. Troy stated that the environment doesn’t know the surge capacity it only knows what it is actually receiving in the drainfield. Sara stated that there has always been the feeling that they don’t want to get a state permit, but instead of making the state permit more reasonable/in line we are instead reducing the systems that would fall above the threshold. Mark stated that the rule is meant to drive things smaller to avoid extra regulations. Eric stated that it’s not the agencies job to determine the economics, but it is also not meant to hurt the economics of the owner. Sara asked if there were concrete suggestions to help the agency to move forward. Here is our opportunity to do that. Ron stated that there is legislation coming and we need to either provide input or try to live with what the legislation decides.

1. Troy made a motion that the agency removes the ½ mile radius under common ownership clause, seconded by Terry. Passed unanimously.
2. Troy made a second motion that the agency add 7 day averaging to the estimated flow calculation found in table 1 under 7080, seconded by Terry. Passed unanimously aside from Ron abstaining.
3. Eric makes the motion that the previous motion be used for all permit and flow classifications, Terry Second. Passed unanimously.
4. Motion to remove “greater of” made by Ron, seconded by Terry. Passed unanimously. Greg stated that this doesn’t address many systems located in one area.

12:00 – 12:45 Lunch

12:45 – 2:00 Member items for discussion

Goal – Members bring up topics for discussion and consideration

1. Connecting to old asbestos pipe
Generally not a good idea. Sometime there are circumstances that it isn’t economically feasible to remove the old pipe.

2. 7081 and design guidance how it’s working out for the industry? Changes needed?
   a. Most of the earlier discussions covered most of these concerns. Mark talked about how he is changing the formatting to bring all things related into one place.

3. Regional advanced inspectors, contracting with others? Gaps in coverage?
   a. Sara talked about how there were gaps in coverage in the mainly the NW or West in general. Greg, Pete, and Eric talked about the contracts they developed for that service. Greg stated that it would be nice to have a regional place to look for folks that area available for that area. He would like to have a list already developed that they could go to find people.

4. With technology running at light speed, is there anything we can do about providing software guidance to those LUG’s that don’t provide the information designers need (aerial maps, property lines, contour lines, lake info, etc.)
   a. Troy is asking if there is a way to makes things smoother for professionals that are working in the industry. If there was a way to pay for the development of technology in each county. It is suggested to discuss this more at the MOWA conference to bring awareness to the different technologies that are being used in other areas.

5. Federal funding – NOWRA activities may more funds available for septic system upgrades?
   a. Sara gave an overview about NOWRA activities. Gene talked about 319 funds available for unsewered areas. Eric stated that the CWP money is federal dollars. Gene asked for feedback to come up with ideas of how to better come up with funding to help fix the septic issues. It will likely be for the next legislative session.

6. Others
   Talked about how to hold that meeting. On March 12th. It sounds like in person is the preferred method.

Meeting adjourned at 2:30pm
A. **Feedback Request – Consequences for a lapsed certification:**

The penalty for an expired SSTS Certification depends on three factors:

1. the number of exams they have taken to qualify for certification,
2. the type of continuing education that is missed, and
3. the timing of one’s expiration and difference between that date and the first available opportunity to be reinstated.

Currently, Minnesota Rules require individuals whose certifications lapse to catch up with their missed continuing education and to retest all of their qualifying exams.

The Agency is considering modifying the rules to change the requirements for individuals whose certifications have lapsed. The program’s ultimate goal is to make sure that recertification can occur in a timely manner and that there is a reasonable disincentive to lapse. We are collecting feedback about this concept and the following suggestions.

1. Reduce the maximum number of exams a lapsed certificate holder must take to two,
2. Increase the frequency with which certain exams are offered,
3. Create a provisional certification status that allows an individual to act as the designated certified professional for their business that is conditional upon the completion of the required continuing education within a specified timeframe, perhaps 1 year.

Please share feedback with Nick Haig at: nick.haig@state.mn.us

B. **Soils CE cannot be accredited in Winter Conditions:**

Soils Continuing Education will not be accredited if winter conditions exist. Winter conditions include any of the following:

1. Frozen soils
2. Low light conditions associated with the astronomical phenomenon
3. Snow cover that affects the observation of surface features or background contrast

Accreditation applications for soils-specific continuing education to take place between November 1 and May 1 can receive conditional accreditation dependent upon MPCA confirmation that winter conditions do not exist on the day of the training. Contact Jane Seaver with questions about this policy at Jane.Seaver@state.mn.us
Session Law:
The commissioner shall issue rule, using the expedited rulemaking process in section 14.389, setting forth procedures to conform with the changes to Minn. Stat. 115 and streamline the subsurface sewage treatment system license application and renewal process in a manner that;

1. surety bond and insurance requirements of licensed subsurface sewage treatment system businesses meet the requirements of Minn. Stat. 115 and 326B.49, and
2. properly trained subsurface sewage treatment system professionals may complete work on a building sewer connected to a subsurface sewage treatment system with respect to the plumbing code and program.

115.55 SUBSURFACE SEWAGE TREATMENT SYSTEMS.
Subdivision 1. Definitions.
(a) The definitions in this subdivision apply to sections 115.55 to 115.56.
(b) "Advisory committee" means the Advisory Committee on Subsurface Sewage Treatment Systems established under the subsurface sewage treatment system rules. The advisory committee must be appointed to ensure geographic representation of the state and include elected public officials.
(c) "Applicable requirements" means:
1. local ordinances that comply with the subsurface sewage treatment system rules, as required in subdivision 2; or
2. in areas without compliant ordinances described in clause (1), the subsurface sewage treatment system rules.
(d) "Building sewer connected to a subsurface sewage treatment system" means the pipe that connects a structure to a subsurface sewage treatment system. Building sewers connected to subsurface sewage treatment systems are co-defined as both plumbing and subsurface sewage treatment system components.
(e) "City" means a statutory or home rule charter city.
(f) "Commissioner" means the commissioner of the Pollution Control Agency.
(g) "Dwelling" means a building or place used or intended to be used by human occupants as a single-family or two-family unit.
(h) "Subsurface sewage treatment system" or "system" means a sewage treatment system, or part thereof, that uses subsurface soil treatment and disposal, or a holding tank, serving a dwelling, other establishment, or a group thereof, and that does not require a state permit, including any building sewer connected to a subsurface sewage treatment system.
(RELETTER REMAINING DEFINITIONS)
115.56 MANDATORY LICENSING PROGRAM.

Subdivision 1. Rules.

(a) Pursuant to section 115.03, subdivision 1, the agency shall adopt rules containing standards of certification and licensure applicable to all subsurface sewage treatment system individuals and businesses.

The rules must include but are not limited to:

(1) training requirements that include both classroom and fieldwork components;
(2) examination content requirements and testing procedures;
(3) continuing education requirements;
(4) equivalent experience provisions;
(5) bonding and insurance requirements;
(6) schedules for submitting fees; and
(7) license revocation and suspension and other enforcement requirements.

(b) The agency shall consult with the advisory committee before proposing any rules under this subdivision.

Subd. 2. License required.

(a) Except as provided in paragraph (b), a person may not design, install, maintain, pump, inspect, or provide service to a subsurface sewage treatment system without a license issued by the commissioner. Licenses issued under this section allow work on subsurface sewage treatment systems that do not require a state permit using prescriptive designs and design guidances provided by the agency. Licensees who design systems using these prescriptive designs and design guidances are not subject to the additional licensing requirements of section 326.03.

(b) A license is not required for a person who complies with the applicable requirements if the person is:

(1) a qualified employee of state or local government who is a certified professional;
(2) an individual who constructs a subsurface sewage treatment system on land that is owned or leased by the individual and functions solely as the individual's dwelling or seasonal dwelling, unless specifically disallowed in local ordinance. A person constructing a subsurface sewage treatment system under this clause must comply with all local administrative and technical requirements. In addition, the system must be inspected before being covered and a compliance report must be provided to the local unit of government after the inspection;
(3) a farmer who pumps and disposes of sewage waste from subsurface sewage treatment systems, holding tanks, and privies on land that is owned or leased by the farmer; or
(4) an individual who performs labor or services for a licensed business under this section in connection with the design, installation, operation, pumping, or inspection of a subsurface sewage treatment system at the direction and under the personal supervision of a person certified under this section.
(c) The commissioner, in conjunction with the University of Minnesota Extension Service or another higher education institution, shall ensure adequate training and design guidance exists for subsurface sewage treatment system certified professionals.

(d) The commissioner shall conduct examinations to test the knowledge of applicants for certification and shall issue documentation of certification.

(e) Licenses may be issued only upon submission of general liability insurance, a corporate surety bond in the amount of at least $10,000, and the name of the individual who will be the designated certified individual for that business. The bond may be for both plumbing work and subsurface sewage treatment work if the bond complies with the requirements of this section and satisfies the requirements and references identified in section 326B.46, subdivision 2.

(f) Local units of government may not require additional local licenses for subsurface sewage treatment system businesses.

(g) No other professional license under section 326.03 is required to design, install, maintain, inspect, or provide service for a subsurface sewage treatment system that does not require a state permit using prescriptive designs and design guidances provided by the agency if the system designer, installer, maintainer, inspector, or service provider is licensed under this subdivision and the local unit of government has not adopted additional requirements.

Subd. 2a.
[Repealed, 2009 c 109 s 15]

7080.1100 DEFINITIONS.

Subp. 10.a Building Sewer. "Building sewer" means that part of the drainage system as set forth in chapter 4715, or subsequent revisions.

Subp. 10.b Building sewer connected to a subsurface sewage treatment system. “Building sewer connected to a subsurface sewage treatment system” means that part of the drainage system as set forth in chapter 4715 or subsequent revisions with conveyance limited to a subsurface sewage treatment system. A building sewer connected to a subsurface sewage treatment system is co-defined as part of the plumbing drainage system as set forth in chapter 4715 or subsequent revisions and as a subsurface sewage treatment system component as set forth in section 115.55

Subp. 41. Individual subsurface sewage treatment system or ISTS. "Individual subsurface sewage treatment system" or "ISTS" means a subsurface sewage treatment system or part thereof, as set forth in Minnesota Statutes, sections 115.03 and 115.55, that employs sewage tanks or other treatment devices with final discharge into the soil below the natural soil elevation or elevated final grade that are designed to receive a sewage design flow of 5,000 gallons per day or less.

ISTS also includes all holding tanks that are designed to receive a design flow of 10,000 gallons per day or less; sewage collection systems and associated tanks that discharge into ISTS treatment and...
dispersal components; and privies. ISTS does not include those components defined as plumbing under chapter 4715 or subsequent revisions except for a building sewer connected to an ISTS.

**Subp. 60.a Plumbing Program Administrative Authority.** “Plumbing Program Administrative authority” means the commissioner of labor and industry or the governing body of the adopting unit of government, its agents, and employees as set forth in chapter 4715, or subsequent revisions.

### 7081.0020 DEFINITIONS.

**Subp. 4. Midsized subsurface sewage treatment system or MSTS.** "Midsized subsurface sewage treatment system" or "MSTS" means a subsurface sewage treatment system, or part thereof, as set forth in Minnesota Statutes, sections 115.03 and 115.55, that employs sewage tanks or other treatment devices with final discharge into the soil below the natural soil elevation or elevated final grade and that is designed to receive sewage design flow of greater than 5,000 gallons per day to 10,000 gallons per day.

MSTS also includes sewage collection systems and associated tanks that discharge into MSTS treatment or dispersal components. MSTS does not include those components defined as plumbing under chapter 4715 or subsequent revisions except for a building sewer connection to an MSTS.

### 7083.0740 DESIGN LICENSE.

**Subpart 1. Authorization.**

A. A licensed basic design business is authorized to conduct site and soil evaluations, design systems and design the building sewer connected to a subsurface sewage treatment system, and write management plans for a Type I, II, or III ISTS as described under parts 7080.2200 to 7080.2300 serving dwellings or other establishments with a design flow of 2,500 gallons per day or less.

B. A licensed advanced design business is authorized to conduct site and soil evaluations, design systems and design the building sewer connected to a subsurface sewage treatment system, and write management plans for all sizes and types of SSTs.

**Subp. 2. Responsibilities.**

All design licensees must:

A. inform the proposed system owner of the type classification of the system under parts 7080.2200 to 7080.2400;

B. provide written reasonable assurance of system performance to the local unit of government including, but not limited to:

   (1) adherence to system type requirements; or
   (2) technical basis for design elements for Type II to Type V systems; and

C. prepare detailed design sheets, drawings, calculations, materials, system layout, and elevations.

D. plans for the building sewer connected to a subsurface sewage treatment system shall be submitted for review when there is a plumbing program administrative authority responsible for determining compliance with the Minnesota Plumbing Code.
Subp. 3. Certified designers.
Certified designers must conduct the soil descriptions and review other site evaluations and designs by noncertified employees. This review includes both verification of field observations and conclusions and design assumptions and calculations.

7083.0750 INSPECTION LICENSE.
Subpart 1. Authorization.
A. A licensed basic inspection business is authorized to conduct compliance inspections and issue written certificates of compliance and notices of noncompliance for an existing ISTS described in part 7083.0740, subpart 1, item A. An inspection business is allowed to install a new system for a property in which the business has conducted an existing ISTS compliance inspection, provided the business holds the appropriate licenses. A local unit of government is allowed to authorize a licensed inspection business to review and approve site evaluations and designs, inspect new construction and replacement systems, verify the submittal of management plans, and issue written certificates of compliance and notices of noncompliance for systems described in part 7083.0740, subpart 1, item A.

B. A licensed advanced inspection business is authorized to conduct compliance inspections and issue written certificates of compliance and notices of noncompliance for existing systems described in part 7083.0740, subpart 1, item B. An inspection business is authorized to install a new system for a property in which the business has conducted an existing system compliance inspection, provided the business holds the appropriate licenses. A local unit of government is allowed to authorize a licensed advanced inspection business to review and approve site evaluations and designs, inspect new construction and replacement systems, verify the submittal of management plans, and issue written certificates of compliance and notices of noncompliance for systems described in part 7083.0740, subpart 1, item B.

Subp. 2. Responsibilities.
Basic and advanced inspection licensees must submit a completed version of the agency's existing inspection form to the local unit of government and the property owner within 15 days after any existing system compliance inspection.

Subp. 3. Certified inspectors.
Certified inspectors are responsible for personally conducting the necessary procedures to assess system compliance. Certified inspectors must complete and sign the agency's existing system inspection form. Certified inspectors may inspect a building sewer connected to a subsurface sewage treatment system for compliance with the Minnesota Plumbing Code when:

A. There is no plumbing program administrative authority to perform plumbing inspection, or;
B. authorized to do so by the appropriate plumbing program administrative authority.
7083.0760 INSTALLATION LICENSE.
Subpart 1. Authorization.
A licensed installation business is authorized to construct, install, alter, extend, maintain, or repair all SSTs and the building sewer connected to a subsurface sewage treatment system according to an approved design.

Subp. 2. Responsibilities.
Installation licensees must:

A. ensure all work is done according to an approved design report;
B. provide adequate notice to the local unit of government and the plumbing program administrative authority when work is in need of required inspections;
C. provide as-built drawings to the owner and local unit of government within 30 days of system installation;
D. maintain quality control and quality assurance records for five years;
E. provide system owners with information concerning system operation and maintenance;
F. ensure that all work is done according to construction activities comply with applicable storm water and Minnesota plumbing code regulations;
G. follow recommended standards and guidance documents for registered products and check the quality of materials used;
H. negotiate with the system owner and jointly determine who will be responsible for seeding, erosion and frost protection, watering, and other vegetation establishment activities; and
I. pay the septic system tank fee and submit the form according to Minnesota Statutes, section 115.551, including notification if no tanks were installed during the reporting year. The form and payment are due to the commissioner by January 31 for the previous calendar year's installations.

Subp. 3. Certified installers.
Certified installers must be at the worksite to meet supervision needs as determined by the training and experience level of the crew and local requirements and to ensure that the installation, alteration, or extension of an SSTs is in accordance with an approved design report and permit. The certified installer must prepare quality control and quality assurance records and prepare and sign as-built drawings. The certified installer must personally determine, supervise, and verify:

A. the system layout and placement;
B. that site conditions allow for construction;
C. the proper soil moisture conditions for excavation;
D. the elevations of sewage tanks and soil treatment systems;
E. the quality of tanks and suitability of other materials;
F. solutions to problems encountered; and
G. upgrade and repair advice provided.

7083.1000 BONDING AND INSURANCE FOR SSTS LICENSED BUSINESSES; LIABILITY.
Subpart 1. Bond and insurance requirements.

A. To be eligible for SSTS licensing, a business must have a minimum of $100,000 of general liability insurance. The minimal amount is not increased for businesses with multiple licenses. The insurance must be written by a business licensed to provide insurance in Minnesota.

B. To be eligible for SSTS licensing, proof of general liability insurance must be evidenced by a certificate of insurance form that shows the minimum coverage that will be in effect for at least the term of the license. The licensee is responsible for providing written notice to the commissioner within 30 days of cancellation or change in liability insurance. If the insurance is canceled or the amount of coverage is reduced to less than the amounts in item A, the license immediately and automatically becomes invalid and the business must not perform SSTS work until the business obtains insurance meeting the requirements of this part and submits notification of insurance coverage to the commissioner.

C. To be eligible for SSTS licensing, a business must hold a corporate surety bond in the amounts specified in Table I or greater of at least $25,000. If a business seeks more than one license, then the license category with the highest bonding amount fulfills the bond requirement for all licenses sought.

