



## Hybrid Learning – 2022 Soils CE Seminar Agenda

Instructors: Dan Wheeler, Stacey Feser, Cody Robinson

Friday, August 12, 2022 - ONLINE Webinar

8:00 AM – 11:30 AM CST

The following items are required for online participation:

- An internet connection (broadband wired or wireless, with 600kbps down);
- A computer/device with speakers (built-in or plug-in, or wireless Bluetooth);
- Google Chrome web browser (software) is recommended;
- A webcam for attendance verification (either built-in to the computer/device, or plug-in)
- An individual guest account for each participant; and
- Certification number for CE credits.

*\*\*A test run of the online system will be provided on Monday, August 8 at 3:30 PM. If you have never used Zoom before we highly encourage you to join this session to ensure your system meets the requirements prior to the live event. **You must be present for the entire live event in order to receive credit.***

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Thursday, August 18

FIELD DAYS – Your field day will be assigned to you based on your registration completion.

8:00 AM – 12:00 PM OR 1:00 – 5:00 PM CST

- Please note the AM and PM sessions are duplicate sessions.
  - Social distancing guidelines will be addressed in both sessions.
  - The event will be divided into two smaller groups.
  - We encourage all participants to bring a beverage.
  - Please be prepared to stand for long periods of time or bring your own accommodations (i.e.. Something to sit or lean on).
  - Bring rain gear and boots in case of inclement weather, or sun protection and/or bug spray.
  - Bring your own Munsell Color Book and a spray bottle for coloring and texturing the soil samples.
  - MOWA is closely watching state and federal guidelines to ensure this is a safe and healthy event.
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## FIELD DAY LOCATION

To be announced in Anoka County

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## FIELD DAY SCHEDULE – August 18

A.M. Session 1: 8:00 a.m. - noon

- 7:45 a.m. - 8:00 a.m.: Registration
- 8:00 a.m. - noon.: AM Presentation

OR

P.M. Session 2: 1:00 - 5:00 p.m.

- 12:45 - 1:00 p.m.: Registration Session 2 - repeat of a.m. session new group
  - 1:00 - 5:00 p.m.: PM Presentation
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## COST

*Class size is limited to 25 in each session.*

- \$250 Members
- \$300 Non-Members

Cancellation Policy: We ask that if you are feeling ill or have been exposed to someone with COVID-19 that you stay home. Your field day registration will be applied to a future course and you will receive credit for the online portion of the event only.

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## COURSE OBJECTIVES

This 6-hour hybrid workshop has been designed using online and in-person components (in response to the COVID-19 pandemic) to meet the requirements for soils specific training under MN Rules Chapter 7083.0160 Subp 1 A. Course topics were specifically chosen to reference 7080.1100, 7080.1710, 7080.1720, 7080.1730, 7080.2150, 7080.2270, 7082.0700 Subp 5.

### Schedule for August 12, 2022

8:00 AM – 9:15 AM: Introduction & Regional Soil by Stacey Feser

9:15 AM – 10:15 AM: Redox Basics by Cody Robinson

Break from 10:15 AM – 10:30 AM

10:30 AM – 11:00 AM: Site Evaluations and Considerations for Design by Dave Gustafson and Dan Wheeler

11:00 AM – 11:30 AM: Field Location Details by Dan Wheeler

## INTRODUCTION AND REGIONAL SOIL – 1 hour (via Zoom)

**Stacey Feser**, The introductory talk will review geology and soil formation as well as the regional landscape(s) and soil conditions in depth. We discuss proper identification and description of outwash soils including characteristics related to Lamellae, soil structure, soil colors, soil texture including sand sizes, redox features, organic soils, and observable water tables. We also provide tools and resources to help practitioners make determinations.

Learning objectives: Soil characteristics details (including Mottles/redox, soil textures, soil structure, Munsell soil color, regional parent materials and their characteristics); Review tools available (including Web Soil Survey, MPCA/UMN staff, sand cards, rock analyses, soil observation logs, and locating regional specialists).

## REDOX BASICS: - 1 hour (via Zoom)

**Cody Robinson**, The second talk is a review-oriented talk focusing on the application of Minnesota Rules 7080 for evaluating the site and soils. It breaks down Minn. R. 7080.1720 in depth to review how the rule addresses these activities, allowing for discussion on the “why” behind the various provisions involving our soils work. Topics include identifying surface features, soil observation requirements, describing soils for determining limiting condition, and includes examples of common soils issues seen around the state.

