

TRAINING BULLETIN 2019

Michigan Department of Environmental Quality
Drinking Water and Municipal Assistance Division
Environmental Health Section

2019 Online Wastewater Education 501(c)(3)

- LOCATION:** Webinar Based Education Opportunities
- DATE:** Must Call To Arrange
- TIME:** Not Applicable – Arrangements Made with Wastewater Education
- COURSE:** There is a Total of 32 Webinar Based Courses
- INSTRUCTOR:** This varies and is under the direction of Ms. Dendra J. Best, Director of Wastewater Education 501(c)(3) Traverse City, Michigan.
- CREDIT HOURS:** **COURSES MUST HAVE A PASSING TEST SCORE OF 75%, TAKEN AT THE END OF EACH COURSE, TO BE ABLE TO OBTAIN THE CERTIFICATE**, toward the continuing septage education (CSE) requirements outlined in Section 11703 of part 117. Only the CSE credits earned by the designated “responsible agent” for a given Michigan licensed septage firm will be credited to that firm.
- REGISTRATION:** For more information contact Ms. Dendra J. Best at 231-233-1806 or info@wastewatereducation.org.

COURSES OUTLINE and AGENDA:

The MDEQ, in cooperation with Wastewater Education 501(c)(3) based in Traverse City, Michigan which is under the direction of Ms. Dendra J. Best, has approved separate courses for Continuing Septage Education (CSE).

The following credit hours webinar based CSE classes have been approved by MDEQ. Correct answers of 75% will be the passing minimum plus there will be a written assignment for each component.

Available Class Topics

Safety Procedures: Basic primer on personal safety both as an employer and as a single business owner.
Areas to be covered:

2019 – 001: Part One: Basic Electricity Best Practices (2 CSE)

As more properties have outdoor electrical service, and increasing numbers of advanced systems have electrical components, even if your role is just to service the tank - outdoor electricity can be deadly, both man made and from nature. The Occupational Safety and Health Administration (OSHA) considers Electrocutation one of the “Fatal Four” prime causes of workplace fatalities and serious injury.

- Recognizing the limit of your ability.
- Your liability for wrongful actions.
- How to be 360° aware and anticipate electrical hazards.
- Site specific features.
- Overhead power lines and buried utilities.
- Vehicle electrics.
- Static electricity.
- Residential property - homeowner wiring.
- Pumps, panels and components: best practices.
- Lightning awareness.
- ARC Flash - the basics.
- Best practices for responding to a case of electrocution.

2019 – 002: Part Two: Common Sense Work Site Safety to Avoid Personal Injury and Liability (2 CSE)

Areas to be covered referencing OSHA best practices:

- Gasses present in wastewater systems with reference to enclosed/ confined spaces. Positional asphyxia. Don't be the second victim - how to respond to potential life threatening situations.
- Hazardous / inflammable conditions.
- Safe vehicle operation with particular attention to liquid transport vehicles.
- Common sense personal hygiene.
- Basic First Aid supply kit components.
- Line of sight safety for construction and installation.
- Basics of trenching and shoring.
- Ergonomically safe lifting techniques.
- Cell phone use.

2019 – 003: OSHA Compliance for Wastewater Service Providers (2 CSE)

MIOSHA has adopted major changes to its requirements for walking-working surfaces and fall protection in general industry. The rule revisions follow OSHA's updates to its general industry standards addressing slip, trip, and fall hazards (OSHA Subpart D, Walking-Working Surfaces) and its revisions to its requirements for personal fall protection systems (in OSHA Subpart I, Personal Protective Equipment).

The effective date of the amended General Industry Part 2 Walking-Working Surfaces is February 2, 2019.

Overview: This series talks not just about the law and regulations but about the true costs - in terms of lost work hours and income but also human life. Each of those workplace fatalities weren't just a sad statistic or a lost employee - they were someone's father or mother, son or daughter - and each one is being mourned and missed.

These three Class Objectives are that you should be able to:

1. Relate what you heard to a real-life situation you either have or may face.
2. Gain the confidence to speak up when your own, or others, safety is at risk.
3. Realize the many costs of a work-related accident: health, insurance, personal and financial.

Fatal injuries involving Hispanic or Latino workers rose 12 percent in 2015 to 903 fatalities, up from 804 in 2014. The Hispanic or Latino worker rate also rose from 3.7 to 4.0 per 100,000 FTE workers in 2015 and was the highest rate among the racial/ethnic groups for which rates are calculated. *For this reason, all three will be available on request in Spanish.* There were 43 MIOSHA-related deaths in 2016. There were 38 workplace fatalities in Michigan in 2017. In 2018 so far? 35.