Table I

<table>
<thead>
<tr>
<th>License</th>
<th>Minimum Bond Amounts</th>
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<tr>
<td>Basic design</td>
<td>$10,000</td>
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<tr>
<td>Advanced design</td>
<td>$25,000</td>
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<tr>
<td>Inspection</td>
<td>$10,000</td>
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<tr>
<td>Advanced inspection</td>
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<tr>
<td>Installation</td>
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<td>Maintenance</td>
<td>$10,000</td>
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<tr>
<td>Service provider</td>
<td>$10,000</td>
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D. The corporate surety bond must be written by a corporate surety licensed to do business in Minnesota.

E. The corporate surety bond must be submitted to the commissioner on the bond form provided in this chapter, or on an alternate bond form provided by the commissioner, and must name the applicant as the principal.

F. The corporate surety bond must be signed by an official of the business who is legally authorized to represent the business and must list a contact if a claim is to be filed.

G. The corporate surety bond must cover work to be done under all SSTS licenses to be held by the business and must be for the benefit of persons injured or suffering financial loss by reason of failure to comply with the requirements of the State Plumbing Code and the requirements of M.S. sections 155.55 and 115.56.

Subp. 2. Bond use.

A. The corporate surety bond must be conditioned on the principal faithfully performing the duties and complying with all laws, ordinances, and rules pertaining to the SSTS license applied for and all contracts entered into.

B. A person suffering a loss from the principal failing to act according to item A is allowed to petition the corporate surety to seek and be granted a partial or full payment of the bond.

Subp. 3. Term of bond. The term of the corporate surety bond must be continuous with the term of the license or, in the case of a plumbing bond provided according to Minnesota Statutes, section 326B.46, subdivision 2, concurrent with the term of the plumbing license. The penal sum of the bond is noncumulative and must not be aggregated every two years that the bond is in force. The aggregate liability shall be limited to the bond penalty shown on the bond form for each two year period the bond remains in effect for any losses that occur during each two year period.

Subp. 4. Notification of bond actions. The corporate surety must provide written notice to the commissioner within 30 days of cancellation or reduction of a licensee's bond. If a corporate surety bond is canceled or the amount of coverage is reduced to less than the amounts in subpart 1, item C Table I, the license immediately and automatically becomes invalid and the business must not perform SSTS work until the business obtains another corporate surety bond meeting the requirements of this part and submits notification of renewed bond coverage to the commissioner. The corporate surety must notify the principal and commissioner of any claims pending against the bond within five days of the receipt of the claim and notify the principal and commissioner of any payments made against the bond within five days of payment.

7083.2030 MINNESOTA POLLUTION CONTROL AGENCY SURETY BOND FORM.

Bond No. _____
MINNESOTA POLLUTION CONTROL AGENCY

SUBSURFACE SEWAGE TREATMENT SYSTEM (SSTS) SURETY BOND

KNOW ALL PERSONS BY THESE PRESENTS:

THAT _____

(Name of Licensee)

doing business as .................................. at

__________________________________, Minnesota, as Principal, and

(Address)

____________________________________, a corporation authorized

(Name of Surety)

to do surety business in the State of Minnesota, as Surety, are hereby held and firmly bound to the Commissioner of the Minnesota Pollution Control Agency-State of Minnesota and any persons aggrieved by reason of the Principal's failure to faithfully perform the duties, and in all things comply with all laws, ordinances, and rules, pertaining to the Principal's license or any permit applied for and all contracts entered into, in the sum of ___ THOUSAND DOLLARS ($______). For the payment of this sum, Principal and Surety bind themselves, their heirs, representatives, successors and assigns, jointly and firmly by these presents.

THE CONDITION of the above obligation is such, that WHEREAS the said Principal is making application with the Minnesota Pollution Control Agency to be licensed as, or has been licensed as, a subsurface sewage treatment system business: ................................................................. (specific licenses).

NOW THEREFORE, if said Principal shall faithfully and lawfully perform the duties, and in all things comply with the laws and ordinances, including all amendments thereto, appertaining to the license or permit applied for, then this obligation shall be void; otherwise to remain in full force and effect.

The aggregate liability of the Surety, regardless of the number of claims made against the bond or the number of years the bond remains in force, shall in no event exceed the amount set forth above. Any revision of the bond amount shall not be cumulative. This bond may be canceled by the Surety as to future liability by giving written notice to the Minnesota Pollution Control Agency, stating the date of
cancellation, which in no event shall be less than thirty (30) days after the mailing of said notice; however, the Surety shall remain liable for any and all acts of the Principal covered by this bond up to the date of cancellation.

PROVIDED, it is the intention of the parties that this bond be continuous. This bond may be canceled at any time upon giving the said Principal and the Minnesota Pollution Control Agency 30 days written notice, said notice to be served by certified mail, whereupon, except as to any liabilities or indebtedness incurred prior to the termination of this said 30 days notice, the liability of the Surety under this bond shall cease. The Surety shall notify the Principal and the Minnesota Pollution Control Agency if payment on the bond has been made which results in the value of the bond falling below the legal requirement.

By their signatures below, the parties certify that the wording of this surety bond is identical to the wording specified in Minnesota Rules, part 7083.2030, as the rules were constituted on the date the parties executed the bond.

Signed this ____________________ day of __________, 20__. 
Signed, sealed and delivered in the presence of:

___ __________
(Witness as to Principal) 
(Licensee name)

___ __________
(Signature)

___ __________
(Witness as to Surety)
(Name of Surety Company)

___ 
By ___
(Attorney-in-Fact)

INDIVIDUAL OR PARTNERSHIP ACKNOWLEDGMENT

STATE OF ____________________
COUNTY OF _____

On the ___________________ day of __________________, 20__, before me, a Notary Public within and for said county, personally appeared, ____________________________________ to me known to be the person(s) described in and who executed the foregoing instrument, as Principal(s), and acknowledged to me that _____ s/he executed the same as her/his free act and deed.

Notary Public, _____
County, _____

My Commission Expires _____

(Notarial Seal)

CORPORATE ACKNOWLEDGMENT

STATE OF _____
COUNTY OF _____

On the ___________________ day of __________________, 20__, personally appeared, ____________________________________, to me, who being duly sworn, did depose and say: that s/he resides in ________________________; that s/he is the______________________________ President of the__________________ _______________________________________________ the corporation described in and which executed the foregoing instrument; that s/he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the board of directors of said corporation; and that s/he signed her/his name thereto by like order.

Notary Public, _____
County, _____
ACKNOWLEDGMENT OF CORPORATE SURETY

STATE OF _____)

COUNTY OF _____)

On the ______ day of _______________, 20__ before me personally appeared, _____________________________________ to me known, who being duly sworn, did say: that s/he resides in _______________________; that s/he is the aforesaid officer or attorney in fact of ___________________________ a corporation; that the seal affixed to the foregoing instrument is the corporate seal of said corporation; and that said instrument as signed and sealed in behalf of said corporation by the aforesaid officer, by authority of its board of directors; and the aforesaid officer acknowledged said instrument to be the free act and deed of said corporation.

_____

Notary Public, _____

County, _____

My Commission Expires_______

(Notarial Seal)

***SURETY COMPANY POWER OF ATTORNEY MUST BE ATTACHED***

Statutory Authority:
MS s 115.03; 115.55

History:
32 SR 1420

Published Electronically:
June 6, 2011
SSTS Bond Form (no longer written in rule):

**Bond No.:**

**Amount:** $25,000

**Effective date (mm/dd/yyyy):**

**KNOW ALL PERSONS BY THESE PRESENTS:**

**THAT**

(Business name as registered with the Office of the Minnesota Secretary of State; or if individual sole proprietor, individual’s name.)

With business office at:

(DBA, doing business as name if applicable)

(Business Address) (City) (State) (Zip)

(Telephone number)

as Principal, and

(Name of Surety)

(Surety Address) (City) (State) (Zip) (Telephone number)

a corporation authorized to do surety business in the State of Minnesota, as Surety, are hereby held and firmly bound to the State of Minnesota and any persons aggrieved, injured or suffering financial loss by reason of the Principal’s failure to faithfully perform the duties, and in all things comply with all laws, ordinances, and rules, related to the Principal's license or any permit applied for and all contracts entered into, in the sum TWENTY-FIVE THOUSAND DOLLARS ($25,000).

For the payment of this sum, Principal and Surety bind themselves, their heirs, representatives, successors and assigns, jointly and firmly by these presents.

**THE CONDITION** of the above obligation is such, that WHEREAS the said Principal is making application with the Minnesota Pollution Control Agency to be licensed as, or has been licensed as, a subsurface sewage treatment system business with specific privileges and responsibilities under Minnesota Statutes, sections 115.55 and 115.56, and 326B, as amended, Minnesota State Plumbing Code, as amended, Minnesota Rules, chapter 4715, as amended, and Minnesota Rules, chapters 7080 – 7083, as amended for all subsurface sewage treatment system and plumbing work entered into into the state.

NOW THEREFORE, if said Principal shall faithfully and lawfully perform the duties, and in all things comply with the laws and ordinances, including all amendments thereto, appertaining to the license or permit applied for and all contracts entered into, then this obligation shall be void; otherwise to remain in full force and effect.

The aggregate liability of the Surety, regardless of the number of claims made against the bond, shall in no event exceed the amount set forth above for each two year period the bond remains in force. The bond penalty shown above is cumulative over each two year period the bond remains in force, the same as if a separate bond was issued every two years. This bond may be canceled by the Surety as to future liability by giving written notice to the Minnesota Pollution Control Agency, stating the date of cancellation, which in no event shall be less than thirty (30) days after the mailing of said notice; however, the Surety shall remain liable for any and all acts of the Principal covered by this bond up to the date of cancellation.

PROVIDED, it is the intention of the parties that this bond be continuous. This bond may be canceled at any time upon giving the said Principal and the Minnesota Pollution Control Agency 30 days written notice, said notice to be served by certified mail, whereupon, except as to any liabilities or indebtedness incurred prior to the termination of this said 30 days notice, the liability of the Surety under this bond shall cease. The Surety shall notify the Principal and the Minnesota Pollution Control Agency within five days of any bond claim or payment and within 30 days if payment on the bond has been made which results in the value of the bond falling below the legal requirement.

By their signatures below, the parties certify that the wording of this surety bond is in compliance with 7083.1000, Subp. 1, Item E, as the rules were constituted on the effective date of this bond. This bond shall be effective as of the effective date provided by the Surety in the field provided on this form and shall be in effect until cancellation. Effectiveness of this bond is only a component of, and does not constitute required licensure by the State of Minnesota. Principal shall not conduct work requiring licensure until the State of Minnesota has issued the license for which Principal has applied.
Signed this ______ day of __________________, 20______

Signed, sealed, and delivered in the presence of:

(Principal name)
Principal name ___________________________________________ (Signature) ___________________________________________

________________________________________________________ (Signature) ___________________________________________

Name of Surety Company
________________________________________________________

Signed by (Attorney-in-Fact) ___________________________________________
Compliance Inspections for Existing Subsurface Sewage Treatment Systems

Minnesota Pollution Control Agency

xx/xx/xx
ACKNOWLEDGEMENTS

The agency would like to thank all of those who help to develop and review this manual. This version is an update of a previous manual developed by Lori Frekot and Melanie (Elvabak) Gaskins with the support of many contributors.

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Lori and Mels ASTM Paper
Systems that have been Terra Lift
Virginia manual (on x drive)
Mass manual (on x drive)
EPA Manual on x:drive

It should be noted that the participants on this list do not necessarily endorse all concepts, means and methods found in this manual.

Comments or suggestions are greatly appreciated for future updates of the manual. Please email comments to mark.wespetal@state.mn.us or call 1-800-657-3864.
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Introduction

The compliance criteria for existing subsurface sewage treatment systems (SSTS) are relatively simple and straightforward. However, the field methods needed to make a compliance determination can be difficult and complex. State rules do not provide methodologies on how to conduct an existing system compliance inspection. This manual is offered to provide you with suggested methodologies to adequately assess the compliance status of existing SSTS.

In addition, unique situations and conditions are encountered in which the simple criteria may not readily apply and interpretations need to be developed. This is the purpose for this manual.

There are many reasons existing SSTS are required to be assessed for compliance (compliance inspections) or assessed for other purposes (assessments). For compliance inspections, state rules and local ordinances provide the compliance criteria. If a compliance inspection is required or desired the information must be recorded on the MPCA’s existing system compliance inspection form (http://www.pca.state.mn.us/index.php/view-document.html?gid=5212 or Google “mpca existing system compliance inspection form”.

Modern subsurface sewage treatment system (SSTS) rules have been in-place since 1978. However, there are systems that were designed, installed and inspected since 1978 that did not meet the state requirements that were in place at that time. If they had been compliant with the standards at that time, they would still be in compliance today (with one exception as noted later). System owners do not understand that their system was never in compliance.

The provisions and methods provided in this manual are labeled as “Statute”, “Rules”, “Rule interpretations”, “Policy” or “Suggestion”.

DEFINITIONS AND ACRONYMS

Assessment - an evaluation, investigation or other such process that does not result in the issuance of a certificate of compliance or notice of non-compliance
CI – Compliance Inspection
COC – Certificate of Compliance
ESCI - Existing system compliance inspection
FTPGW – Failing to protect groundwater
ITPHS – Imminent threat to public health and safety
LGU – Local governmental unit
NON – Notice of non-compliance
Sewage Tanks – All tanks used to store or treat sewage in an SSTS, including; septic, holding, pump, recirculating, stilling, etc...
SSTS – Subsurface sewage treatment systems
CHAPTER ONE: COMPLIANCE CRITERIA FOR EXISTING SUBSURFACE SEWAGE TREATMENT SYSTEMS

An existing SSTS is defined in 7080.1100 subpart 28 (2011) and is a system that was previously inspected and approved by the LGU. In addition, an existing system is a system installed before adoption of a local permitting and inspection program. (Rule)

The compliance criterion for a true existing system is different than what is required for a new system. An existing SSTS does not need to meet all the criteria of a new system being built today. An existing system must only meet basic environmental and public health requirements. Most notably, existing systems do not need to meet size requirements, setbacks or material quality. (Rule)

An existing system compliance inspection is a snapshot of the condition of the system at the time of inspection. It is not intended to predict future hydraulic performance of the system as it is likely not possible for the inspector to accurately ascertain construction practices during system installation, system use (or misuse), maintenance frequencies and sometimes the age of the system.

Existing system compliance requirements are divided into two compliance categories – imminent threat to public health and safety (ITPHS) and failing to protect ground water (FTPGW). These two compliance categories are divided based on the time required for repair, replacement or discontinued use. An ITPHS must be repaired, replaced or discontinued use within 10 months or sooner. A system FTPGW must be repaired replaced or discontinued use within a time frame directed by local ordinance. (7082.0100 subpart 1 item A)

1.1. - IMMINENT THREAT TO PUBLIC HEALTH AND SAFETY (ITPHS)

Systems classified as an ITPHS are systems that (7080.1500):

- Discharge sewage or sewage effluent to the ground surface, tile lines, or bodies of water.
- Seep sewage to the ground surface due to hydraulic failure.
- Cause reoccurring sewage backup into the dwelling/establishment (can include pump failure).
- Are unsafe; which includes, but not limited to: electrical hazards and unsafe maintenance hole covers.
- Other optional (suggested) conditions as determined by the inspector. These may include, but not limited to:
  - A water supply well that is contaminated with pathogens, nutrients or chemicals (if it can be proven the SSTS is the cause of the contamination)
  - Evidence of a non-treatable waste
  - A deep cesspool
  - Systems with the entire depth of the distribution media ponded with sewage
  - Systems affected by gopher activity (?xx)
  - Systems within 100 feet of a sand point well

Comment [msw1]: Commentor says to remove, Sara says need to discuss.
If a discharge of a hazardous waste is suspected, the inspector should immediately contact local or state hazardous waste staff.

In addition, Chapter 7082 states that all system components must be found and assessed for compliance. If this is not practical or possible, then the system is classified as an imminent threat to public health or safety (Policy). The problem in not finding the system is that the system needs to be properly abandoned to be in compliance (7080.1500 subpart 4 item B).

Local ordinances may adopt other provisions which further define an ITPHS.

1.2. - SYSTEM WHICH FAIL TO PROTECT GROUNDWATER (FTPGW)

Systems that contaminate any underground water at any depth are systems that fail to protect groundwater - FTPGW (7080.1500 subpart 4 item B). In specific terms, systems that FTPGW are:

- Cesspools, seepage pits or other pits
- Sewage tanks that were once watertight but now leak below the operating depth
- Soil dispersal systems that do not meet the required vertical separation distance.
- Systems no longer being used that are not abandoned in accordance with state rule.
- Other conditions as determined by the inspector. These may include, but not limited to (Suggestion):
  - A water supply well that is contaminated with pathogens, nutrients or chemicals (if it can be proven the SSTS is the cause of the contamination)
  - Systems in sandy soils with excessive rock fragments
  - Systems with very poor distribution of effluent over the soil system
  - Systems partially or totally covered with an impervious surface that cuts off the oxygen supply
  - Systems that are very deep (limited oxygen supply)

There is a range of required vertical separation distances which is dependent on various factors. Table I below indicates the various vertical separation distances (7080.1500 subpart 4 items D and E):
It should be clearly understood that the above mentioned compliance standards are state standards and these standards are reflected on the state’s existing system inspection form. Local units of government can adopt more restrictive standard and in certain situations, a less restrictive standard (MS 115.55). Therefore a system may be in compliance on a local form and not in compliance on the state form. However, it is mandatory that the state form be completed (MS 115.55).

