

## SSTS sites and soils task analysis

A specialty area task analysis document is an outline of job tasks that certified professionals must be able to competently complete. It is a working document that was developed and is periodically maintained by a steering committee of experts, which is validated and prioritized by a broader group of practicing professionals. It is the foundation of Minnesota's SSTS professional certification program and provides the basis for curriculum objectives and exam competencies. It includes tasks authorized by rule and those determined to be necessary to conduct authorized work in a safe and lawful manner. It is not meant to represent a required order of operations and should not be used as a procedural checklist.

### **Minn R. 7083.0740, 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.

### **Minn R. 7083.0750, subp. 3: Certified inspectors.**

Certified inspectors are responsible for personally conducting the necessary procedures to assess system compliance.

**Minn. R. 7080.1500, subp. 3: Compliance criteria for new construction.** An ISTS regulated under a current construction permit is considered compliant if it meets the applicable requirements of parts 7080.2150 to 7080.2400.

**Subp. 4. Compliance criteria for existing systems.** To be in compliance, an existing ISTS must meet the provisions of this subpart.

**Minn R. 7080.1700: Design Phase I; Site Evaluation.** Site evaluations consisting of preliminary and field evaluations according to parts 7080.1710 and 7080.1720 must be conducted for all proposed sites for ISTS. The site evaluation is considered the first phase of an ISTS design.

**Minn R. 7081.0150: Necessity of soil and site evaluations.** Soil and site evaluations must be conducted for MSTs design. The evaluations must be conducted according to parts 7081.0160 to 7081.0200. Evaluations must identify and delineate an initial and replacement soil treatment and dispersal area with appropriate system site boundaries.

**Minn R. 7082.0500, subp. 3. Permit approval requirements and procedures:** The permit program must include the requirements in items A to D.

A. A qualified employee with jurisdiction or licensed inspection business who is authorized by the local unit of government must review the permit application and other exhibits to determine whether site evaluation procedures, observations, and conclusions are accurate and fulfill applicable requirements and whether the proposed system will meet applicable requirements. An infield verification of the periodically saturated soil or bedrock at the proposed soil treatment and dispersal sites must be conducted by a qualified employee with jurisdiction or licensed inspection business who is authorized by the local unit of government. An advanced inspector is required to perform the duties listed in this item for Type IV and Type V ISTS as described in parts 7080.2350 and 7080.2400, ISTS design flow of greater than 2,500 gallons per day, and MSTs. The infield verification of the periodically saturated soil or bedrock must occur prior to issuance of the certificate of compliance.

I.	Participate in certification program as component of comprehensive training program	
	I.A	Complete required training
	I.B	Pass certification exam
	I.C	Meet continuing education requirements
	I.D	Complete soils-specific continuing education
II.	Conduct preliminary site evaluation	
	II.A	Communicate with client about desires and preferences
	II.B	Identify requirements for local SSTS program and other applicable administrative authorities
	II.C	Define location and description of property, including Township, Range, and Section
	II.D	Determine all applicable setbacks
	II.E	Determine property lines, easements, and proposed or existing improvements on lot
	II.F	Identify location and status of proposed or existing water supply wells and pipes in vicinity
	II.G	Identify ordinary high water level (OHWL) of nearby surface waters, shoreland designation, and floodplain designation