2019 – 003a: OSHA ‘Fatal Four’ for Wastewater Service Providers – Fall Protection Safety Standards (2 CSE)

OSHA considers the “Fatal Four” prime causes of workplace fatalities and serious injury. The leading causes of worker death on construction sites were falls, followed by electrocution, struck by object or caught-in/between.

These “Fatal Four” were responsible for more than half (58.1%) the construction worker deaths. An interactive 2-hour class will be taught online referencing the MIOSHA Part 45, Fall Protection Safety Standard. We will review recent publicized accidents and fatalities, and latest fall protection techniques and criteria. OSHA rules for fall protection take effect at 6 feet. A quarter of all workplace injuries and fatalities involve a fall – some from less than 4 feet. Mr. Sam Lines is an Authorized OSHA General Industry Trainer.

2019 – 003b: OSHA ‘Fatal Four’ for Wastewater Service Providers – Electrical Safety Standards (2 CSE)

We will review recent publicized accidents and fatalities, latest protection and safety best practices. Mr. Sam Lines is an Authorized OSHA General Industry Trainer. This class is a reminder to FULLY assess what you see before you start probing or digging! By law, everyone MUST contact MISSDIG, 8-1-1, at least 48 hours but no more than 10 working days (excluding weekends and legal holidays) before beginning ANY digging project.

ASK the homeowner - is there anything I should be aware of? LOOK around you - has anything changed since the last time you were there? Use your cell phone - take pictures of the site so you can check them next time you're there.

- Recognize the limit of your ability.
- Your liability for wrongful actions.
- What happens to you if you are electrocuted - It's The Current That Kills!
- Static electricity.
- Pumps, panels, floats and electrical component safety.

2019 – 003c: OSHA ‘Fatal Four’ for Wastewater Service Providers – Crush, Caught-In/Between, Trenching Safety Standards (2 CSE)

Preliminary summary of incident: On February 26, 2018, at approximately 1:29 p.m., a 39 year old Michigan laborer was attempting to cap off the sewer line in an excavation approximately 29 feet long, 6 feet wide, and 9-12 feet deep when the excavation collapsed/caved-in on the laborer.

We will review recent publicized accidents and fatalities, latest fall protection and safety best practices and criteria. Mr. Sam Lines is an Authorized OSHA General Industry Trainer.

This is particularly important when you are working a job site with other contractors. When you work alone you can protect yourself with good working practices. When you work with other contractors you need to keep an eye open for multiple vehicle traffic.

As a note, OSHA has a rule called the multiple employer citation policy. By example, on 03/22/16: A 62 year old excavator operator was clearing trees and debris related to a drain/sewer project. The operator dislodged a tree, which fell onto the cab of the excavator, killing the operator. Evaluate your work area. What hazards are present?

- OSHA cited an Ohio company after a 33 year old employee was crushed to death in June 2016. He was digging soil out of the 12-foot trench when the trench walls around him collapsed - burying him in thousands of pounds of dirt. Rescue workers recovered his body a few hours later.
- He is one of 23 workers killed, and 12 others who reported injuries in trench collapses in 2016. Trench collapses are rarely survivable. One cubic yard of soil can weigh up to 3,000 lbs. - the weight of a small automobile - giving a worker in a trench little chance of survival when walls of soil collapse.

"Trench deaths have more than doubled nationwide since last year - an alarming and unacceptable trend that must be halted," said Dr. David Michaels, assistant secretary of labor for the Occupational Safety and Health Administration. "There is no excuse. These fatalities are completely preventable by complying with OSHA standards that every construction contractor should know."

2019 – 004: Dealing with Extreme Weather Events (2 CSE)

As an active participant in programs and presentations of the OSU Climate Change Outreach Team, and in view of severe weather events from recent years, onsite system service providers will need to become aware of and trained for conditions which stress, damage or limit the performance of onsite wastewater systems. This class will review wet weather events, prolonged ice and snow cover, drought and heat periods as well as natural disasters. Content addresses system performance and site servicing issues following such an event.

2019 – 005a: Pathogens (2 CSE)

Areas to be covered will reference:

- Updated Centers for Disease Control and Prevention (CDC) Guidelines.
- Understanding the difference between bacteria and virus structures.
- Vectors for infection and recognition of symptoms.
- Disinfection best practices.
- Personal Protection Equipment (PPE) guidelines and preventative measures.
- Legal obligations and responsibility in the safe handling of human waste.
- Public outreach and communication.
- Common sense personal hygiene for contact and clothing.
- Developing a spill response plan.