<table>
<thead>
<tr>
<th>Condition</th>
<th>Required Vertical Separation Distance from the system bottom to the periodically saturated soil or bedrock</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systems built prior to April 1, 1996, and not located in Shoreland or Wellhead Protection Area or not serving a food, beverage or lodging establishment</td>
<td>Minimum 2 feet</td>
</tr>
<tr>
<td>Standard, Alternative, Other (pre 2008 code), Types I, II and III systems (post 2008 code) built April 1, 1996, or later or systems located in Shoreland or Wellhead Protection Areas or serving a food, beverage, or lodging establishment</td>
<td>Minimum 3 feet <em>(This separation distance can be reduced by 15% (30.5”) if allowed in local ordinance)</em></td>
</tr>
<tr>
<td>Experimental or Performance Systems (pre-2008 code) and Type IV and Type V systems (post 2008 code)</td>
<td>Must meet the designed vertical separation distance</td>
</tr>
</tbody>
</table>
Complaints have been lodged that systems are now deemed non-compliant because of changes in the code concerning the vertical separation distance to the limiting layer. This is not true. Since 1978 the required vertical separation distance for all systems during the time they were installed has been three feet. Prior to 1978 the vertical separation distance was four feet. Subsequent changes to rules have only created exemptions or conditions where a reduced vertical separation distance is considered acceptable.

There is one exception concerning a code change that affected future system compliance. This was the case with seepage pits. Design standards for seepage pits were once found in state rules and are now deemed non-compliant. However local units of government can grandfather the continued use of existing seepage pits in local ordinances. To be in compliance though, seepage pits must meet the design standards found in previous versions of state rule and can now be found in 7080.2550 (2011). Research conducted by the University of Minnesota in one southern Minnesota county has found that none of the seepage pits were compliant.

If the vertical separation distance cannot be adequately determined (fill soils, altered landscape, artificial drainage, etc.), the system could be placed on an operating permit to observe the depth of standing water in a water table monitoring device (Suggestion)

1.3. - OTHER

The MPCA is aware of some LGUs who require upgrades for existing SSTS which do not meet criteria normally applied to new systems (for example non-compliant due to, undersized tanks, tanks leaking in, broken baffles, etc.). Nothing in the rules prohibits this activity from continuing.

If a system-in-use was put in illegally (without a required permit) and was never inspected, then the “first” inspection should assess if the system was compliant with the local code at the time of installation (7080.1100 subpart 28). Subsequent inspections are then conducted under the existing system compliance requirements. This provision does not apply if the LGU did not have a permit and inspection program at the time the system was installed (e.g., back in the 1950’s) (7080.1100 subpart 28). Systems installed prior to local permitting requirements are to simply comply with current existing system compliance inspection standards.

Some LGU’s have a maintenance program for removing of solids and liquids from septic tanks. In some instances the local requirements are written with the terminology that the system must be “inspected” every three years. The use of the term “inspected” is confusing if what the LGU is really just requiring a check of the solids level in the tank. A better term to use would be a “maintenance inspection”.

If the LGU has different compliance criteria than the state, then the system needs to be inspected against both criteria. Therefore the system can be issued a certificate of compliance for one of the criteria and a notice of non-compliance for the other criteria. The regulatory “weight” in this situation depends on the requirements that triggered the inspection. For example, if the LGU ordinance required a certificate of compliance for a property transfer, then the compliance requirements of the LGU apply. If the inspection was conducted for a
If the compliance inspection is to be conducted to determine compliance for a permit to add a bedroom, whether compliance is based on the size of the system to support the new bedroom is determined by the LGU (Policy).

CHAPTER TWO: INTRODUCTION TO COMPLIANCE INSPECTIONS

2.1 What is an Existing System Compliance Inspection?

An existing system compliance inspection is an evaluation, investigation or other such process for the purposes of issuing a certificate of compliance or notice of non-compliance. (7080.1100 subpart 18). The clause “for the purposes of issuing a certificate of compliance or notice of non-compliance” is an important distinction. If a “compliance inspection” is specifically required or requested, then an investigation in accordance with the required compliance inspection procedures outlined in this manual must be followed and a certificate of compliance or notice of non-compliance must be issued.

If a “compliance inspection” is not required, requested or desired then other types of evaluations can be conducted. These types of investigations are termed “assessments” and are explained in Section 2.3.

2.2. When is Compliance Inspection Required?

When compliance inspections are required for existing systems varies with each local unit of government in Minnesota. There are however there are two state requirements that are mandatory statewide. They are as follows:

MN Statutes 115.55 (also found in 7082.0700 subpart 2 Item A (2)).

(b) A local unit of government may not issue a building permit or variance for the addition of a bedroom on property served by a system unless the system has been inspected to determine compliance with the applicable requirements, as evidenced by a certificate of compliance or notice of non-compliance issued by a licensed inspection business or certified local unit of government inspector. A local unit of government may temporarily waive the inspection requirement for a building permit or variance for which application is made during the period from November 1 to April 30, provided that an inspection of the system is performed by the following June 1 and the applicant submits a certificate of compliance or notice of noncompliance within 15 days of the inspection. This paragraph does not apply if the local unit of government does not have an ordinance requiring a building permit to add a bedroom.

MN Rules Chapter 6120.3400 (Shoreland Rules)

D. Local governments must develop and implement programs to identify and upgrade sewage treatment systems that are inconsistent with the sewage treatment system design criteria identified in item B, exclusive of the appropriate setback from the ordinary high
These programs must require reconstruction of existing nonconforming sewage systems whenever a permit or variance of any type is required for any improvement on, or use of, the property, and must include at least one of the following approaches:

1. a systematic review of existing records to determine which systems in the jurisdiction are nonconforming and requiring reconstruction when practicable;

2. a systematic on-site inspection program including all properties where adequate record of conformances does not exist, identifying nonconforming or illegal systems and requiring reconstruction when appropriate;

3. a notification or education program that is oriented toward convincing substantial numbers of property owners to evaluate their sewage systems and voluntarily upgrade the sewage treatment system, if nonconforming; or

4. other programs found to be acceptable to the commissioner.

Each local unit of government may also have trigger points requiring compliance inspections. These trigger points can include (but not limited to):

- complaints
- property sale or transfer
- inventories
- when any building permit is requested

It is the inspector’s responsibility to find out what requirements apply to the SSTS being inspected. Always check the local ordinance, understand the Shoreland Act requirements and the requirements in chapters 7080 – 7083.

Outside entities may also require/request compliance inspections. For example: lending institutions, mortgage companies, real estate agencies, relocation companies, state agencies (such as when funding is provided or state permits are involved) and individual property owners may all include inspection or assessment requirements as conditions of property related transactions.

If a property transfer disclosure of the SSTS is to be conducted by someone other than the system owner, then a compliance inspection is required (7082.0700 subp. 2 item A (4)). See section 2.4 for more information on disclosures.

### 2.3. ASSESSMENTS VS. COMPLIANCE INSPECTIONS

An assessment is any evaluation, investigation of an SSTS or other such process where a COC or NON is not required, desired or necessary. The degree or extent of an assessment is based on what information the seeker has interest or is willing to pay for. For example, assessment could be used for scoring funding for grant/loan projects, a general assessment sought by a lake association, or questions raised by a curious system owner (Policy).

Assessments can be quite varied in their scope. Assessments must not be recorded on the MPCA’s Existing System Compliance Inspection form (Policy).
Some assessments (or compliance inspections) may be over broad land area involving many dwellings. Steps to conduct such a survey of systems can include:

- Review of local compliance requirements or what information is desired
- Public notice of the assessments/inspections
- Identify properties and homeowners (Reason for survey what will need to be done – upgrade?)
- Review available records of SSTS
- Send out notification on the inspections/assessments
  - The notification can explain the importance of the inspection program and how the homeowner can help by being a participant in the process. The letter should clearly identify who is conducting the assessments or inspections, how to reach that person(s), and a process for scheduling assessments or inspections. Notify that pets must be controlled.
- Have the property owner complete a questionnaire and corresponding map that identifies to the best of their knowledge the type of SSTS, its location on the property, sizing, and the number of bedrooms. It should be the property owner’s best guess if the owner has no records.
- Develop assessment/inspection protocol
- Develop recordkeeping procedure (so you don’t need to re-visit the site again).
- Report the results

If an assessment is being conducted by an SSTS inspector and a straight pipe is discovered, it must be reported to the LGU per state law requirements. State law does not require non-SSTS inspectors to report straight pipes during an assessment, but the agency’s policy is that they should report. It is recommended that only trained and competent persons conduct any SSTS assessment. True compliance inspections must be conducted by a certified individual (see Chapter 3).

2.4. SYSTEM NOT WORKING – SYSTEM OWNERS CALL FOR A DESIGN

In some instances the owner calls a designer because their system is not functioning. The designer is not bound to conduct a compliance inspection or report a non-complying system (Policy), unless the designer is also an inspector and the non-complying system is a straight pipe system (MS 115.55). Please see section 3.2.

2.5. POINT OF SALE DISCLOSURES

Disclosure of the status of SSTS at point-of-sale is required by MN Statute 115.55 subdivision 6. The main provisions of that statute are as follows:

- Before signing an agreement to sell or transfer real property, the seller or transferor must disclose in writing to the buyer or transferee information on how sewage generated at the property is managed (i.e., if the sewage goes to a centralized wastewater treatment plant or a SSTS or similar device, for example a straight pipe or cesspool)
• Any time an inspector is involved with preparing a disclosure, the process must be a complete compliance inspection (7082.0700 subpart 2 item A).

• If sewage goes to a SSTS the disclosure must include (MS 115.55):
  o a description of the system in use,
  o the legal description of the property,
  o the county in which the property is located
  o a map drawn from available information showing the location of the system on the property to the extent practicable.
  o If the seller or transferor has knowledge that a system not in use or abandoned system exists on the property, the disclosure must include a map showing its location.
  o The seller or transferor shall disclose to the buyer or transferee what the seller or transferor has knowledge of relative to the compliance status of the subsurface sewage treatment system, and whether, to the best of the seller’s knowledge, a straight-pipe system exists. A seller or transferor who has in their possession a previous inspection report completed by a licensed inspection business or certified local government inspector in accordance with subdivision 5 or 5a shall attach a copy to the disclosure statement that is provided to the buyer.

An example disclosure form is found at: http://temp004.customdemosite.com/files/file_444e7e374125420505443.pdf

2.6. POINT OF SALE INSPECTIONS

While state regulations do not require a compliance inspection prior to property transfer, many local ordinances, especially in Shoreland areas, may have this requirement. Always check with your Local Government Unit (LGU) first to see if they have this requirement. Additionally, lending institutions may require compliance inspections for some properties.

If a compliance inspection is require, be sure that the information needed to complete the disclosure requirements in Section 2.5.

Minnesota Rule Chapter 7082.0700 subpart 2 states that a compliance inspection (e.g., issue a COC or NON) must be conducted to prepare a disclosure if conducted by a party who is not the system owner.

For more information on disclosures please refer to:

2.7. UPGRADE REQUIREMENTS
The upgrade time period for systems is dependent on the type of non-compliance.

- A system which is an imminent threat to public health or safety must be replaced, repaired, or discontinued use within ten months after the owner receives a notice of noncompliance or within a shorter period if required by a local ordinance (MS 115.55 subdivision 5a (b) (4) and 7082.0100 subpart 1).
- A system failing to protect groundwater must be replaced, repaired, or discontinued use within a time specified in a local ordinance after the owner receives a notice of noncompliance (MS 115.55 subdivision 5a (g) and 7082.0100 subpart 1).
- Only components found to be in non-compliance need to be repair, replaced or discontinued use up to the standards for a new system (7080.1500 subpart 6). Companion components found to be in compliance with the existing system compliance requirements can remain in place (7080.1500 subpart 6). For example:
  - If the tank is found to be non-compliant but the soil distribution system is hydraulically functioning and meeting the necessary vertical separation distance, then only the tank needs to be upgraded to new code standards.
  - If the tank is found to be compliant (watertight below the operating depth), but the soil dispersal system does not meet the required vertical separation distance, then only the soil dispersal system needs to be replaced.

Even though a component may meet the existing system compliance inspection criteria, it may not be wise to use that component when replacing a non-compliant component (Suggestion). For example if the septic tank leaks “in” and is connected to a new mound system, the new mound system may soon fail due to excess water. Local program requirements for component reuse vary and must be understood by both SSTS inspectors and designers.
CHAPTER THREE: LICENSING AND CERTIFICATION REQUIREMENTS FOR EXISTING SYSTEM COMPLIANCE INSPECTIONS

3.1. WHO CAN DO THE WORK

In order to know which certification can do the inspection, the system Type, flow and waste strength must be known. The following certifications are required to conduct existing system compliance inspections (7083.0750 and 7083.2010 subpart 6).

- A Basic Inspector is limited to:
  - Type I, II or III systems under 2,500 gpd with domestic strength waste

- An Intermediate Inspector can do all the systems listed for the Basic Inspector plus:
  - Type I to IV systems under 2,500 gpd with domestic strength waste

- An Advanced Inspector can inspect all system Types with all waste strengths for systems that do not need a SDS permit.

LGU employees who are SSTS certified inspectors may conduct existing system compliance inspections as part of their LGU employment duties without a SSTS business license. LGU employees who are SSTS certified inspectors who are conducting existing system compliance inspections outside their employment with the LGU must obtain a SSTS business license and must avoid any conflict of interest issues (7083.0700 Item A).

All compliance inspection observations and conclusions must be conducted by the certified inspector, they cannot be delegated to a non-certified person (7083.0750 subpart 3). Certified inspectors mentoring restricted certified inspectors must be present and actively observing and checking all work conducted by a restricted inspector (Rule Interpretation).

No certification or license is required to conduct assessments. However it is highly recommended that a licensed SSTS inspection business conduct assessments and evaluations.

A licensed inspection business that inspects an existing SSTS is allowed to subsequently design and install a new SSTS for that property, provided the inspection business is also licensed to design and install (7082.0700 subpart 2 item B).

A licensed inspection business may inspect an existing system that they designed or installed once it has been independently inspected (7082.0700 subpart 2 item D).

A question that has been asked is whether a licensed inspection business can inspect an existing system that they designed or installed once it has been independently inspected. The question was based on a LGU who has had contracted inspectors for new construction inspection. Does the rule prevent the previously contracted companies from doing the first compliance inspection of a system they inspected as a contracted inspector? The answer is provided in the table below.
- SSTS business I (Jones) is a Designer, Installer, private Inspector and contracted Inspector for the LGU
- SSTS Business II (Smith) is a Designer and Installer and only a private Inspector

### Scenario Site Evaluation and Design

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Site Evaluation and Design</th>
<th>Soil Verification and Design Approval to Issue Permit</th>
<th>System Construction</th>
<th>Construction Inspection</th>
<th>Existing System Compliance Inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jones</td>
<td>Jones cannot do (7082.0700 subpart 2 item C)</td>
<td>Jones</td>
<td>Jones cannot do (7082.0700 subpart 2 item C)</td>
<td>Jones or Smith (7082.0700 subpart 2 item D)</td>
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<tr>
<td>2</td>
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<td>Jones</td>
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</tr>
<tr>
<td>3</td>
<td>Jones</td>
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<td>Jones or Smith (7082.0700 subpart 2 item C)</td>
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<td>4</td>
<td>Smith</td>
<td>Jones</td>
<td>Jones</td>
<td>Jones cannot do (7082.0700 subpart 2 item C)</td>
<td>Jones or Smith (7082.0700 subpart 2 item C)</td>
</tr>
</tbody>
</table>

A maintainer cannot sign a certificate of compliance for a holding tank (7083.0750 subpart 1). However, it is acceptable if the LGU inspector wants to issue a COC based on the take the maintainer’s report with a certified signature (Policy). A form to record water tightness can be found by googling: “MPCA Septic Tank Maintenance Reporting Form”.

A basic inspector can inspect Type I components of a larger SSTS or SSTS with advance treatment, but they must not issue a COC or NON. An advanced inspector must be willing to accept the basic inspector’s work and provide certified signatures on the required forms.

### 3.2 IDENTIFICATION AND REPORTING OF STRAIGHT PIPES – INSPECTOR RESPONSIBILITY

MN Statute 115.55 subdivision 11 states the following:
An inspector who discovers the existence of a straight-pipe system shall issue a noncompliance notice to the owner of the straight-pipe system and forward a copy of the notice to the agency.

A straight pipe is defined as a system which has a conveyance pipe which discharges to the ground surface or surface water and includes systems connected to agricultural or other drain tile. A straight pipe system also includes systems which may have some type of soil dispersal unit with an emergency overflow conveyance (Rule Interpretation).

The following situations are provided as the agency’s interpretation of 115.55 subdivision 11 of when inspectors are compelled to report a straight pipe system:

- When a LGU or private inspector is conducting a compliance inspection on a system
- When a LGU or private inspector is conducting any type of evaluation on a system as described above, and includes small community assessments; or
- When a LGU inspector is on-the-job (in any capacity) for the LGU.

For the following situations, an inspector does not have to file a notice of non-compliance, but the inspector should contact the LGU if an observed pipe discharge is suspect (but does not need to be confirmed):

- When a private inspector observes a possible straight pipe while conducting SSTS work (such as on neighboring property to the work being conducted).
- When a private inspector makes a possible straight pipe observation but is not working (i.e., leisure time).
- When a private inspector “knows” of various straight pipe systems.
- When a private inspector is also a maintainer, installer, or designer, etc. and they are on the property to do work other than an inspection or assessment.

In addition –

- Private inspectors need to notify LGU of any ITPHS by issuing a NON. While the law requires private inspector to notify PCA of straight pipe, in practice the MPCA waits for LGU to decide when to involve the state.