## SSTS sites and soils task analysis

II.H	Use locally acceptable published data, maps, aerial photography, and/or GIS data
II.I	Document soil characteristics from NRCS Web Soil Survey - area of interest, soil map unit(s), Official Soil Series Description (OSD), suitabilities and limitations, parent material, landscape position, and slope modifier.
II.J	Confirm authorization to perform design or inspection activities (system type and design flow)
II.K	Perform and document all preliminary evaluation activities appropriate to system type, size, and local requirements
III	Conduct field evaluation
III.A	Contact Gopher One and locate all other utilities before digging
III.B	Validate or correct preliminary evaluation findings related to the physical locations of property lines, easements, proposed and existing lot improvements, and all relevant setbacks
III.C	Describe landscape according to NRCS <i>Field Book for Describing and Sampling Soils</i>
III.D	Describe landform according to NRCS <i>Field Book for Describing and Sampling Soils</i>
III.E	Describe slope percent and direction according to NRCS <i>Field Book for Describing and Sampling Soils</i>
III.F	Describe slope shape and position according to NRCS <i>Field Book for Describing and Sampling Soils</i>
III.G	Describe vegetation
III.H	Identify evidence of disturbed site
III.I	Describe flooding and run-on potential
III.J	Establish an acceptable benchmark and identify elevations and location of soil observations, percolation tests, proposed SSTS components, soil treatment area locations, and the bottom of the distribution medium on the site map
III.K	Determine if percolation testing is required or necessary
III.L	Determine and complete the correct number, proper location(s), and proper depth of percolation tests using acceptable tools under appropriate conditions
III.M	Select absorption area (hydraulic) loading rate and absorption area size based on acceptable percolation procedure results at the most restrictive layer within the three foot soil dispersal zone
III.N	Compare field observations with soil survey information and identify any discrepancies
III.O	Communicate with client about suitable system options
III.P	Complete narrative describing site evaluation difficulties and how problems were resolved
III.Q	Describe, document, and submit all field evaluation results appropriate to system type, size, and local requirements
III.R	Select and protect soil treatment area site
IV	Perform soils observation(s)
IV.A	Complete the correct number of soil observations
IV.B	Complete soil observations in an exposed pit or by hand augering or probing
IV.C	Complete soil observations under appropriate conditions
IV.D	Complete soil observations for existing system compliance inspection in proper locations - outside the area of system influence in an area of similar soil
IV.E	Coordinate soils verification between design professional and local government unit
IV.F	Complete soil observations for system design or soils verification in proper locations - on or within borders of the proposed absorption area, with at least one in most limiting condition
IV.G	Use acceptable methods, tools, and references in the description and interpretation of soils for sewage treatment; including but not limited to Munsell Soil Color Charts and NRCS <i>Field Book for Describing and Sampling Soils</i>
IV.H	Differentiate each horizon by soil texture, structure, consistence, redoximorphic features, bedrock, color, hardpans, restrictive layers, and other characteristics pertinent to the permeability of the soil or the treatment of sewage
IV.I	Describe the depth of each horizon from the ground surface
IV.J	Describe the soil texture of each horizon
IV.K	Describe the soil structure of each horizon
IV.L	Describe the soil consistence of each horizon
IV.M	Describe the soil color(s) of each horizon

## SSTS sites and soils task analysis

	IV.N	Describe the presence and depth of standing water
	IV.O	Describe other characteristics that affect permeability of the soil or the treatment of sewage
	IV.P	Interpret the presence of redoximorphic features within the soil profile
	IV.Q	Interpret the presence of bedrock within the soil profile
	IV.R	Interpret the presence of hardpans within the soil profile
	IV.S	Interpret the presence of restrictive layers within the soil profile
	IV.T	Interpret the presence of other characteristics that affect permeability of the soil or the treatment of sewage
	IV.U	Identify evidence of disturbed or compacted soil
	IV.V	Identify percent by volume of rock fragment in each horizon
	IV.W	Determine the depth to periodically saturated soil or bedrock for a soil treatment system
	IV.X	Select absorption area (hydraulic) loading rate and absorption area size based on examination of soil texture, undisturbed soil structure, and soil consistence
V.		Perform tasks necessary to determine and manage compliance status of site and soils conditions
	V.A	Perform infield verification of periodically saturated soils, bedrock, or other treatment limiting conditions and confirm proposed system selection and placement (location, elevation and dimensions)
	V.B	Confirm constructability of site: plastic limit, site disturbance, accessibility, and resolution of previously identified site and soils issues
	V.C	Identify the depth of the bottom of the distribution medium
	V.D	Document existence or absence of adequate vertical separation between the bottom of distribution medium and periodically saturated soils, bedrock or other designer-specified treatment limiting condition
	V.E	Create and maintain all required soils-related documentation: soils observations, vertical separation report, site map, perc results, design soil survey, site and soils challenges encountered, soils dispute supporting evidence, and previously completed existing system inspection report
	V.F	Gather, review, and determine quality of existing property SSTS permit file; permits, soils data, service records, and compliance inspections