2019 – 005b: Bugs Without Borders – A Primer for Disease Vectors of Emerging Concern to Wastewater Service Providers (3 CSE)

- Vectors for infection are changing, especially emerging infections, due to changing climate and weather conditions.
- Projected climate changes and increased risk to service providers of exposure from insects and emerging pathogens will be examined.
- Recognition of symptoms.
- This class will assess known risks and evolving CDC guidelines.
- Areas to be covered will reference OSHA 1926.

2019 – 005c: Best Practices for Portable Sanitation and Service Providers in Handling ‘Sharps’ and Drug Paraphernalia (2 CSE)

Stop! Think! Look! Refer to your checklist!

Do you HAVE written policies and guidelines? If not start here.

- The object of this class is to be a Primer on personal safety best practices both as an employer and as a single business owner. Areas to be covered will reference: Vectors for infection and recognition of symptoms.

- First Aid best practices and health care suggestions.
- PPE guidelines and preventative measures.
- Proper disposal.
- Public outreach and communication.
- Understanding risk.

2019 – 006a: Starting and Operating a Septic Service or Portable Sanitation Business in Michigan (3 CSE)

With the aging demographic of onsite business owners' opportunities are created for the takeover of existing licenses or founding of new business. The how, what, where and when can be a challenge to navigate. In this class a mentoring group of master professionals will go through a checklist of best practices for starting off on the right foot.

2019 – 006b: Employee Policies, Vehicle Inspections and Record Keeping (2 CSE)

As a single business owner can you afford to be unable to work for an extended period of time? As an employer can you afford to have an employee file for Workers Compensation or sue you for injury on the job. What about lawful record keeping and licensing requirements?

Good policies are essential.

Attendees will learn how to create a personalized Safety Procedures Manual. Involving your employees in preparing a Safety Procedures Manual is both common sense and protects you from liability.

2019 – 006c: Shoulda, Woulda, Coulda – Being the Responsible Party. Your Options and Obligations for Avoiding Liability and Prosecution (3 CSE)

Part 117, Septage Waste Servicers, of the Natural Resources and Environmental Protection Act, 1994 PA 451 requires that a business that pumps, transports and/or disposes of septage waste be licensed and designate a "responsible agent."

By being designated a Michigan 'responsible agent' that person becomes liable for ensuring his or her business operates in compliance with both state law and prevailing local regulations. In October 2014 the headline read: "Man Sues Mom for \$4 Million Over Septic Explosion." In May 2014 the headline read: "Washington Pumper Sentenced to Prison for Illegal Dumping." In March 2013 the headline read: "Septic professionals indicted in bribery scheme." And perhaps the saddest of all from September 2014: "Septic Inspection Turns Deadly." Do you have an employee Handbook? Does it protect you from liability? Will it cover your legal fees if you have to defend from a situation like this from January of 2016: "Family rescues boy who fell into Denny's grease pit." In the eyes of the law YOU are the responsible party - are you covered?

This class will cover the requirements of Part 117 as it relates to liability and insurance for both septic service and portable sanitation providers against:

- Loss of license.
- Criminal negligence - felony or misdemeanor?
- Employee negligence during the transport of hazardous human waste.
- Proper vehicle coverage and liability for operation.
- Vehicle maintenance: schedules and reports.
- Groundwater or surface water contamination.
- Health and safety - MIOSHA and Workers Comp.
- Accidental wrongful death or physical harm to the public.
- Environmental damage.
- Trespass.

- Loss of business records.
- Fire and theft.

2019 – 006d Best Practices for Working with a Wastewater Treatment Plant (2 CSE)

Most service providers in Michigan no longer land apply septage. How to deliver to a WWTP, safety and best practices, manifesting and regulations will be covered in this class.

2019 – 007a: Assessing the Site for a First-Time Service Visit, or for an Established Client (2 CSE)

Regardless of whether this is a new or an old established client, the site assessment begins with the initial phone call. Being prepared for what site conditions exist or to be prepared to ensure both safe working conditions, protection for yourself and the property owner.

This class examines how to review the site using online tools and what additional questions this might lead you to ask the property owner. Being prepared enables a pre-visit checklist. When you pull up in front of the property there are basic, common sense observations to make before you begin work. Being 360° aware will protect your personal safety, the investment you have in your vehicles, ensure an efficient use of your time at the site, protect the client's property and, most important, cement the professional relationship you have with the customer. Good habits build great businesses.