3.3. FLOW DETERMINATION FOR SYSTEM CLASSIFICATION

The flow needs to be determined to see which certification/license can do the work. The easiest and best way is to determine the flow is from the design documents. If design documents are not available, then the method to calculate the flow by the method outlined in Section II. C. of the MPCA document: Prescriptive Designs and Design Guidance for Advanced Designers should be used. To find that document google: Prescriptive Designs and Design Guidance for Advanced Designers.

The system classification is determined as follows:
State (SDS) Permit
- Must use the highest of either the estimated or measured flow to determine if a state permit is needed (7082.0040).

MSTS vs. ISTS
- Estimated flow is used for existing dwellings or groups of dwellings (7081.0120).
- Either measured* or estimated flow can be used for existing Other Establishments, does not need to be the highest (7081.0130).
- The system classification is based on the system component which is designed for the highest flow (Rule Interpretation). For example: if a flow equalization tank is sized for 6,000 gpd and the soil system is designed for 4,500, the flow to determine system classification is 6,000 gpd.

If the determination of the flow reveals that the system may require a state disposal system (SDS) permit, please contact Aaron Luckstein at 800-657-3864. Systems issued a SDS permit by the agency are not regulated under chapters 7080 – 7083 or the requirements of this document.

*Remember that measured flow is determined by taking the peak 7-day period within 90 consecutive measured daily flows and dividing the measured flow by the percent occupancy, then averaging the adjusted peak 7 flow values.

CHAPTER FOUR: INSPECTION PROTOCOL

4.1. INTRODUCTION

It should be understood that there is not a required, step-by-step protocol for conducting existing system compliance inspections. The starting point for the preliminary inspection will likely start with a check of design and inspection records at the local permitting authority. However caution needs to be used as the design report may not be what was installed and subsequent upgrades, repairs or component replacement may or may not be a part of the official record. A further check of the as-built report is recommended if available.

Since each inspection will likely be unique in nature, this manual will generally not be organized in a chronological sequence of steps, but will be organized by topic. The system must be checked to determine if the system is an imminent threat to public health and safety and if the system is failing to protect groundwater. It is generally recommended to start at the first upstream component and work towards the soil dispersal system.

The rule states that all system components must be found and assessed for compliance. This is to account for two potential scenarios:

- If a new system is to be installed, the existing system must be properly abandoned to be in compliance
To determine if a system component meets the existing system compliance standard so it can possibly be reused with the upgrade.

After using due diligence, if it is not possible to find the system or system component, the system is classified as an imminent threat to public health or safety (Policy) and must be upgraded within 10 months or sooner if required by the LGU (7082.0110 subpart 1 item B). If the not-found system is replaced the not-found existing system would then be subject to disclosure and re-classified as failing to protect groundwater (7080.1500 subpart 4 item B) and its continued status would be determined by the LGU. A critical part of a non-found system replacement is the confirmation that all discharge to the system has been discontinued.

Before you conduct inspections make sure you understand the compliance criteria you must evaluate as local requirements may be different than state requirements.

Also remember that there could be more than one system on the property, with one of the systems being a system no-longer-in-use.

Lastly, be sure to check if the system is still covered under a Certificate of Compliance which has not expired!

**4.2. PRELIMINARY INSPECTION**

**4.2.1. HOMEOWNER CONTACT**

Always attempt to set up an inspection time that you can meet with the system owner (Suggestion). They have valuable knowledge about the system and may have some helpful documentation. It is good to build rapport with your customer to gain their trust and confidence in your findings.

Appendix A is a suggested property owner questionnaire. Notice that the questionnaire also contains useful information that might not be found any other way, such as the location of any underground lines installed by the property owner.

The questionnaire allows the property owner to identify the type of SSTS serving the property, date of installation, property ID number, phone number, upgrade/repair issues and dates, and sizing parameters, such as the number of bedrooms. The questionnaire is set up to offer clues to the inspector if the system is failing or does not meet code and to give basic sizing information. For example, if the property owner identifies that an older system has never been pumped, it provides a clue to the inspector that the system may have a leaky tank or an overflow pipe.

It is beneficial for you to obtain the property owner’s signature on the completed questionnaire in the event that your inspection is called into question.

Another important discussion with the system owner is whether the inspection you are conducting is to gain a second opinion or settle a dispute about the system.
You should inform the system owner was steps will be taken to conduct the inspection (scope of work) in which the lawn or landscaping will be disturbed (digging the tank maintenance hole, soil boring holes, etc....).

The data collection should also include a map of the property showing the location of the well, septic tank, pump tank, soil treatment area, reserve area, septic tank(s), buildings, waterways, bodies of water, property lines, homeowner-buried utility lines, and the distance each item is located from fixed reference points.

If the system owner cannot be contacted, it is advisable to include that in your report.

Also see Section 4.3.

4.2.2. COLLECT RECORDS

Desktop research consists of gathering information about the system you are about to inspect. Your goal is to make the site inspection easier, faster and more accurate.

Review any and all records you can find related to the SSTS on the property. Local units of government may have design and construction files on the SSTS. Maintenance records, complaints and enforcement files may also be available. For newer systems, the system owner should have a management plan.

If the soil/site conditions are difficult, the soil survey may be helpful during the inspection. The use of the soil survey is not mandatory for existing system compliance inspections.

Information about a system may be gained by contacting the designer, installer or maintainer, if known.

4.2.3. OTHER INFORMATION

Information may be gained if the system has had some other assessment (broad inventory for planning), or from neighbors or previous property owners.

If you know the history of installing systems in the area, you may be able to reasonably determine the type of system by the age of the dwelling. In many instances the age of the system will likely be the same age as the dwelling. This may help you make decisions of how to proceed with the inspection. A general rule of thumb is the older the system, the more likely problems will exist.

4.3. FIELD EVALUATION

It is helpful if the system owner is initially present during the inspection to answer the questionnaire and locate the system components. If they cannot be present have them locate and mark the system components. Requesting that the tank be accessible is also reasonable; the property owner could choose to hire someone to dig to the manhole or save money by doing it themselves. Also see Section 4.2.1.
4.3.1. SAFETY

Utilities

All utilities must be marked before any digging/probing/auguring takes place. Gopher State One is a state-wide notification center. You must call Gopher State One prior to conducting an inspection to assure you can take soil borings without damaging utility lines or endangering your life. You may contact Gopher One by:

- Online: Login to E-Ticket (http://mnticketentry.korterraweb.com/)
- From Your Smart Phone: http://mnticketentry.korterraweb.com
- Telephone: (800) 252-1166 or (651) 454-0002

Caution: Utility owners are required to mark ONLY their underground lines. Property owner or other persons may have buried additional lines such as:

- Power lines
- Gas line from LP tank
- Cable lines
- Water lines
- Sprinkler system
- Drain tile
- Invisible fence

Always ask if the property owner has installed any gas, water, electrical, cable, or other underground lines. If the property owner knows underground lines were installed without the utility’s assistance, but does not know the exact locations, you can request that an electrician be hired to find them.
By law, the utilities must be marked within 48 hours of your request -- free of charge, so you should be able to plan accordingly with reasonable time periods to work under.

If you damage an underground utility it is your responsibility to immediately and directly notify the underground utility.

Also be aware of overhead power lines. Sewage tank probes can extend several feet and could come into contact with low hanging power lines. Never assume that if there are overhead lines that there are no underground lines.

Also see section 4.3.3.

Other safety

Make arrangements with the owner to have all pets secured. Be careful of insect nests, snakes or other vermin. Watch for poisonous plants.

Be careful when dealing with electrical components.

Never stick your head or enter a sewage tank! Know the specific confined space entry rules. (not only for tanks, but also for soil pits)

Wear rubber gloves if coming in contact with sewage. Keep all your immunizations current. Clean hands on-site with waterless cleaners. Immediately treat for skin injuries. Carry a first aid kit.

Be careful of back injuries when lifting heavy objects and be aware of electrical hazards.

All tools, and equipment that came in contact with sewage should be cleaned and disinfected. The cleaning waste should be discharged into one of the sewage tank openings. At the completion of the compliance inspection the inspector should replace and secure all access lids before leaving the site. Let others know of your schedule and be aware of the nearest medical center.

4.3.2. EQUIPMENT

Suggested equipment is as follows:

- Paperwork/Resources
  - Clipboard or hard writing surface for field notes
  - Codebook (state code and local ordinance)
  - This manual
  - Desktop survey information
  - Homeowner questionnaire (Appendix A)
  - State and local existing system compliance inspection form
- Phone numbers (especially emergency)
- Waterproof pen
- Business cards

- Personal Items
  - Drinking water
  - Bug spray
  - Raincoats, boots, hat, etc...
  - Rubber boots
  - Rubber gloves
  - Sunscreen
  - Hand sanitizer
  - First Aid kit

- Soil Sample Equipment
  - Auger/probe
  - Munsell color book
  - Water bottle

- General SSTS Inspection Equipment
  - Digital Camera
  - waterproof video camera
  - GPS Unit
  - Survey equipment (for elevations)
  - Crowbar or Manhole pick
  - Metal and/or Fiberglass soil probe
  - Pocket knife
  - Rod: long, solid rod to reach tank bottoms (12 to 16 feet)
  - Impact probe
  - Shovel
  - L-hook to locate inlet/outlet pipes
  - Tape measure
  - Ardy Eff™ or Ferris Eff™ fishing line
    - small fish tank net
  - Plumber’s snake
  - Metal detector
  - Witching rods
  - Beef Jerky or mace (for ferocious dogs)
  - Calculator
  - Video camera
  - Tape measure
  - Long tape/measuring wheel/range finder
  - Flashlight
  - Whirl-pak/baggies/bottles for sampling
  - Cooler and ice for samples
  - Stopwatch
- Tank sampler (aka Sludge Judge)
- Flowmeter
- Hose for tank hydraulic test
- Tracers (dyes and indicator packets)
- Dissolved oxygen meter or kit
- Multimeter
- Wrench to access clean-outs
- Bleach and water solution for cleaning equipment

4.3.3 SCAN THE PROPERTY

It is frequently insightful to walk around the property and inspect by using your senses. Listen for running water, smell or odors. Look for pools of water, un-mowed lawn areas, water-loving vegetation, etc.... Observe and note any other related or unusual items on the property.

Look at the types of vegetation growing on or adjacent to the property. Vegetation type can give you clues of soil texture, soil drainage, soil depth (to bedrock) and soil damage.

Notice the slopes and landscape on the lot and around buildings. Do slopes appear natural or are there irregular cuts or mounds? Landscapes that appear to be man-made give you a clue to suspect fill soils may exist.

Verify that utility companies have been to the property by looking for paint marks or flags locating underground lines. The utility colors are listed below and are nationally used:

**Marking Colors:**

- Red = electric
- Yellow = gas, oil, steam,
- Orange = cable/phone
- Blue = water
- Green = sewer
- White = proposed excavation
- Pink = temporary survey markings

4.3.4. - FINDING THE SYSTEM

It is the inspector’s obligation to make a reasonable effort to find each component. If a component cannot be found, the system must be classified as an imminent threat to public health and safety (Policy). The following are some suggestions on finding system components.
4.3.4.1. – BUILDING SEWER

If there are difficulties in finding the building sewer, locations to first try would be directly below the sewer vent pipe or a bathroom (small window) or kitchen.

4.3.4.2. - TANKS

In some instances sewage tanks are easy to find and in some cases it is extremely difficult (or confusing if the system does not have a tank). Below are some suggestions on locating the tank:

Records

Construction or inspector records (as-builts) can be very helpful in locating the tank(s) (assuming they are accurate and legible).

Building drain

The location and depth the building drain is leaving the dwelling can be helpful. Underground conveyance pipes may have been marked with tracer wire which can be found with a metal detector.

Water using rooms

If you cannot visually locate the sewage tanks, you can estimate its location by noticing the bathroom or kitchen location and visualizing a gravity discharge. Look for small bathroom windows or roof vents. Start at least 10 feet from footings (typical building setback), and probe the soil with a tile probe. However some tanks may be very deep and beyond the length of the probe.

Inspection pipes and maintenance hole covers

It is very fortunate if inspection pipes and/or maintenance hole covers are visible. However, it is allowable for inspection pipes to be cut flush with the ground surface, so they may not be readily apparent. Also look for “fake landscaping rocks” and landscaping beds which are used to cover up inspection pipes and maintenance covers. Inspection pipes cut to the ground surface may have been marked with metal which can be found with a metal detector.
Plumber’s snake

Another way to locate sewage tanks is to use a flexible steel rod or pumper/plumber snake and a metal detector. Insert the rod into the clean-out pipe or discharge line from the building. Continue to feed more line into the pipe until it cannot go any further. Then using a metal detector, follow the tape until you reach the stopping point. Distances from the building are estimated by the amount of tape that is released.

Video Camera

Use in the same method as a plumber’s snake.

Geophysical devices

At this time geophysical devices have not been known to be used to locate sewage tanks.

Witching sticks

Water witching sticks have been used to locate sewage tanks.

Water supply well location

The inspector can initially assume that the tank (or soil system) will meet the setback to the water supply well. So initially the well setback area can be discounted as an area to look for sewage tanks (or soil system).

4.3.4.3. - SOIL DISPERSAL SYSTEM

If you have found the tank(s), then the job of locating an in-ground soil dispersal system is made easier.

Records

Construction or inspector records (as-builts) can be very helpful in locating the soil dispersal system (assuming they are accurate and legible).

Visual observation

Look for inspection pipes or vegetation that may be more vibrant. You can look for areas that may have subsided over time. Look downstream of any tanks unless a pump is involved. Hydraulically failing systems may be wet, un-mowed, have water-loving vegetation, and smell of sewage.
It is recommended that more care and examination for hydraulic problems be conducted for systems designed and installed in problem soil areas. These problem soil areas include:

- Mound systems placed on less than one foot of soil above the limiting layer
- Systems placed in disturbed/damaged soils
- Undersized systems due to small lot conditions
- Systems placed in or on naturally slow perc rate soils

In some instances an operating permit may have been issued for these conditions which may require reporting of the hydraulic operation of the system.
Use a tile probe to locate the outlet pipe of the last tank. Follow the outlet pipe until a distribution device is discovered. Some systems may be very deep and beyond the length of the probe.

4.4. – INSPECTING THE COMPONENTS

4.4.1. – HYDRAULIC TEST

There are two types of hydraulic tests. One type is just to determine if water can adequately move through the system. A secondary type is an attempt to determine if the system can still handle higher flow volumes.

4.4.1.1. – INITIAL HYDRAULIC TEST – DOES THE WATER FLOW THROUGH THE SYSTEM?

An initial hydraulic test is the process of running water into the system to see if the water can pass through the system unimpeded and whether the water is ultimately discharged into the soil. An initial hydraulic test is a critical test procedure to determine flow through the system especially if the building has been unoccupied and water has not been used for an extended period.

To check each component water should be added through the building’s plumbing fixtures. If not possible, then water should be added in the uppermost component that can be accessed.

For the initial hydraulic test, enough water is added to determine if water is adequately flowing through the entire system and into the soil.

When conducting this test caution should be exercised and monitoring should be done to minimize solids agitation in the tank and if sewage may back-up into the building.

An initial hydraulic test can reveal:

- Plugged pipes
- Plugged baffles/transfer holes/effluent screens
- Presences of straight pipes or overflow pipes (dye can be added if a known discharge pipe is suspect)
- If all plumbing fixtures are connected to the system

For pressure distribution systems a hydraulic test can reveal:

- if the pump is operational
- the operating efficiency of the pump (drawdown time, amp draw)
- if the floats/timer/controls are operational
- the efficacy or plugging of the drainback/weep hole
- Plugging of perforations in the distribution laterals (distal head test)
- Degree of ponding in media of pressure system
To determine if all plumbing fixtures are connected to the system, run water from one plumbing fixture at a time and observe whether there is a discharge through an access opening in the first tank. Some lag time will be needed between the testing of each fixture.

4.4.1.2. – SECONDARY HYDRAULIC TEST – ABILITY TO HANDLE HIGH FLOW

An secondary hydraulic test is the process of running water into the system to see if the soil system still handle higher flow volumes. This test can be conducted if this information is desired to be known. An initial hydraulic test is recommended to be conducted first to be sure water can flow through the system.

This test should not be conducted if the solids level in the septic tank(s) are excessive as adding a larger volume of water may send suspended solids from the tank to the soil system. It is especially important to monitor the test to be sure that sewage does not back-up into the building. Also, the system’s service provider should be consulted if the water is to be added upstream of a pretreatment device.

It is recommended that 25% of the design flow be added over a one hour period. For example: if the design flow is 450 gallons/day then 112 gallons would be added over a one hour period. The would calculated to about 2 gallons/minute over the one-hour testing period. Calibration of the rate of the source water will have to be conducted to determine if enough water has been added.

4.4.2. - STRAIGHT PIPES AND OVERFLOW PIPES

A sewage discharge pipe may be discovered during an existing system compliance inspection. In some instances it is fairly easy to determine the source of the discharge and sometimes it is not. In addition, it may not be evident that the pipe is discharging sewage or discharging something else, like footing drainage water.

4.4.2.1. - HOW DO YOU KNOW IF IT IS SEWAGE?

In some instances it is clearly evident if the discharge is sewage such as the presence of toilet wastes, other visible evidence of sewage solids or odor. In some instances the indications of sewage may not be that apparent. Examples would be if the discharge is effluent discharged from a tank or a discharge is from laundry or other waste with little solids or odor. Sampling the water for chlorides, fecal coliform bacteria, BOD, and TSS can help in trying to make the determination if the discharge is sewage.
If the system is suspected to be connected to an agricultural drain tile system, the discharge point may be a long distance away. Efforts can be undertaken to identify the outlet and use dye tracing to determine if the dwelling is discharging to the tile. If a discharge is suspected due to it being the common practice in an area, and there is evidence that the dwelling does not have a system then the inspector could consider the system to be a straight pipe system (a subclass of an ITPHS).