Learning objectives: Review and apply all rule requirements related to Minn. R. 7080.1720, site and soil evaluation requirements for the field (lot lines, surface features, soil observations, soil descriptions for determination of limiting layer, determination of loading rate and absorption area size, and site protection).

## SITE EVALUATION AND CONSIDERATIONS OR DESIGN - 0.5 hours (via Zoom)

**Dan Wheeler and Dave Gustafson**, The final talk describes site evaluation choices. As a designer you need to make several decisions. Exploring this design process and evaluating the options, specifically related to flow values, water quality, and reviewing the soil observations in order to complete the system design will be discussed.

Learning objectives: Provide a specific example and work through the requirements associated with flow values and who can do the work. Apply design decisions to specific soil characteristic(s) and 7080.1100 Periodically saturated soil; use web soil survey information related to proper periodically saturated soil identification; understand the importance of a complete soil observation log in interpreting soil suitability for an SSTS.

## SOIL SURVEY - 0.5 hours (via Zoom)

**Dan Wheeler**, This talk will describe the required preliminary evaluation information for a specific site. This will include soil map unit description information and suitability ratings for SSTSs based on Minnesota-specific interpretations.

Learning objectives: Create a soil survey map for a parcel; access the soil map unit descriptions to identify important soil properties during a preliminary site evaluation; use the web soil survey to create suitability maps/tables for SSTS suitability based on Minnesota-specific interpretations.

## FIELD VISIT - 3 hours, LOCATION

We will review provided materials in the Resource and Reading materials packets. Included in the Resource packet are materials helpful to practitioners to use in the field and back in the office for documentation. The Reading packet includes a site-specific Web Soil Survey map and soil information. We will review this information and discuss the official soil series descriptions in the area. These materials preface the soil descriptions and interpretations which will be completed in the field. We visit the site and review the information from the remote session to conduct a complete soil description and interpretation and application according to MN Rule Chapter 7080's relevant sections (dependent upon site). We also allow for any further question and answers on soil and site evaluation topics.

Learning objectives: Apply geological formation knowledge to site conditions; conduct a general site description (site evaluation, topography, landscape position, contours, slope shape); proper soil description techniques and tools, depth to periodic saturation and other required soil properties; appropriate soil sizing factor/loading rates for each pit including a review of the soil texture and perc test charts in MN Rules chapter 7080 Table IX and IXa; complete a UM Soil Observation Log exercise based on attendees participation; rock percent determination; understand how the suitability ratings and official soil series descriptions from the Web Soil Survey relate to soils and conditions observed and described during a field site evaluation.

## ABOUT THE PRESENTERS

### Dan Wheeler

Dan Wheeler is a Research Fellow at the University of Minnesota, where he conducts teaching, research, and outreach on interpreting landscape-scale hydrology and soil morphology to assess environmental issues such as septic system suitability, water quality, wetlands and soil erosion. He has a M.S. degree in Soil Science from the University of Minnesota.

### Stacey Feser

U of MN Water Resources Center  
Soil Science, M.S.  
Environmental Science, B.S.

Stacey Feser is a member of the Onsite Sewage Treatment Program (OSTP) team. She has been a trainer in the nationally recognized Minnesota Licensing program for the last 6 years teaching soils

information to new and existing professionals in the Subsurface Sewage Treatment System (SSTS) industry. Stacey grew up in the SSTS industry, which sparked her passion for soils and the environment. She brings relevant hands-on experience and knowledge to the classroom. She has served many different roles in the SSTS industry (County Regulator, private contractor, educator) and is a licensed advanced designer and inspector, installer, and service provider in Minnesota. She is also on the Board of Directors for the Minnesota Onsite Wastewater Association.

#### Cody Robinson, MPCA SSTS Program

Cody works with the SSTS Policy and Planning team where he provides statewide technical/administrative rule assistance, soils, and training for all involved with the SSTS program. He started with the MPCA's SSTS program in 2016 shortly after obtaining a Bachelor of Science degree in Environmental Studies from St. Cloud State University. Cody concurrently serves in the Minnesota Army National Guard as an Air Traffic Control Specialist and volunteers as a Firefighter for his local department.

#### Dave Gustafson, Engineer, University of Minnesota

Dave Gustafson, PE is a registered Engineer working in the Water Resource Center at the University of Minnesota. He has been dealing with sewage for over 30 years in municipal scale systems and backyard treatment technologies. He has been educating and assisting onsite treatment professionals in MN, nationally and internationally for over twenty years. His position allows him to be active in the troubleshooting and evaluation of systems in MN and Nationally. He has learned through the years that we can learn from each other and getting your hands dirty helps to keep your thoughts clear.