Areas to be covered:

- In this session attendees will create a site-specific database record using standard software and/or Smart Phone apps.
- By recording observations, soil condition evaluations, and conditions at the time of visit, over time a pattern of use, or abuse, becomes evident.
- In this class, attendees will learn how to anticipate potential hazards such as:
 - Restricted access or movement on the site, tight driveways, distance to the main roadway.
 - Overhead lines, low hanging tree limbs, soft shoulders.
 - New structures.
 - Evidence of recent underground construction or tampering with the system.
 - Reported record of a malfunctioning system.
 - Small children or dogs.
- This becomes an education and marketing tool to build a strong relationship with the property owner and a valuable reference tool for yourself or a new employee visiting this property for the first time.

2019 – 007b: Assessing the Site for Portable Sanitation Service and Placement (2 CSE)

Regardless of whether this is a new or an old established client, the site assessment begins with the initial phone call. Being prepared for what site conditions exist ensure both safe working conditions, protection for yourself and the property owner. Are you asking the right questions? Do you have a site preliminary checklist?

What is the timeline for completion?

This class examines how to review the site using online tools and what additional questions this might lead you to ask the property owner or other contractors working on the site. Such as:

- Will this be in use at night?
- Will my access be lit?
- Am I expected to provide lighting inside the units?
- Is the area itself well lit?
- Where is the outside electrical supply?
- What is my liability for slip and fall, a criminal act, property damage?

Whether it's for 12 or 200 – how you place, and service, will either make you a client for life or break your business.

Assessing the site will focus on 7 main items:

Is the site safe, can I access it, can I service it, how many people/how many units, risks, invisibility, hygiene?

2019 – 007c: Checklists, Inspections and Disclosure Forms (2 CSE)

Service providers routinely do system inspections, both on occupied properties as part of a normal service call, but also on a property that has sat empty for an extended period of time. There are legal and ethical considerations - and development of sound policies and procedures are essential.

Utilizing checklists for all service visits is a best practice to ensure nothing is overlooked. Creating a Disclosure Statement is good business practice for many reasons. Recognizing the difference between an inspection and an evaluation will be covered, also best practices for collecting system samples for performance evaluation. This class will discuss best practices and options for official onsite inspector certification.

2019 – 007d: How to Use Google Earth Pro, and USDA NRCS Web Soil Survey (1.5 CSE)

In the class titled Assessing the Site, service providers were introduced to the tools available to them to look at the location beforehand, assessing best access routes, anticipating logistical problems. This class is both for service providers and installers.

This class will allow attendees to experiment and to review an actual site using:

- Google Earth's layers and functions.
- Web Soil Survey (WSS) provides soil data and information produced by the National Cooperative Soil Survey. It is operated by the USDA Natural Resources Conservation Service (NRCS) and provides access to the largest natural resource information system in the world. NRCS has soil maps and data available online for more than 95 percent of the nation's counties and anticipates having 100 percent in the near future. The site is updated and maintained online as the single authoritative source of soil survey information. It is an invaluable tool for assessment and troubleshooting onsite systems. See <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>
- SoilWeb – an online tool developed by UC Davies.

2019 – 007e: Soil Profiles in Michigan: A Basic Primer for Troubleshooting and Servicing Systems and Land Application Best Practices (2 CSE)

In the class titled How to Use Google Earth Pro, SoilWeb USDA, NRCS, and Web Soil Survey, service providers were introduced to the tools available to them to look at and assess the system location beforehand.

This class is an expansion of an understanding of soils and geology in Michigan and how this affects systems best practices.

This class is for both service providers and inspectors. Taught by Mr. Paul Finnel – past manager of the WebSoil Program at NRCS.

2019 – 007f: The Basics: An Introduction to Wastewater Treatment Processes and Microbiology for Package Treatment and Septage Receiving (2 CSE)

An interactive live 2-hour introduction to the absolute basics of how biological wastewater treatment systems and microorganisms operate.

This class is both for those at the very start of their careers as well as those who would just like to know more about the hidden world of microbes!

We have good health in this country because we train professionals to understand how biology and chemistry make wastewater treatment systems work.

Come learn the basics!

It's been since 1911 since the U.S. has had a major outbreak of Cholera but preventing incidences of water born illness are the central reason environmental professionals strive for excellence in wastewater system design, operation and maintenance.

Wastewater practitioners have to start somewhere on their long road to becoming a professional operator.

2019 – 008a: Understanding Conventional Systems – Tank Servicing, Cleaning and Inspecting (2 CSE)

How they work, what to look for, in the home, inlets, outlets, tank construction, tank issues, effluent filters, measuring and observations, inspecting the drain field; when to do borings, where, what you may find.