There are various methods to determine if the waste is sewage those methods include:

- Ask the owner
- Survey the dwelling
- Hydraulic test
- Dye tracing
- Sampling and analysis

4.4.2.1.1. - ASK THE OWNER

The first suggested method is to simply ask the system owner. They just may admit that their sewage (or portion of their sewage) is being discharged to the surface. This could save much time, effort and expense to try to prove it in other ways. However, it goes without saying that a denial of a pipe discharge may not always be a truthful response.

4.4.2.1.2. - SURVEY THE DWELLING

Check the dwelling in regard to the exit location, depth and direction of the end of the building drain. Use this information to determine if it is possible that the pipe in question could be discharging sewage. You can also check if the dwelling has a foundation drainage, which could mean the pipe is discharging ground water.

4.4.2.1.3. - CONDUCT HYDRAULIC TEST

If the suspected pipe is not currently discharging or discharging at a certain rate, run the hydraulic test found in section 4.4.1. Remember, if there is any tankage prior to the pipe, there will be lag time (possibly very long) between the increase in the flow from the pipe from when the hydraulic test started. Adding water to the most downstream end of the system will yield results sooner. Not seeing an increase in discharge volume of the pipe, is not a conclusive test if the discharge pipe is connected to the system.

4.4.2.1.4. - DYE TRACING

In conjunction with the hydraulic test, a dye can be introduced into the system, to look for evidence of the dye at the suspected discharge point. The cautions for damaged to the system or the building given for the hydraulic tests are the same as for dye tracing.

4.4.2.1.5. - SAMPLING AND ANALYSIS

Sewage is a variable and complex mixture of natural inorganic and organic materials with a portion of man-made substances. Unfortunately there is not suite of analytical testing that can conclusively determine if the discharge is sewage.

The existence of sewage is usually determined by identifying fecal organism contamination. The three groups that are usually used to indicate fecal contamination they are, Escherichia coli or fecal coliforms, fecal streptococci, and Clostridium prefringens.

Other analysis could include:

- BOD
- TSS
- Nitrogen
- Chlorides
- Optical brighteners
- Caffeine
- Estrogen compounds
- Pain relief compounds
- Artificial sweeteners

Contact a laboratory for sampling, preservation, storage and shipping requirements.

4.4.2.1.6. - EXCESSIVE AQUATIC GROWTH IN SURFACE WATERS

The identification of a discharge of sewage to surface water can be very challenging because discharge pipes can be located beneath the water surface. Winter inspections when the lake is frozen assist in identifying pipes beneath the water’s surface because there are often thawed or blackened areas along a waterway’s slope. In other times of the year, excessive vegetation growth or algae in the lake near the property can be indicators (sewage contains nutrients that promote this growth).

4.4.3. - SEWAGE BACKUP INTO THE BUILDING

A check must be made if sewage is backing-up into the building. This can be determined by asking the system owner, asking the maintainer about emergency pumpings, or checking for evidence within the building.

Sluggish drainage of plumbing fixtures may indicate a problem with the system, or it could also indicate a problem with the plumbing. The tanks can be examined for surging of water, elevated scum lines or debris above the outlet.
It is recommended that a system component that chronically freezes in the winter causing sewage back-up be considered an ITPHS. This could be determined by using a video camera and finding standing water in a pipe. Another method to determine pipe sag is to see if the pump has been lifted off the block in the pump tanks or any inlet or outlet pipes protruding into the tank are tilted slightly upward.

If the building is not occupied the hydraulic test may reveal backup problems that may not be evident since the system has not be used.

Please refer to Section 4.4.1 for the hydraulic test.

4.4.4. - BUILDING SEWER

The building sewer is not a part of the SSTS, but is considered plumbing. Officially it does not need to be checked during a compliance inspection, but it may be prudent to do so, or inform your client that the building sewer was not inspected. However a few issues will be discussed about building sewers.

4.4.4.1. NUMBER OF BUILDING SEWERS

The number of building sewers exiting the building should be checked. There may be an addition to the original structure that did not tie-in to the existing plumbing but is served by its own building sewer. Another common occurrence is an accessory drain pipe from a washing machine which is plumbed directly to discharge onto the ground surface. This condition is an ITPHS.

4.4.4.2. CONDITION

As stated previously, the condition of the building sewer does not need to be checked, but may be prudent to do so. Things to observe are:

- Pipe materials (cast iron, Orangeburg, clay tile, PVC, other)
- A sag in the pipe that may pond sewage and freeze in the winter
- Cracked or deteriorated pipe that may cause precipitation or groundwater to enter the system or sewage to leak-out.
- Pipe whose capacity is limited by blockage from solids due to corrosion, bad joints or inadequate slope.
- Root intrusion

These can be determined by use of a video camera.

4.4.4.3. – ELEVATION OF BUILDING SEWER

If the elevation of the building sewer can be determined from inside the building, it may give a good clue of the possible depth of the system in the yard. A deep building sewer, on a
a flat site, without a pump station, with wet soils would likely indicate that the system will not not meet the required vertical separation distance.

4.4.5. - SEWAGE TANKS

All tanks that hold sewage or sewage effluent must meet the requirements in this section and must be inspected. This includes septic, pump, holding, STEG, STEP, recirculating, stilling and pretreatment tanks/vessels. Additional requirements for specialty tanks are found in Section 4.4.5.8.

4.4.5.1. - CONTENTS

One check of the tank is not with the integrity of the tank, but with the contents of the tank. A check for non-sewage wastes is most important for systems serving non-dwellings or dwellings with an in-home business. The MPCA or local hazardous waste staff should be contacted if there are visual or olfactory indications of petroleum compounds, hazardous wastes or other harmful waste that may not be treated by the soil.

If the tank is found to be “dead”, and/or no distinct stratified layers of scum, clear water and sludge are present for other reasons (such as the use of chemotherapy or medicines), the system owner should be notified about the condition of the system and recorded on all reporting forms.

4.4.5.2. WATERTIGHTNESS

To be in compliance all SSTS tanks must be watertight below the operation depth (the invert of the outlet pipe). Tanks or pits which were not designed to be watertight (cesspools, seepage pits or other devices) are non-compliant and considered as a system failing to protect groundwater.

If you observe the water level below the invert of the outlet, then the tank can be classified as non-compliant. However, if low tank levels are discovered check with the system owner or local pumpers to see if the tank was recently pumped and just has not re-filled yet. This may especially be applicable for seasonal residences.

You can accept a signed water tight verification by a certified maintainer which has been verified within three years of your inspection. The verification can be recorded on the tank report given to the system owner or other signed report on the condition of the tank.
Tank inspections can sometimes be difficult (such as deep burial). The preferable method to check the tank is to have it pumped empty by a maintainer so you can observe the sides and bottom of the tank. You can listen for dripping of groundwater that may be emanating from cracks. After the tank is pumped note if there is effluent draining back to the tank from the soil system.

For large systems pumping multiple large tanks pumping can get expensive and flow may continue into a freshly pumped tank which will inhibit a good examination of the tank. Once pumped, watch the sides for a few minutes for any signs of seepage from cracks or a mid-seam joint. Use an angled mirror or video camera with a light source to observe obvious cracks, holes, concrete spauling and roots. In colder weather the air in the tank is warmer, therefore, it may fog the camera or mirror. **Never stick your head or enter a sewage tank! Know the specific confined space entry rules.**
The compliance measure for a watertight existing tank is that the tank does not have obvious cracks. Viewing a freshly pumped tank with a video camera is a good method to visually observe any obvious defects in the tank.
If the sides are made from block, either grouted or not grouted, it is highly doubtful if the tank is water tight. It is also highly doubtful if metal tanks would be water tight. If you plan on passing one of these tanks, you should conduct further testing (e.g. – water test) to justify your conclusion.

4.4.5.3. - SECURED ACCESS

Maintenance hole covers must be safe from unauthorized or inadvertent entry.

To be safe and not considered an ITPHS the minimum safety standards for compliance are:

- If cover is finished at or above the ground surface, the cover must be secured by being locked, being bolted or screwed, having sufficient weight or other methods approved by the local unit of government. Covers must not be able to be slid or flipped, which could allow unauthorized access to the tank;
- If the cover is buried, it must be buried with a minimum of 12 inches of soil cover.
• Covers must be capable of withstanding a load that the cover is anticipated to receive; and

• Covers must be made of a material suitable for outdoor use and resistant to ultraviolet degradation.

• Another tank safety issue is the integrity of the tank lid to bear the weight of the soil and any other activity that may occur on top of the tank. This would include (but not limited to) a tank with a plywood cover or a tank whose lid is buried very deep in the ground.
4.4.5.4. RELATED TANK ISSUES

Compliance is not affected by:

- Leakage into the tank (from the lid joint, risers, inlet, etc...).
- If the tank is the correct size
- If the baffles are the correct size and are in place
- If the tanks meet the setbacks to buildings, water bodies, etc....

If the tank is found compliant with the minimal criteria, and the tank is to be used in conjunction with a new soil dispersal system, it is strongly advised:

- That the tank does not leak-in
- The baffles are in place
• Tank access is brought to the surface with secondary restraint
• Additional tanks are added to meet the current tank capacity requirements

If the tank is found compliant with the minimal criteria and one of these conditions exists, the inspector should note these observations in the comments/explanations portion of the inspection form. This practice avoids confusion about compliance determinations and provides important information to the owner about recommended repairs.

4.4.5.6. CESSPOOLS OR OTHER DEVICES

Cesspools or other devices are open bottom (and usually open sides) pit-type systems which receive raw sewage or sewage from a prior cesspool or other device. The rule describes them as having an open height of greater than 30 inches (so as not to be confused with open bottom and sidewall chamber distribution media).

These systems are, by definition, a system which is failing to protect groundwater regardless if the open bottom of the tank/pit meets the required vertical separation distance.

These system can be determined by construction records, or by probing into a soft tank bottom with a rod. Be careful when probing as you may damage a watertight septic tank you thought was an open bottom tank. Tap in as many areas along the bottom as you can manipulate your probe as some creative system owners have placed cement compounds in the bottom of their tank in hopes that the inspector would think the bottoms were sealed. Sometimes the sludge layer hampers your probing and it can even fool you. If the system is old and hasn’t been pumped for many years, the sludge layer may be very dense and feel solid during probing.

Based on the age of the system and known practices used at the time of installation, a cesspool or other device can be suspected before a field determination is made.

Be careful when inspecting older tank, as they can have plywood covers or concrete slats which may not be stable and cannot bear much weight.

4.4.5.7. - SEEPAGE PITS

Seepage pit systems are similar to cesspools except they have a septic tank prior to the pit(s). Generally these systems are not compliant, however seepage pits may be allowed continued use under Minnesota Statutes, section 115.55 if the local unit of government has adopted alternative local standards for these systems. To be in compliance seepage pit systems must meet the following criteria:

• has a sewage tank that does not obviously leak below the designed liquid capacity preceding the pit;
• a pit that is not located in a geologic formation that is used as a source of drinking water;
• a pit that has at least three feet of vertical separation from the bottom of the pit to the periodically saturated soil or bedrock;
• a pit that has an absorption area that has been determined by dividing the design flow flow in parts 7080.1850 to 7080.1885 by the soil loading rate under Table IX or IXa in part 7080.2150, subpart 3, item E, based on the weighted average of each vertical stratum penetrated by the seepage pit, drywell, or leaching pit;
• the pit that is not located in a soil stratum with a soil texture of sand or loamy sand, or a percolation rate of less than five minutes per inch;
• the pit has a minimum inside diameter of five feet; and
• the pit that meets all setback requirements.

4.4.5.8. – HOLDING TANKS

There are no additional requirements for holding tanks as compared to other sewage tanks, except to look for evidence of illegal pumping of the tank (hoses, pumps, smell, etc...). Illegal pumping does not make the system non-compliant, but a note should be included on the inspection form of suspected illegal pumping and the system owner should be questioned.

4.4.6. ELECTICAL

You don’t have to be an electrician or electrical inspector to determine an obvious electrical hazard, or system malfunction due to an electrical failure. The following are compliance issues in relation to electrical devices.

4.4.6.1. PUMPS

If the system employs a pump the pump should be checked to see if it is operating. This can be done during the hydraulic test to see if the float is activated or by lifting the float. The hydraulic test for pump systems is conducted by adding a sufficient volume of water to the pump tank to activate the pump’s “on” control, and observing the performance of the system over at least one pumping cycle. The water can be added to the septic tank outlet or directly to the pump tank. When filling at the pump tank caution should be used to avoid disturbing any solids that have collected at the bottom of the tank. This can be done by directing the stream of water against the interior side of the tank, rather than directly towards the bottom of the tank. Measure the height of the liquid and record, also record the time. As the pump is discharging, examine the piping system for any leaks. When the pump stops, measure and record the height of the liquid and the time. Observe if drain-back is occurring once the pump shuts off (unless the system has a check valve).

Once you have the data, calculate the volume between the "on" and "off" measurements. Compare the dosage volume with the original dosage volume designed specified for the system. If the value is too high or too low, float controls should be readjusted to correct the dosage. Any adjustments to the pump or floats should be done by a licensed and properly qualified contractor (not the inspector).

Typically, if the pump is sized and operating properly, pump operation lasts 1 to 5 minutes per dose. Pump cycles that last longer than this may indicate clogging and/or pump
deficiencies. If, during filling of the tank the pump does not activate when the water reaches
reaches the high liquid level control (i.e., "on" float), discontinue the pump test. This
indicates a pump failure, defective float switch or wiring problem and will require a repair
service.

The pump should be checked to see if it is still setting on the block as in some instances the
supply pipe can settled over the unexcavated area outside the tank which will cause the pipe
to sag to the point that that pump is lifted off the block.

The pump can also be checked with multimeter for voltage and amp draw (pump function).
Comparing amp draw to prior results (if available) allow you to determine the pump’s
function.

4.4.6.2. - CONTROLS

If the system has a control box it should be checked for incoming power

4.4.6.3. ALARMS

The alarm should be checked for operation. This can be accomplished by simply lifting the
alarm float to activate the alarm. For systems with a pressure transducer water must be
added. If you are to test the alarm be sure you have access to turn it off.
4.4.6.4. SAFETY

A simple observation should be made concerning the general safety of the electrical components. Exposed wiring is an obvious hazard. A check of the wiring access into the pump tank is an important check.

4.4.7. - DISTRIBUTION SYSTEM

4.4.7.1 – SUPPLY PIPES

Supply pipes can affect the compliance status of the system if they do not adequately convey effluent causing back-up of the effluent. Typically this can be caused by sags in the pipe in which standing water can freeze and cause blockage in the pipe.

Supply pipes may also leak, as in the case if the supply pipe is very old and made out of clay tile. Leakage by supply pipes should be deemed to be failing to protect ground water.

4.4.7.2. – DISTRIBUTION DEVICES

The drop boxes or distribution boxes can be checked to see if the boxes are at an elevation and level to adequately convey effluent. This can be accomplished by a hydraulic test. See Section 4.4.1. They can also be checked for evidence of cracks or leaks or build-up of solids.

4.4.7.3 – SIPHONS

Siphons should be checked for continuous trickling. They should also be checked for proper functioning by performing a hydraulic test. See Section 4.4.1.

4.4.8. - SOIL DISPERSAL SYSTEM

4.4.8.1. - NO SOIL SYSTEM OR SOIL SYSTEM WITH OVERFLOW PIPE

In some instances there may not be any type of soil dispersal system. In those cases, disposal is via a discharge from a pipe to the ground surface (usually a ditch). Some systems
may have a dual approach with a soil or pit type system with an overflow pipe for periods of
time when the soil system cannot handle the volume of waste.

In some instances the “pipe” may be an agricultural drainage tile which may be connected
into a main line of an agricultural drainage system.

If a pipe discharge is employed in any of these methods it is considered a “straight pipe
system” under Minnesota statutes 115.55 subd. 1. Subdivision 11 of MN Statutes 115.55
says the following:

An inspector who discovers the existence of a straight-pipe system shall issue a
noncompliance notice to the owner of the straight-pipe system and forward a copy of the
notice to the agency. The notice must state that the owner must replace or discontinue the
use of the straight-pipe system within ten months of receiving the notice. If the owner does
not replace or discontinue the use of the straight-pipe system within ten months after the
notice was received, the owner of the straight-pipe system shall be subject to an
administrative penalty of $500 per month of noncompliance beyond the ten-month
period............

4.4.8.2. - SURFACE SEEPAGE

In-ground or above grade soil dispersal systems must be checked to see if effluent is
adequately infiltrating into the soil or if the effluent is surfacing to the ground surface.
System owners can be creative in masquerading their surface wet spots on their property.
Seasonal surface seepage is considered an ITPHS (Rule Interpretation). Areas that are
“soft” (sewage just below the surface) are also considered non-compliant (Rule
Interpretation).

Surface seepage may not be evident if the structure has been unoccupied for a long time
period. In these situations a hydraulic test may be necessary. Please see section 4.4.1 on
hydraulic tests.

It would be at the discretion of the inspector if a soil system should be classified as an
imminent threat to public health and safety if the system has reached its full hydraulic
capacity, but there is yet no current indication of seepage to the ground surface. Reaching
“full hydraulic capacity” is defined below:

- A gravity fed trench system in which all trenches have maximum ponded effluent
- Any pressure fed system which has standing effluent - of any level – in the
distribution media.

