

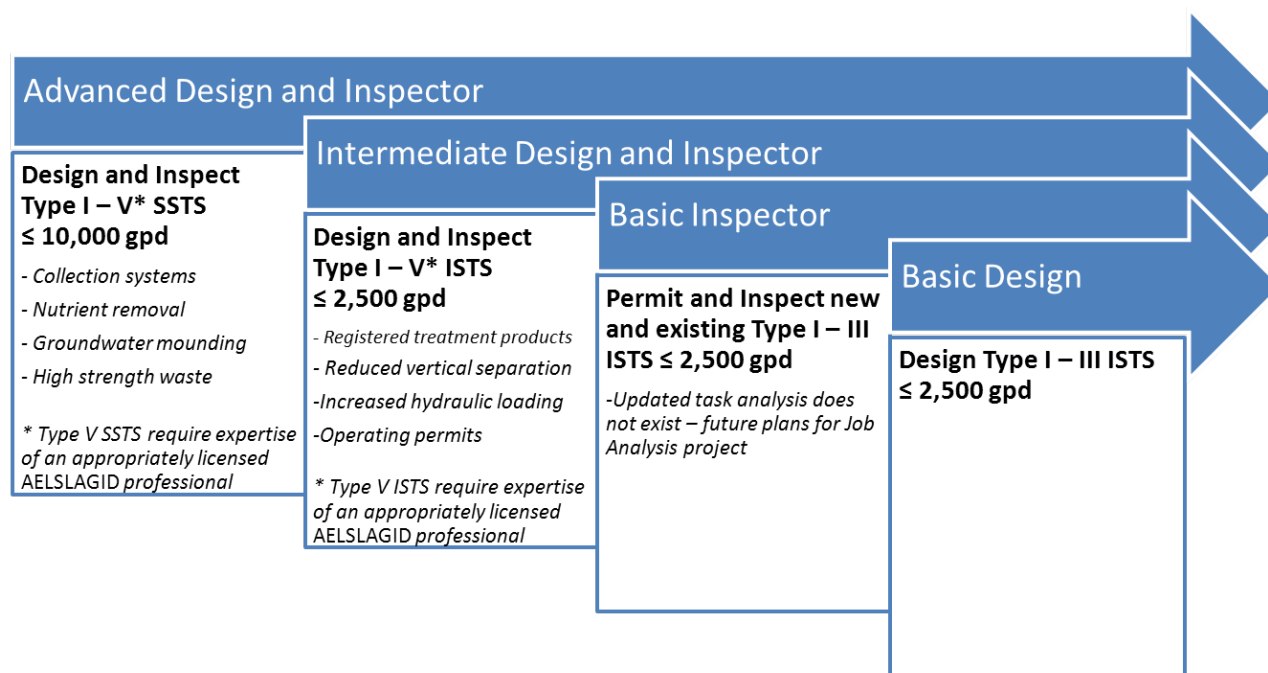


The Design and Inspection Spectrum

Subsurface Sewage Treatment Systems

The Minnesota Pollution Control Agency (MPCA) developed the Intermediate Design and Inspection specialty areas for Subsurface Sewage Treatment System (SSTS) professionals in 2013. These new categories are a response to concerns raised by the SSTS design and inspection community that the advanced certification process, which was introduced in 2008, was too comprehensive for individuals who just wanted to be able to design and inspect pretreatment devices for residential, small flow applications ≤ 2500 gallons per day (gpd). There are three levels for each SSTS design and inspection specialty area; basic, intermediate, and advanced. The distinctions between the three are based on the system's potential risk, which is defined by design flow and level of technological complexity, as shown below.

Figure 1 - The SSTS Design and Inspection Spectrum



The ability to utilize pretreatment devices to justify reduced vertical separation and increased hydraulic loading was a design tool originally afforded to only advanced SSTS professionals because these applications have the potential to require advanced concepts such as collection system design, nutrient removal, groundwater mounding estimation, and designing for high strength waste.

The intermediate category excludes these design and inspection considerations and is limited to residential strength waste for design flows ≤ 2500 gpd. The choice to reduce vertical separation or increase hydraulic loading – even in residential, small-flow scenarios – can increase risk to public health and the environment, and is a responsibility that requires an advanced knowledge of SSTS concepts and applications.

The tiered approach to SSTS design and inspection best reflects the MPCA's priority to minimize risk to public health and the environment in a responsible and targeted approach. Basic Designers receive less classroom instruction and are required to use more conservative design practices on small flows. Intermediate Designers are allowed more flexibility, but require additional training. Advanced Designers maintain that flexibility and can also work on SSTS with design flows up to 10,000 gpd, but they must attend even more classroom instruction. Certification as a Basic, Intermediate, or Advanced Inspector reflects this tiered approach and is required to review designs and issue permits and certificates of compliance for SSTS.

The process for developing a new specialty area involves a stakeholder process to define the tasks associated with the activities of the proposed certification level. This "task analysis" is the basis for a "validation survey" that is implemented to a random sample of SSTS professionals to weigh the frequency of task completion over the course of one's SSTS design and inspection work and the importance of the correct completion of each task in the design and/or inspection of an effective wastewater treatment solution. A thorough update of SSTS design and inspection tasks took place in 2012 to align roles and distribute responsibilities within the entire SSTS design and inspection spectrum. A task analysis for Basic Inspector does not exist, but has been prioritized for completion in 2013. The validation survey was implemented in December, 2012 and its results provide a prioritization, from the practitioners' perspective, of the learning objectives and measures of competence that appear on the new exam.

Some details about these new specialty areas:

- Intermediate Designers or Inspectors must first be fully certified Basic Designers or Inspectors.
- Certification as an Intermediate Inspector also requires the completion of the Service Provider training and exam.
- There is not a separate experience requirement for either of these specialty areas.
- Eligible Designers or Inspectors that have completed Advanced Design and Inspection courses in the past will be allowed to take this exam without attending the Intermediate Design and Inspection course, provided they have not failed the Advanced Design and Inspection exam within the prior six months.
- It is recommended, however, to attend the Intermediate Design and Inspection course before taking this examination. The material in this course is designed specifically for the intermediate level.
- Individuals currently certified as Advanced Designers or Inspectors are not required to take this course or exam since they are already certified to work on all sizes of Type I – V SSTS.
- The Intermediate Design and Inspection class will count for **eight** hours of direct continuing education.

The job analysis process is an important way to define and improve SSTS curriculum and exams. Existing SSTS task analyses can be found at www.pca.state.mn.us/ssts. Contact MPCA SSTS staff if you would like to share thoughts or comments about the existing task analyses or participate in future job analysis stakeholder groups: ssts-info.pca@state.mn.us.