If the inspector does not classify the system as an imminent threat to public health and
safety, they must, at a minimum, disclose the hydraulic status of the system (Suggestion).

A system that is discharging to the ground surface, with a ditch dug to alleviate the wetness
is considered to be a straight pipe system (Rule interpretation).
Areas that just have lush green vegetation but are not soft, and the media is not reached full capacity are not failing (Policy).

To determine if the system is hydraulically failing:

- Look for un-mowed areas
- Look for “soft soil”
- Look for water loving vegetation at the system

Another method is to probe above the soil dispersal system to look for “black soil” above the media which would indicate sewage levels above the media.

Also look for water marks in the tank for signs of surging. This can indicate some back-up from the soil system. Another indicator is sewage flow back to the tank from the soil system after the tank is pumped.

**4.4.8.3. – LIQUID LEVEL IN DISTRIBUTION MEDIA**

It is recommended to check the liquid level in the soil system prior to pumping the tank. The reason is that when the tank is pumped, effluent may drain back into the tank and the opportunity to make a measurement of the liquid level in the soil system is lost.

**4.4.8.4. - VERTICAL SEPARATION DISTANCE**

The vertical separation distance from the bottom of the dispersal media to the limiting layer must be determined as this separation distance is needed for adequate removal of pathogenic organisms.

The required vertical separation distance as determined by state rules is found in Section 1.2. The required vertical separation distance may be different based on local standards. However the vertical separation distances set by the MPCA must be used to determine compliance under state rules. The state’s required vertical separation distance is used on the MPCA’s mandatory existing system compliance inspection form.

**4.4.8.4.1. - IDENTIFICATION OF PERIODICALLY SATURATED SOIL**

There are two methods to determine the vertical separation they are:

- Use of past soil information and system depth information
- Conduct soil boring(s) and measure the depth/height of the system

**4.4.8.4.1.1. - USE OF PAST INFORMATION**

MN Rules Chapter 7082 states that prior soil separation documentation made by two independent parties may be used to determine the vertical separation distance compliance. When two separate vertical separation distance assessments are attached to the existing compliance inspection form, no further verification is required.
for future inspections unless required by the local unit of government or owner. It should be noted, however, that this does not prohibit an inspector from conducting their own soil verification borings and system depths if desired.

If past soil borings are to be used, it is strongly advisable that the borings indicate the soil coloration which includes the Munsell color notation and the presence or absence of redoximorphic features. You should check with the local SSTS authority concerning acceptable past information. The approximate location of the past borings also needs to be documented.

A soil separation assessment consists of soil observations that identify the depth to the periodically saturated soil according to 7080.1720 subpart 5 and a determination of the elevation of the bottom of the distribution media. The difference of these two elevations is the system’s vertical separation distance.

If you are to conduct soil borings and system elevation check for the inspection, be sure that they are recorded and submitted with the inspection form so they can be counted as one of the vertical separation distance determinations in the future.

4.4.8.4.1.2. - CONDUCT SOIL BORINGS

Typically augers or larger diameter soil probes are used for existing system compliance inspections as opposed to soil pits which causes damage to existing lawns and landscaping. The soil boring method needs to expose an undisturbed sample to assess soil colors to determine the depth to the periodically saturated soil. The depth of bedrock will be determined in the same manner as for system design.

If soil boring(s) are to be conducted, Chapter 7080.1500 subpart 4 item F states:

*The vertical separation measurement ........ shall be measured outside the area of system influence in an area of similar soil.*

Outside the system influence

When sewage effluent is added to the soil by an SSTS, the elevation of the periodically saturated soil may rise above what was determined during the soil borings used for the design. This phenomenon is termed “groundwater mounding”. Therefore, if the system was designed with a three-foot vertical separation distance, it may operate at a separation distance of something less than three-feet. This is expected and factored into the design requirements of Chapter 7080. Therefore, the soil borings should be taken at some distance from system outside the influence of groundwater mounding.

Compliance can be determined by soil borings within the system boundaries if desired or when a suitable area to determine compliance is not available. If the system meets compliance within the system boundaries, then the loading of effluent has not influenced the vertical separation distance to the point which would indicate non-compliance. It should be noted that soil borings within the
The system can be used for compliance, but cannot necessarily be used to determine non-compliance due to the influence of mounding.

The exact distance the soil borings should be conducted from the system varies with system type, topography, system use, and soil type. The inspector needs to take all these factors into consideration when determining the area of similar soil to conduct the soil borings. Borings can be taken from various distances to determine the presence or extent of groundwater mounding.

**Area of similar soil**

In addition to the constraints discussed above, the soil boring(s) must be taken in an area of similar landscape position, same elevation and same slope percentage as where the system is located.

**Utility markings**

Soil boring must meet the legal setback from marked utilities.

**Number of Borings**

MN SSTS rules do not indicate how many borings need to be conducted for an existing system compliance inspection. Therefore, it is up to the discretion of the inspector unless specified by local ordinance (Policy). It is strongly recommended to conduct borings outside of each of the four corners of the soil system. Each of these observations must indicated a limiting conditions that is at, or deeper than what is required for the system to be in compliance.
The location of the soil borings is dependent on the number taken. One boring must be taken, in what is perceived as the most limiting area (Policy). If the vertical separation distance is not met at the perceived most limiting location, then one boring may be sufficient to fail a system.

If the system spans different positions/elevations/slopes, then multiple locations must be checked.

**Elevations needed**

Determining elevations is typically not needed to determine the vertical separation distance for an in-ground or at-grade system if the site is flat or the soil boring is done on the contour at the same elevation. In these cases, just subtracting the depth to the top of the limiting layer from the bottom of the soil dispersal system may be sufficient. The bottom of the soil distribution media is typically determined by probing the rock media with a tile probe. Trench systems typically have 18 inches of rock below the top of the rock and bed systems typically have 12 inches of rock below the top of the rock. It is not acceptable to guess the depth of rock below the top of the media but to probe to the bottom of the rock.

Since plastic chamber systems are newer, it is anticipated that records are on file to determine the thickness of the chamber. Be careful not to puncture the chamber when determining the upper elevation of the chamber. Gravelless leachbed pipe was sold in two sizes 10” and 12” outside diameters, with 12” being the most common.

To determine if mound systems meet the vertical separation distance, elevations of the system bottom and limiting soil layer must be determined. Simple depth measurements from the ground surface may be erroneous as depicted below:
The drawing shows that the original soil surface rises under the mound (that is why the mound was placed there because the drainage was better). If a boring placed along the contour outside the toe of the mound indicated one-foot to the periodically saturated soil and a probing indicated one-foot of sand beneath the absorption bed, then one would wrongly conclude the mound only had two feet of separation.

The correct way to determine the vertical separation distance is to determine elevations.

Calculate the vertical separation distance as follows:

Limiting layer elevation = 100' – 1' = 99"
Bottom of mound absorption bed elevation = 102'
Vertical separation distance = 102' – 99' = 3'

For sloping sites, the required vertical separation should be measured against the upslope edge of the mound rockbed:

ReRedoximorphic Features Criteria

Subsoil and Parent Material

The criteria to determine the depth of the periodically saturated soil in subsoil or parent material for existing system compliance inspections is the same criteria as for designing a new system.

Topsoil

The features to determine the periodically saturated soil in topsoil are limited to just a few of the features used for design. The criteria to determine the depth to the
periodically saturated soil for existing system compliance inspections in topsoil is limited to the following:

– Organic textures (peat or muck (i.e., decomposed peat))
– Redox concentrations or depletions

The following examples are provided concerning this criterion:

Example #1:

The depth to the periodically saturated soil for example #1 would be at the ground surface due to redoximorphic features in the upper subsoil with a high organic textured topsoil.

Example #2:

The depth to the periodically saturated soil for example #2 would be at the ground surface due to redoximorphic features in the upper subsoil with a high organic textured topsoil.
Example #3:

The depth to the periodically saturated soil for example #3 would be at the ground surface due to redoximorphic features in the upper subsoil and topsoil.

Example #4:

The depth to the periodically saturated soil for example #4 would be at 14 inches due to redoximorphic features in the upper subsoil with redoximorphic features ending at 14” in the topsoil.
Example #5:

The depth to the periodically saturated soil for example #5 would be at 20” due to redoximorphic features in the upper subsoil with no redoximorphic features or high organic textured topsoil.

Example 6#:

The depth to the periodically saturated soil for example #6 would be at 17”. The “E” horizon is not considered “subsoil” and is not subject to the <=2 chroma criteria with a value of 4 or more.

4.4.8.4.1.2. – ARTIFICIAL DRAINAGE

Some systems have been designed with artificial drainage (tile, ditches, etc...) in an attempt to lower the periodically saturated soil to meet the required vertical separation distance. For a basic discussion on this topic please refer to The MPCA factsheet entitled: Policy on Utilizing Artificial Drainage Methods For Subsurface Sewage Treatment.
It has been the agency’s experience that it is very difficult to design a system employing artificial drainage which can adequately lower the level of the periodically saturated soil to meet the required vertical separation distance. The drainage network needs to be closely spaced and deep in order to meet the required vertical separation distance. Engineering calculations and monitoring are methods that can be used to assess the adequacy of artificial drainage. For assistance please contact MPCA SSTS staff.

4.4.9. - COMPLIANCE INSPECTIONS FOR PRIVIES

4.4.9.1. - OPEN PIT PRIVIES

Open pit privies must have three feet of vertical separation between the bottom of the pit and saturated soil or bedrock.

To determine the vertical separation distance, extend a rod to the bottom of the pit and measure the depth from a known top reference or elevation. Take soil borings outside of the privy extending the depth from the known top reference. Continue the soil boring to three feet below the elevation of the bottom of the pit to determine if the required vertical separation distance has been met.

4.4.9.2. - VAULT PRIVIES

The tank below a vault privy must be water tight below the operating depth. Please see Section 4.4.5.2 on assessing the compliance of existing tanks.

4.4.9.3. - ALL PRIVIES

The safety of the opening of an open bottom privy should be assessed to determine if there is sufficient soil to support the weight of the above ground structure.

4.5 COMPLIANCE REQUIREMENTS AND INSPECTION METHODS FOR SYSTEMS WITH PRETREATMENT DEVICES

Systems with mechanical pretreatment devices or soil/textile media filters have additional compliance requirements and inspection procedures. These systems still need to meet the compliance criteria for the non-pretreatment components such as septic tanks and soil systems.

4.5.1 PRE-2008 SYSTEMS

A “pre-2008” system in this section means a system that was designed and installed under a local ordinance in compliance with the 2006 or earlier version of chapter 7080 (typically installed sometime before 2008 to 2014 depending on when the 2008 rule was locally adopted).
4.5.1.1. COMPLIANCE CRITERIA AND INSPECTION METHODS

4.5.1.1.1 GENERAL COMPONENTS (SEPTIC TANKS, DISTRIBUTION NETWORK, ETC. . .)

The compliance criteria and inspection procedures for the non-pretreatment components remains the same as for systems without pretreatment.

4.5.1.1.2 – WATERTIGHTNESS OF TANKS/VESSELS/LINERS

If the pretreatment device is filled with media, it will be difficult or impossible to inspect for cracks, roots, spalling, deterioration, deformation, etc... without removing the media. Therefore other methods need to be used to assess water tightness. They can include:

- operational level
- water balance
- probing outside the tank for evidence of leakage in the soil

4.5.1.1.2. PRETREATMENT DEVICE

Compliance Criteria

The compliance criteria for the pretreatment device will be as follows:

- If system has an operating permit, device must meet the operating permit standards to be in compliance.
- If the system does not have an operating permit, any performance level that was assumed during design, is the compliance standard. Any standards found in the pre-2008 monitoring and mitigation plans must be achieved.
- If no operating permit or assumed design standard exists, and the system does not meet the design requirements for a modern Type IV system concerning the treatment device, distribution network and vertical separation distance, the inspector can weigh these factors in determining system compliance. [Note: Systems employing a sand or peat filter with 2-feet of media followed by a one-foot vertical separation distance in the soil system can be determined to be compliant – aka the old “2+1” systems].
- If the system does not have an operating permit, but should have one, the LGU should issue one.

Inspection Methods

The type, model and manufacturer of a pretreatment device drive any compliance measures and inspection methods. Many devices are described in the Consortium of Institutes for Decentralized Wastewater Treatment (CIDWT) Service Provider Manual.
4.5.1.3. SOIL DISPERSAL SYSTEM

Compliance Criteria

The soil system needs to meet the designed separation distance, and hydraulically functioning. If pressure distribution has not been employed and poor distribution is occurring, treatment may be compromised which could trigger a discretionary non-compliance determination by the inspector.

Inspection Methods

The soil system is inspected in the same manner as section 4.4.8.

4.5.2 POST-2008 SYSTEMS

A “post-2008” system in this section means a system that was designed and installed under a local ordinance in compliance with the 2008 or later versions of chapters 7080 and 7081. (typically installed sometime after early 2008 depending on when the 2008 rule was locally adopted).

4.5.2.1. COMPLIANCE CRITERIA AND INSPECTION METHODS

4.5.2.1.1. GENERAL COMPONENTS (SEPTIC TANKS, DISTRIBUTION NETWORK, ETC....)

The compliance criteria and inspection procedures for the non-pretreatment components remains the same as for systems without pretreatment.

4.5.2.1.2. PRETREATMENT DEVICE

Compliance Criteria

The system is required to be operated under an operating permit. If the device is meeting its operating permit it is considered in compliance. Systems out of compliance for operational or monitoring deficiencies must immediately be maintained, monitored, or managed according to the operating permit (7082.0700 subpart 3 item A).

The LGU will make the determination of whether the device is currently considered to be in compliance if performance/compliance has been inconsistent, or if the required number of samplings has not been conducted. Follow-up activities must be in concert with 7082.0700 subpart 3 item A.

NOTE: Typically operating permits are not transferable; therefore upon property transfer a new operating permit should be issued.

If an operating permit was required but not invoked, the system is out of compliance until local requirements are met.
4.5.2.1.3. SOIL DISPERSA System

The soil system needs to meet the designed separation distance, and be hydraulically functioning. The system should have been designed with pressure distribution.

4.6 COMPLIANCE CRITERIA AND INSPECTION METHODS FOR SYSTEMS WITH A DESIGN FLOW BETWEEN 2,501 TO 10,000 GPD WHICH DO NOT REQUIRE A STATE PERMIT.

Larger SSTS may have additional compliance requirements than those systems with a design flow of 2,500 gpd and less. This section will outline the similarities and possible differences in compliance and inspection methods.

4.6.1. LARGER SYSTEMS WITH PRETREATMENT DEVICE

If the system employs a pretreatment device please see section 4.5 to determine compliance for that component.

4.6.2. NITROGEN TREATMENT

Larger and newer systems may have been required to employ nitrogen reduction. The two regulatory levels of nitrogen treatment are:

- Use of a nitrogen best management practice (BMP), or
- Meet a concentration of 10 mg/l at the property boundary or nearest receptor, whichever is closest.

4.6.2.1 NITROGEN BEST MANAGEMENT PRACTICE (BMP)

There may be various types of nitrogen BMPs that may be employed. BMPs do not have a numerical compliance limit or compliance boundary. The compliance determination is if the BMP is still in place and if the BMP appears to be functioning.

The common BMPs are listed below along with the compliance determination. In addition, always be sure to review the operating permit reports.

**Mound System**

A mound system placed on a loamy soil (sandy loam or finer) with moderate to high organic matter (color value of 3 or less) is a nitrogen BMP. The inspector can examine design records or conduct soil boring to determine if the soil beneath the mound meets these requirements.

**Blackwater Separation**

The toilet waste (aka blackwater) contains the majority of the nitrogen in sewage. If this waste is segregated and is not discharged to the system, it is considered as a nitrogen BMP. The compliance determination is to ensure that blackwater is not entering the system.
Use of a Registered Product

If a Registered nitrogen treatment device is employed, it is considered as a nitrogen BMP. The inspector can check if the device is Registered as a nitrogen reduction device and then determine if the system appears to be operating properly. No sampling and analysis is required. However, if the operating permit contains a numeric standard, that standard must be met as determined by the operating permit report.

Use of Natural Soil Denitrification

During design, the soil treatment zone may have been determined to have nitrogen reduction capabilities. Therefore, there is no specific assessment that the designer needs to conduct, but specific documentation of the soils N reducing capabilities should be found in the official record.

Other Nitrogen BMPs

If other nitrogen BMPs have been employed, please review the system’s operating permit to determine what assessment is necessary to determine compliance.

4.6.2.2. NITROGEN CONCENTRATION OF 10 MG/L

Some systems were designed to meet a total nitrogen concentration of 10 mg/l at the property boundary or nearest receptor (water supply well), whichever is closest. Total nitrogen includes Kjeldahl N (organic N + ammonia + ammonium) plus nitrate and nitrite. Typically the system will have more than one method to meet this 10 mg/l requirement (e.g. registered nitrogen pretreatment device followed by natural soil nitrification and dilution).

The operating permit should define the required end-of-pipe nitrogen concentrations from the pretreatment device and whether the system has a nitrogen concentration in violation of compliance requirements.

Sampling and analysis may not need to be conducted for the compliance inspection unless a sampling event is due. The LGU will make the determination of whether the system is currently considered to be in compliance if performance/compliance has been inconsistent, or if the required number of samplings has not been conducted. Follow-up activities must be in concert with 7082.0700 subpart 3 item A.

4.6.3. GROUNDWATER MOUNDING

All MSTS systems installed under the post 2008 state code will have been instrumented with water table monitoring devices to determine the extent of groundwater mounding.
The operating permit should define the reporting results of the ground water table monitoring devices and whether the system has a groundwater mound height in violation of compliance requirements.

Reading of the monitoring devices may not need to be conducted for the compliance inspection unless a measuring event is due. The LGU will make the determination of whether the system is currently considered to be in compliance if performance/compliance has been inconsistent, or if the required number of measurements has not been conducted. Follow-up activities must be in concert with 7082.0700 subpart 3 item A.

4.6.4. PHOSPHORUS

Some systems may have a phosphorus requirement to protect surface water from phosphorus additions from groundwater. The system may be designed with a phosphorus treatment device or rely on native soil treatment.

The operating permit should report of the end-of-pipe results of the phosphorus treatment device or groundwater phosphorus concentrations in violation of compliance requirements.

Reading of the monitoring devices may not need to be conducted for the compliance inspection unless a sampling event is due. The LGU will make the determination of whether the system is currently considered to be in compliance if performance/compliance has been inconsistent, or if the required number of samplings has not been conducted. Follow-up activities must be in concert with 7082.0700 subpart 3 item A.

4.6.5. TYPE I, II or III SYSTEMS (OLD STANDARD, ALTERNATIVE OR OTHER SYSTEMS)

Some larger systems may just be a simple system with the components consisting of a septic tank(s) (maybe a pump tank) and a soil dispersal system. This would be especially true for larger systems built previous to the 2008 rule adoption by the LGU’s.

The compliance standards and inspection methods for these systems is the same as for smaller SSTS. However more time and scrutiny is advisable such as check water table measurement readings and conduct additional soil borings due to the larger area. However it is recommended that the compliance standards and inspection methods in section 4.6 be assessed as best as possible. If a significant issue arises from this extra assessment, the inspector has the discretion to issue a Notice of Non-compliance (7080.1500 subpart 4). Some extra assessments can include:

- Conduct soil borings in the center of the system to assess for excessive ground water mounding.
- Test nearby well for contaminants found in sewage.
- Take soil sample at “3 feet” and test for fecal organisms
- Waste strength sampling
- Check contour loading rate – estimate mounding
4.6.6. – COLLECTION SYSTEM

A compliant collection system serving a SSTS must be operating as intended, meaning it is capable of transporting the sewage from the place it is generated. To be in compliance, the collection system must meet the following criteria:

- Manholes must be watertight
- Access openings to the manholes must be secure
- The pump/controls must be operating
- Collection system does not chronically plugged with solids causing back-up
- The system does not chronically freeze
- No basement back-ups
- Excessive Infiltration & Inflow causing the soil system to hydraulically fail
- Alarms not functioning

4.7. - WINTER COMPLIANCE INSPECTIONS

If conditions exist in the winter such that you cannot completely examine a system, then a compliance inspection cannot be completed until the weather permits. If a property transfer is involved, funds for a replacement system (if necessary) can be escrowed until the current system can be examined.

Below are some suggestions if a winter inspection is to be attempted. It is important for you to make it clear to all affected parties of the difficulties in conducting a winter inspection and that you may not be able to determine compliance until favorable conditions exist.

Great care should be given if conducting soil borings in an attempt to determine redoximorphic features. The challenges are:

- The soil needs to be thawed before extracting the sample (cannot chip frozen pieces of soil and then thaw)
- An undisturbed sample is needed to correctly see color patterns
- The thawed sample may be very wet. It will have to be dried to the point that water films do not interfere with reading the soil color.
- Light conditions may yield too little light (the sun is low in the sky - 12/21 is the lowest). Be sure that the color book is held perpendicular to the angle of the sunlight. Artificial light is not recommended.
- Light from the wrong direction. Looking into the snow during a sunny day causes too much back-lighting.

It is not clear how frozen soil conditions affect the operation and observation of a soil system with a surface failure.

4.8. – SYSTEMS NO LONGER IN USE

There may be a very old system (SSTS, cesspool, seepage pit, etc...) on the property that is no longer in use. This may especially be applicable to buildings now connected to city sewer.
Systems-no-longer-in-use may not have been properly abandoned. The reason for proper abandonment is to avoid a safety hazard if the lid to an underground cavity/pit would deteriorate and collapse, causing an acute safety hazard to someone at the ground surface.

Proper abandonment of a system-no-longer-in-use is as follows (7080.2500):

- All solids and liquids must be removed
- All electrical devices and devices containing mercury must be removed
- Remaining tanks no longer in use must allow drain-through of precipitation
- Remaining tanks must be filled with soil or rock material
- Access for future sewage discharge must be permanently denied

If a system no-longer-in-use is properly abandoned, the system is considered compliant. If a system “no longer in use” is kept to dispose of wastes such as water conditioner recharge or foundation sump water, it does not need to be abandoned and can function in that capacity. Systems receiving acceptable non-sewage wastes are no longer considered as an SSTS since they are not receiving sewage.

It may be extremely difficult to determine the presence and location of a system-no-longer-in-use. A record of abandonment may be on record at the local governmental unit. The procedures in section 4.3.4 can be a good starting point to try to locate the presence of a very old system. However more investigation will likely be needed to make a determination. At a minimum the inspector needs to ask the property owner if they have knowledge of a system that is no longer in use.

NOTE: MN statutes 115.55 requires a disclosure if a system-not-in-use has been properly abandoned.

A complicating factor is with a system that may have received a hazardous or unsuitable waste. If suspicious contact hazardous waste staff.

For more information please refer to the agency’s factsheet: Abandoning Subsurface Sewage Treatment Systems which can be found by googling: “mpca ssts abandoning subsurface sewage treatment systems”.

4.9. – SETBACKS TO WATER SUPPLY WELLS

The compliance criterion for an existing system does not include the required setback to a water supply well. However it is helpful to for a designer to understand the issues related to existing SSTS and water supply wells.

Before July 1, 1974

There was no statewide regulation of wells prior to July 1, 1974. Some counties and other local units of government regulated well construction through local ordinances. For wells or SSTS installed before July 1, 1974, the MDH has no
authority to compel a well contractor to take any corrective actions for installations that do not meet current Well Code requirements.

July 1, 1974, to June 31, 1989
The MDH regulatory program began on July 1, 1974, with the implementation of the first Well Code, which contained the minimum isolation distances to be maintained between wells and various sources of contamination. Although the rules clearly specified the proper placement of a well in relation to an existing source of contamination, they did not prohibit the placement of contaminant sources closer to an existing well than the specified setback distance. For wells constructed within required setback distances during this time period, the MDH has regulatory authority to require correction of Well Code violations. The MDH has no regulatory authority to require corrective action for an SSTS installed too close to an existing well during this time period.

July 1, 1989 to present
The Groundwater Protection Act, effective July 1, 1989, included a requirement prohibiting the placement of contaminant sources closer to any existing wells than the distances prescribed in the Well Code. MDH will initiate appropriate enforcement actions against any person responsible for improper placement of an SSTS or other contamination source too close to an existing well. These enforcement actions can include ordering the party responsible for the violation to remedy the violation by moving the contamination source or the well. Any
party determined to be responsible for violations may also be subject to fines and additional enforcement actions by MDH and applicable local regulations.

Regardless of the date of the well construction, MDH has the statutory authority to order a property owner to repair or seal a well when:

- The well is an imminent threat to public health or safety.
- The well is contaminated or may lead to the spread of contamination.
- The well was improperly sealed.
- The well is located, constructed, or maintained in a matter whereby its continued use or existence endangers groundwater quality or is a safety or health hazard.

When are setback distances required?
Setbacks apply to all water supply wells, including wells used for irrigation or industrial supply, and abandoned but unsealed wells (be sure to investigate if more than one well may be present on the site). The setbacks also apply to SSTS and wells on neighboring properties.

What are the setback distances?
Below is a summary of some of the more common SSTS setbacks; a complete listing is found at www.revisor.leg.state.mn.us/rules?id=4725.

<table>
<thead>
<tr>
<th>SSTS component</th>
<th>Sensitive Water Supply well</th>
<th>Water supply well</th>
<th>Community public well</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buried sewer pipe – untested, unapproved</td>
<td>50’</td>
<td>50’</td>
<td>50’</td>
</tr>
<tr>
<td>Buried sewer pipe – tested, approved</td>
<td>20’</td>
<td>20’</td>
<td>50’</td>
</tr>
<tr>
<td>Cesspool</td>
<td>150’</td>
<td>75’</td>
<td>75’</td>
</tr>
<tr>
<td>Gray-water dispersal area</td>
<td>100’</td>
<td>50’</td>
<td>50’</td>
</tr>
<tr>
<td>Holding tank</td>
<td>50’</td>
<td>50’</td>
<td>50’</td>
</tr>
<tr>
<td>Leaching/seepage pit, dry well</td>
<td>150’</td>
<td>75’</td>
<td>75’</td>
</tr>
<tr>
<td>Privy</td>
<td>100’</td>
<td>50’</td>
<td>50’</td>
</tr>
<tr>
<td>Septage land application site</td>
<td>100’</td>
<td>50’</td>
<td>50’</td>
</tr>
<tr>
<td>Septic tank</td>
<td>50’</td>
<td>50’</td>
<td>50’</td>
</tr>
<tr>
<td>Sewage sump with a capacity of 100</td>
<td>50’</td>
<td>50’</td>
<td>50’</td>
</tr>
</tbody>
</table>
gallons or more, including lift stations, grinder tanks, and other pump tanks

<table>
<thead>
<tr>
<th>Sewage sump with a capacity of less than 100 gallons that has been constructed and successfully tested in accordance with Minnesota Rules Chapter 47154</th>
<th>20’</th>
<th>20’</th>
<th>50’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subsurface dispersal field</td>
<td>100’</td>
<td>50’</td>
<td>50’</td>
</tr>
<tr>
<td>Subsurface dispersal field, system design flow &gt;10,000 gpd</td>
<td>600’</td>
<td>300’</td>
<td>300’</td>
</tr>
<tr>
<td>Subsurface dispersal field serving a facility with infectious or pathological wastes</td>
<td>300’</td>
<td>150’</td>
<td>150’</td>
</tr>
<tr>
<td>Watertight sand filter, peat filter, constructed wetland</td>
<td>50’</td>
<td>50’</td>
<td>50’</td>
</tr>
<tr>
<td>Disposal area for water treatment backwash</td>
<td>100’</td>
<td>50’</td>
<td>50’</td>
</tr>
</tbody>
</table>

1. Often referred to as a ‘shallow’ well. Does not have 50’ or more of watertight casing or does not have watertight casing that penetrates 10’ or more of a confining layer
2. Includes wells used to supply drinking water, irrigation wells, wells supplying processing water, and drive point wells
3. Provides water to 15 or more year-round residences or dwelling units

If information of the well cannot be determined, then you should assume that the well is sensitive.

**Does the Well Code require a setback from a well to an abandoned SSTS?**

Unless specified in the local ordinance, a setback distance is not required between a properly abandoned and sealed well and an SSTS.

A setback is also not required between a properly abandoned SSTS and a new well, however, if the following procedures are not followed the setbacks still apply:

1. Septic tank, holding tank, sewage sump, or other sewage tank has been pumped, disconnected, and filled with soil and rock; is crushed and filled; or pumped and completely excavated and removed. Any visibly contaminated soils or material within, beneath, and surrounding the structure are excavated and disposed of in accordance with state and local requirements.
2. Cesspool, seepage pit, leaching pit, or dry well has been pumped and the entire structure plus any visibly contaminated soils or material within, beneath, and surrounding the structure are excavated and disposed of in accordance with state and local requirements.
3. Subsurface Dispersal Field has had all piping and any visibly contaminated soil or media beneath and surrounding the piping are excavated and disposed of in accordance with state and local requirements.

Do the SSTS setbacks apply to sewers?
The MDH defines a sewer as a pipe or conduit carrying sewage, or into which sewage can back up, including floor drains and traps. The setbacks apply to the installation of a new buried sewer, and the replacement of an existing buried sewer. A complete listing of setbacks to sewers is found at Minn. R. 4725.4450.

Is there a setback between a SSTS and a water-supply pipe?
Yes, a setback is required under the Minnesota Plumbing Code instead of the Well Code. The Plumbing Code, Minn. R. ch. 4715, requires a ten foot separation between any contamination source and a water service pipe, which is defined as the pipe from the water main or other source of water supply to the water distributing system of the building.

Need more information?
For additional well information, please contact the MDH Well Management Section at 651-201-4600, toll free 800-383-9808, or www.health.state.mn.us/divs/eh/wells/index.html.

For additional SSTS information, please visit www.pca.state.mn.us/programs/ists/ or call 651-296-6300, toll free 1-800-6573864.

4.10. - OTHER OBSERVATIONS

In addition to the basic compliance inspection, additional observations can be made to assist in any future decisions about the system. These additional observations are:

- Extraneous water:
  - Leaky plumbing fixtures
  - Clean water connected to system
  - Excessive run-on to system
  - Water measurement readings (if last reading is known)

- System use and maintenance:
  - Garbage disposal use
  - Septic tank pumping
  - Use of additives

- Tanks:
  - Baffle check
  - Solids in the pump tank or drop boxes
  - Add risers to for ease of access

- Soil dispersal system:
  - Soil erosion or animal burrows
Deep root plants over soil system
- Level of effluent ponding
- System located on owners property
- System sized to match the flow
- Lawn irrigation over system
- Activities over the system that may cause compaction

- Is system a Class V injection well?

The comments/methods sections of the form allows the inspector to communicate with the customer about issues that may not affect compliance, but may affect system performance or longevity.

CHAPTER FIVE : REPORTING

All existing system compliance inspections must be reported on the agency’s existing system compliance inspection form. It is recommended to download the form online to be sure you are using the current updated form. The web address is:


The inspection form instruction sheet is found at:


In addition, there are two forms that can be used for recording just tank compliance they can be found at:


or


All required forms and reports must contain a signed certified statement by the inspector. The Certificate of Compliance or Notice of Non-compliance must be submitted to the local unit of government and the system owner within 15 days of the compliance inspection (7082.0700 subpart 4 item C). Certificates of Compliance that are issued during existing system compliance inspections are valid for three years unless a new inspection is requested by the owner or owner’s agent or required by local regulation (7082.0700 sub 4 item C.)

If a notice of non-compliance is issued the reason(s) for non-compliance must be reported.
Chapter 7080 requires SSTS businesses to maintain copies of all inspection reports for five years (7083.0720 item G).

If a mistake or omission is discovered in an existing system compliance inspection, the report should be amended and marked as an updated report. Older reports should not be destroyed, but should be marked as outdated and list the date of the most recent inspection report.

It is recommended that any other issues of concern discovered during the inspection (but not a direct compliance issue) be reported to the customer. Providing a narrative of the inspection is helpful. Please see the following example from an inspection in northern Minnesota:

This system was installed in 2007 for a 3 bedroom home. The septic and pumping tank at this site measures approximately 12' x 5-112' x 46” liquid depth and appears to be a precast 1500 gallon compartmented concrete tank. There are three 6” PVC inspection pipes present over the inlet and the outlet areas of the tank and it appears that both baffles are in place. The manhole covers are present at the ground surface. The liquid level was present at the bottom of the outlet pipe of the septic compartment and appears to be normal. The plug for the pump was plugged directly into the outlet and the pumped turned on and appeared to be functioning properly. A steel rod was inserted down into the tank and it was evident that this tank has a solid concrete bottom as far as I could reach. The rock bed measures approximately 10’ x 38’. A steel rod was used to probe and measure the rock bed. A soil boring was completed adjacent to the rock bed through the sandy material used to build the mound system. The top of the rock was present at 16” and the bottom of the rock would be present at approximately 26”. The soil boring was completed 2” lower in elevation from where the rock bed was probed and the original topsoil was present at 48” so there is approximately 24” of sand present beneath the rock bed and there is no evidence of a seasonal water table present to 66” from the top of the mound. There is greater than three feet of separation from the bottom of the rock bed to the seasonal water table and the components of this system are considered to be in compliance.

It is helpful to note on the report who requested the inspection and for what purpose.

Locating the system components on a map is very helpful for future investigation. Locating with a GPS device is the preferred method to mark the locations.

A video camera can be used to record the events of things that occur at the site. If there is possible cause for a legal dispute it is recommended to videotape the inspection for later use.

The report should indicate any of the conditions that could not be properly assessed due to difficulties in determining compliance.

CHAPTER SIX: UNDERGROUND INJECTION CONTROL (UIC) WELLS COMPLIANCE INSPECTIONS

Subsurface sewage treatment systems meeting the following criteria are regulated under the Underground Injection Control (UIC) program as a Class V Injection Well by the USEPA.
• A system serving more than one residence, or
• A system serving a commercial establishment which serves more than 20 people per day, or
• A system receiving non-hazardous, non-domestic wastes

Generally an existing SSTS which meets the compliance criteria for Minnesota will meet compliance for a Class V injection well. The main compliance issue is if a non-domestic waste has been discharged into the system. Please see Section 4.4.5.1 for suggestions on compliance and non-domestic wastes.

Inspectors are not required to determine compliance with the USEPA requirements or to complete the inventory form as part of the state of Minnesota’s compliance inspection requirements.

CHAPTER SEVEN: HOMEOWNER GUIDANCE

Your customers may not understand the purpose or function of an SSTS, SSTS components or SSTS compliance. In these cases it may be beneficial to educate your customer. The following factsheets are available to help educate your customers:

Why treat sewage?

Basic SSTS purpose/function/components:

Existing system compliance inspections:

Vertical separation distance:

SSTS disclosures at property transfer:

Septic tank maintenance:

More system owner information can be found at the University of Minnesota’s web page at:
CHAPTER EIGHT: LITERATURE REVIEWED


Consortium of Decentralize xx Service Provider Manual

Florida Department of Health Division of Disease Control and Health Protection Bureau of Environmental Health, May 2000 – Onsite Sewage Programs, Procedure for Voluntary Inspection and Assessment of Existing Systems


Appendices

Appendix A: Homeowner Questionnaire

The following is a form that can be completed by the homeowner to aide in the compliance determination. The use of this form is not required.

<table>
<thead>
<tr>
<th>Subsurface Sewage Treatment Systems Compliance Inspection System Owner Questionnaire</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 24, 2014</td>
</tr>
</tbody>
</table>

**Date:**

**System owner’s name:**

**System owner’s address and property ID number:**

**System owner’s telephone number:**

**County:**

**To the best of your knowledge, generally describe the system:**

**Date of system installation:** known estimated (circle one)

**System Designer (if known):**

**System Installer (if known):**

**Number of past owners (if known):**

**Number of bedrooms in the dwelling:**

**Describe the number of people who have used the system per year of operation:**

**Anticipated future use of system:**

**Was the system only used seasonally?**

**Use of garbage disposal? Whirlpool bath? Basement sewage pump?**

**Any unusual water usage (e.g., home business)?**

**Is there a flow meter?**

**Any discharge of harsh chemicals, high strength wastes or medicine use?:**

**Any clean water sources connected to the system?**

**How often have the tanks been pumped?**

**Was the tank pumped through the maintenance hole?**

**Name of pumper:**

**Location of system (draw simple map):**
<table>
<thead>
<tr>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you have records of the system (construction, inspection, maintenance)?</td>
</tr>
<tr>
<td>Dates and reason for upgrades or repairs</td>
</tr>
<tr>
<td>Do plumbing fixtures drain slowly?</td>
</tr>
<tr>
<td>Are all plumbing fixtures connected to the system?</td>
</tr>
<tr>
<td>Are there any leaky plumbing fixtures?</td>
</tr>
<tr>
<td>Use of water conditioner?</td>
</tr>
<tr>
<td>Has sewage ever back-up into the structure?</td>
</tr>
<tr>
<td>Has the system ever frozen in the winter?</td>
</tr>
<tr>
<td>Has there ever been an emergency pumping?</td>
</tr>
<tr>
<td>Has sewage every seeped onto the ground surface?</td>
</tr>
<tr>
<td>Location of current and past water supply wells:</td>
</tr>
<tr>
<td>Are there problems with quality of the well water?</td>
</tr>
<tr>
<td>Any buried underground utilities not known to the utility companies? (gas from LP tank, cable, sprinkler system, drain tile, invisible fence, etc....)</td>
</tr>
<tr>
<td>Is there an operating permit or service contract for the system?</td>
</tr>
<tr>
<td>Are there any pets to be concerned about when conducting the inspection?</td>
</tr>
<tr>
<td>I verify that I have completed this form:</td>
</tr>
<tr>
<td>Name (print) ________________________________________________________</td>
</tr>
<tr>
<td>Signature ___________________________ Date: _____________</td>
</tr>
</tbody>
</table>

1/30/2015
## Appendix B: Detailed Inspection Checklist

### Existing System Compliance Inspection Checklist

**December 2014**

This checklist can be used as an aide to completing an existing system compliance inspection. The use of this form is not required.

### General Information

- **Date of Inspection:**
- **System owner’s name:**
- **System owner’s address and property ID number:**
- **System owner’s telephone number:**
- **County:**

### General System Information

- **Description of the system:**
- **Year installed – approximate if necessary:**
- **System Classification (circle one):**
  - Type I
  - Type II
  - Type III
  - Type IV
  - Type V
  - Standard
  - Alternative
  - Other
  - Experimental
  - Warrantied
  - Unknown
- **System in Shoreland?**
- **System serving food, beverage or lodging establishment?**
- **System in a wellhead protection area?**
- **Past records of the system?**
- **Design flow approximate if necessary:**
- **Past use (number of users, seasonal use, home business, high strength wastes):**
- **Past maintenance:**
<table>
<thead>
<tr>
<th>Neighbor’s knowledge of system:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency pumpings:</td>
</tr>
<tr>
<td>Past repairs:</td>
</tr>
<tr>
<td>Design and Installation documents available:</td>
</tr>
<tr>
<td>Contaminated water supply well?</td>
</tr>
<tr>
<td>Fecal organisms?</td>
</tr>
<tr>
<td>Nitrate?</td>
</tr>
<tr>
<td>If dwelling has been unoccupied, for how long?</td>
</tr>
<tr>
<td>Guess of system status base on history of SSTS in the area</td>
</tr>
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</table>

### Pre Field Work Issues

<table>
<thead>
<tr>
<th>Utilities marked?</th>
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</thead>
<tbody>
<tr>
<td>Presence of unmarked utilities?</td>
</tr>
<tr>
<td>Pets secured?</td>
</tr>
<tr>
<td>Power lines</td>
</tr>
<tr>
<td>Gas line from LP tank?</td>
</tr>
<tr>
<td>Cable lines?</td>
</tr>
<tr>
<td>Water lines?</td>
</tr>
<tr>
<td>Sprinkler system?</td>
</tr>
<tr>
<td>Drain tile?</td>
</tr>
<tr>
<td>Invisible fence?</td>
</tr>
<tr>
<td>Other homeowner installed underground utilities/devices?</td>
</tr>
<tr>
<td>Poisonous vegetation?</td>
</tr>
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</table>

### General

<table>
<thead>
<tr>
<th>Climatic period prior and during the inspection (very wet, wet, normal, dry, very dry, frozen, etc...)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the plumbing fixtures slow in draining?</td>
</tr>
<tr>
<td>Water supply well location –on-lot?</td>
</tr>
<tr>
<td>Water supply well locations – adjacent lots?</td>
</tr>
<tr>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Hydraulic test performed – Flow through the system OK?</td>
</tr>
<tr>
<td>Hydraulic test per plumbing fixture – all fixtures connected?</td>
</tr>
<tr>
<td>Evidence of hazardous or non-treatable wastes?</td>
</tr>
<tr>
<td>System on the property?</td>
</tr>
<tr>
<td>System receiving high strength waste?</td>
</tr>
<tr>
<td>System components meeting setbacks?</td>
</tr>
<tr>
<td>Is the system subject to chronic freezing?</td>
</tr>
<tr>
<td>Are there clean water sources entering the system? Is there excessive run-on?</td>
</tr>
<tr>
<td>Is there evidence of inappropriate activities on or around the system?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sewage Tanks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tank leaking out?</td>
</tr>
<tr>
<td>Tank/risers leaking-in?</td>
</tr>
<tr>
<td>Correct size tank?</td>
</tr>
<tr>
<td>Baffles in place?</td>
</tr>
<tr>
<td>Tank integrity (exposed rebar, spauling, etc.)</td>
</tr>
<tr>
<td>Is the lid of the tank sound and can bear the weight?</td>
</tr>
<tr>
<td>Tank access sound and secure?</td>
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</table>

<table>
<thead>
<tr>
<th>Distribution System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pump operating?</td>
</tr>
<tr>
<td>Floats operational?</td>
</tr>
<tr>
<td>Controls operational</td>
</tr>
<tr>
<td>Drawdown time –</td>
</tr>
<tr>
<td>Amp draw –</td>
</tr>
<tr>
<td>Alarm operating?</td>
</tr>
<tr>
<td>Weep hole functioning?</td>
</tr>
<tr>
<td>Designed vertical separation distance*</td>
</tr>
<tr>
<td>Plugged pipes?</td>
</tr>
<tr>
<td>Plugged baffles/transfer holes</td>
</tr>
<tr>
<td>-------------------------------</td>
</tr>
<tr>
<td>Plugged effluent screen?</td>
</tr>
<tr>
<td>Plugged perforations/squirt height test?</td>
</tr>
<tr>
<td>Drop boxes and distribution boxes</td>
</tr>
<tr>
<td>Correct elevation</td>
</tr>
<tr>
<td>Level</td>
</tr>
<tr>
<td>Cracks or leaks</td>
</tr>
<tr>
<td>Solids build-up</td>
</tr>
<tr>
<td>Electrical hazard?</td>
</tr>
</tbody>
</table>

**Soil Dispersal System**

<table>
<thead>
<tr>
<th>More vibrant vegetation over soil system?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet un-mowed, area, water loving vegetation, surface seepage?</td>
</tr>
<tr>
<td>Degree of effluent ponding</td>
</tr>
<tr>
<td>Effluent drains back into tank when tank is pumped?</td>
</tr>
<tr>
<td>Gopher activity, excessive surface subsistence or media filling with soil?</td>
</tr>
<tr>
<td>Vertical separation distance</td>
</tr>
<tr>
<td>Borings</td>
</tr>
<tr>
<td>Past verification</td>
</tr>
<tr>
<td>Soils with excessive rock fragments?</td>
</tr>
<tr>
<td>Systems with poor distribution across the system?</td>
</tr>
<tr>
<td>Systems partially or totally covered with impervious surface*</td>
</tr>
<tr>
<td>Is the soil system that very deep ?</td>
</tr>
<tr>
<td>Soil survey – soil conditions</td>
</tr>
<tr>
<td>Past inspection/assessments reports</td>
</tr>
<tr>
<td>Problem soil condition present?</td>
</tr>
<tr>
<td>&lt; one foot to periodically saturated soil</td>
</tr>
<tr>
<td>Damaged soil</td>
</tr>
<tr>
<td>Small system</td>
</tr>
<tr>
<td>Naturally soil perc rates</td>
</tr>
<tr>
<td>--------------------------</td>
</tr>
<tr>
<td>Presences of straight pipes or overflow pipes</td>
</tr>
<tr>
<td>Nearby surface water has excessive vegetative growth?</td>
</tr>
<tr>
<td>Activities on soil system which causes compaction?</td>
</tr>
</tbody>
</table>

**Pretreatment Systems**

| Does the system have operating permit limits or other operational limits? |
| Does the data show compliance? |
| Is the system meeting design expectations if there is no operating permit? |
| Is the pretreatment tank watertight below the operating depth? |

**Aerobic Treatment Unit:**

- Unacceptable odors present?
- Normal color of effluent?
- Foaming present?
- Air supply working?
- Operational controls working?

**Media Filter:**

- Effluent ponding present?
- Operational controls working?

**Disinfection Unit:**

- Was the unit operating properly?

**Large Systems**

<p>| Is any nitrogen BMP in place and still functioning? |
| Is any nitrogen treatment device with a compliance limit meeting the limit? |
| Any evidence of excessive groundwater mounding? |</p>
<table>
<thead>
<tr>
<th>First Name</th>
<th>Last Name</th>
<th>Company/Association</th>
<th>Member or Agency or Association</th>
<th>Voting/Non Voting</th>
<th>Exp. Date</th>
<th>Can't be Reappointed After Date</th>
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<tbody>
<tr>
<td>Aaron Wills</td>
<td>Citizen</td>
<td>Cannon River Watershed Partnership</td>
<td>Citizen</td>
<td>V</td>
<td>1/1/2019</td>
<td>1/1/2027</td>
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<tr>
<td>Chris LeClaire</td>
<td>Vacancy</td>
<td>Washington County PH &amp; Env.</td>
<td>Citizen</td>
<td>V</td>
<td>8/1/2015</td>
<td>8/1/2023</td>
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<tr>
<td>Chris Pence</td>
<td>V</td>
<td>Crow Wing County</td>
<td>County - Metro</td>
<td>V</td>
<td>1/1/2017</td>
<td>1/1/2025</td>
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<tr>
<td>Terry Neff</td>
<td>V</td>
<td>Aitkin County Planning and Zoning</td>
<td>County - NE</td>
<td>V</td>
<td>8/1/2015</td>
<td>8/1/2023</td>
</tr>
<tr>
<td>Eric Buitenwerf</td>
<td>V</td>
<td>Hubbard County Planning and Zoning</td>
<td>County - NW</td>
<td>V</td>
<td>8/1/2015</td>
<td>8/1/2023</td>
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<tr>
<td>Marilee Degroot</td>
<td>V</td>
<td>Rice County</td>
<td>County - SE</td>
<td>V</td>
<td>10/30/2016</td>
<td>10/30/2016</td>
</tr>
<tr>
<td>Mark Erickson</td>
<td>V</td>
<td>Renville County</td>
<td>County - SW</td>
<td>V</td>
<td>3/13/2015</td>
<td>3/13/2015</td>
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<tr>
<td>Dick Vukonich</td>
<td>Elected Official -1</td>
<td>Cloquet Constructors</td>
<td>Minnesota Environmental Health Ass.</td>
<td>MEHA</td>
<td>NV</td>
<td>NA</td>
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<tr>
<td>Craig Gilbertson</td>
<td>Elected Official - 2</td>
<td>Minnesota Environmental Health Ass.</td>
<td>Group folded… now Cons. MN</td>
<td>Minnesota Waters</td>
<td>NV</td>
<td>NA</td>
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<tr>
<td>Cindy Tiemann</td>
<td>V</td>
<td>Fiedler's Your Pumping Specialists, Inc.</td>
<td>Professional - At-large</td>
<td>V</td>
<td>1/1/2018</td>
<td>1/1/2026</td>
</tr>
<tr>
<td>Dan Switzer</td>
<td>V</td>
<td>Cass County Construction</td>
<td>Professional - NC</td>
<td>V</td>
<td>9/13/2015</td>
<td>9/13/2015</td>
</tr>
<tr>
<td>Galen Goble</td>
<td>V</td>
<td>Goble's Sewer Service, INC</td>
<td>Professional - NE</td>
<td>V</td>
<td>1/1/2019</td>
<td>1/1/2027</td>
</tr>
<tr>
<td>Ben Oleson</td>
<td>V</td>
<td>Community Growth Institute</td>
<td>Township Inspector</td>
<td>V</td>
<td>10/30/2016</td>
<td>10/30/2024</td>
</tr>
<tr>
<td>Sara Heger</td>
<td>V, TAP</td>
<td>University of Minnesota, OSTP</td>
<td>University of Minnesota</td>
<td>V, TAP</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Brian Van Beusek</td>
<td>V</td>
<td>Ingleside Engineering and Const., Inc</td>
<td>Water Well Contractor</td>
<td>V</td>
<td>1/1/2019</td>
<td>1/1/2027</td>
</tr>
<tr>
<td>Dave Weirens</td>
<td>V</td>
<td>Dave Weirens</td>
<td>BWSR</td>
<td>NV</td>
<td>NA</td>
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</tr>
<tr>
<td>Kathy Tran</td>
<td>V</td>
<td>DOLI - Plumbing Code</td>
<td>Dept of Labor &amp; Industry</td>
<td>NV</td>
<td>NA</td>
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</tr>
<tr>
<td>Roger Berggren</td>
<td>V</td>
<td>McLeod County</td>
<td>MOWA</td>
<td>NV</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>John Beck</td>
<td>V</td>
<td>USDA, NRCS</td>
<td>USDA, NRCS</td>
<td>NV</td>
<td>NA</td>
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</tr>
<tr>
<td>Jeff Iverson</td>
<td>V</td>
<td>Infiltrator, Inc.</td>
<td>SSTS Supplier</td>
<td>NV</td>
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</tr>
<tr>
<td>Jim Larson</td>
<td>V</td>
<td>Met Council</td>
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<td>NV</td>
<td>NA</td>
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</tr>
<tr>
<td>Jennifer Berquam</td>
<td>V</td>
<td>Association of MN Counties</td>
<td>AMC</td>
<td>NV</td>
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</tr>
<tr>
<td>First Name</td>
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</tr>
<tr>
<td>Dave</td>
<td>Engstrom</td>
<td>MN Association of Small Cities</td>
<td>Assoc. of Small Cities</td>
<td>NV</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Eric</td>
<td>Hedtke</td>
<td>MN Association of Townships</td>
<td>Assoc. of Townships</td>
<td>NV</td>
<td>NA</td>
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<tr>
<td>Troy</td>
<td>Johnson</td>
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<td>County - Metro Alternate</td>
<td>NV</td>
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<tr>
<td>Debi</td>
<td>Moltzan</td>
<td>Becker County Planning and Zoning</td>
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<tr>
<td>Peter</td>
<td>Otterness</td>
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<td>County - SE Alternate</td>
<td>NV, TAP</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Kevin</td>
<td>Matzek</td>
<td>MN Rest., Ldg., Rsrt &amp; Cmpgrnd Ass.</td>
<td>Hospitality MN</td>
<td>NV</td>
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<tr>
<td>Craig</td>
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</tr>
<tr>
<td>Paul</td>
<td>Brandt</td>
<td>Soils Investigation &amp; Design, Inc.</td>
<td>MAPSS</td>
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</tr>
<tr>
<td>Ron</td>
<td>Thompson</td>
<td>MDH - Well Program</td>
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<tr>
<td>Paul</td>
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<tr>
<td>Michelle</td>
<td>Ashe</td>
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<td>MN Cty Recorders Assoc.</td>
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<tr>
<td>Daniel</td>
<td>Petrik</td>
<td>DNR/Land use &amp; shoreland</td>
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<tr>
<td>Brian</td>
<td>Malm</td>
<td>Bolton and Menk Inc.</td>
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<td>NV, TAP</td>
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<tr>
<td>Chris</td>
<td>Rosival</td>
<td>City of Lakeville</td>
<td>Municipal Bldg. Insp. Alternate</td>
<td>NV</td>
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<td>NA</td>
</tr>
</tbody>
</table>

* Committee Involvement
V = Voting Committee Member
NV = Non Voting Committee Member
TAP = Tech. Ad. Committee