2019 – 008b: Understanding Conventional Systems – Treatment Fields Servicing, Troubleshooting and Inspecting (2 CSE)

How they work, what to look for, and different media. Inspecting the drain field; when to do borings, where, what you may find. Groundwater issues, surface water discharge and hydrologic flow. Understanding and recognizing local soils.

2019 – 008c: Understanding Conventional Systems – Site Specific Servicing and Issues (2 CSE)

For many long-time service providers, just when you think you've seen it all, a surprise waits for you! Reminding yourself of best practices for servicing conventional systems is a good refresher, especially as there may have been changes and additions to the system since your last visit. In this class, service providers will be encouraged to share stories and experiences - including finding a tank installed backwards and having to use a chainsaw to punch a hole in a tank filled with 'disposable wipes!' This class dovetails with Assessing The Site.

2019 – 008d: Understanding Servicing Holding Tanks, Pump Chambers (2 CSE)

In this class we will review the reasons these components have been installed and the special challenges of servicing.

2019 – 008e: Understanding Servicing Mounds at Grade / Above Grade Systems (2 CSE)

In this class we will review the reasons for use of low-pressure mounds, guidance documents and the special challenges of servicing.

2019 – 008f: Understanding Servicing Alternative Media and ATU Systems (2 CSE)

In this class we will review systems components and the special challenges of servicing.

2019 – 008g: PPCPs, FOG and 'Flushables' (2 CSE)

A conversation about pollutants and their impacts on system performance, special needs for servicing and disposal. Pharmaceutical Products, Personal Care Products, Pesticides, Petroleum Based Cleaning and Plasticizing Products and their effect on wastewater system performance and the environment. What to look for, basic safety precautions, legal considerations. Issues with acceptance by a WWTP.

2019 – 008h: Basic Math and System Calculations 101 (2 CSE)

Rationale: A competency in basic math is essential to be sure the system is working correctly and can be professionally serviced. Area to be covered:

- Basic refresher course in understanding calculations for area, volume.
- Gallons per cubic foot.
- Detention time and displacement.
- Pump efficiency.
- Event counters and timed dosing.
- Flow rate.

2019 – 008i: Basic Math and System Calculations 102 (2 CSE)

- Soil loading rate.
- Assessing bed and trench sizing.
- Comparing design to “as built” specifications.
 - Measure twice – pump once! Using basic and digital measuring devices.
 - Pump distal head pressure.
 - Coefficient of friction.

2019 – 009: Best Practices for Land Application in Michigan (6 CSE)

Michigan Septage Part 117 Statute. A refresher course, interactive series of component classes, for those with existing land application site on compliance, mapping, soil evaluations, licenses, renewals, extensions and additions.

Also, as a learning tool for core competencies, a hypothetical site will be the subject for interactive testing.

Each class can be downloaded for offset completion and return for mentoring and live assistance session.

2019 – 010: Educating the Property Owner on Best Management and Operation Practices (2 CSE)

Building a relationship of trust with the property owner is more than just a 'pump and go' event. Educating the public about their responsibility as an onsite system owner is compatible with your role as an environmental and public health professional. A recent study made the claim that the average adult has a 5-8th Grade understanding of science but a basic understanding of how a septic system works is essential to their performance and your ability to properly service them.

This class will cover resources available for you to develop communication skills and customize education services and messaging for the property owner to promote the reason we are all in this business - to protect public and environmental health:

- An appreciation, and understanding, of how their specific system works - using EPA Septic Smart Tools and Resources.
- Helpful tips on how to cut down on both service and electricity costs by practicing water conservation - using EPA WaterSense™.
- Drain field and system protection best practices - and understanding of basic soil biology and structures and how this affects good treatment - using resources available from NRCS.
- Seasonal issues - protecting the system and reserve treatment area in both freezing and drought conditions.
- Why there IS a reserve treatment area - explanation of Groundwater Awareness Week.
- Property use issues - i.e. home-based businesses.
- Local/state regulations for the property owner to be aware of.
- A better appreciation of what you do as a service provider.

2019 – 011: Educating the Property Owner: Online Tool for Creating a Community/Individual Septic System Owner Guide (2 CSE)

Residential and commercial properties rely on onsite systems to safely treat their wastewater.

Many of these systems serve clusters of homes through a shared “community” system which requires additional management and service considerations. The delivery of proper system management is a key issue to ensure cost-effective and long-term wastewater treatment for both new development and existing communities.

Community System Owner’s Guide (CSOG) helps community members and leaders understand how their system works, what management tasks need to occur on a regular basis, and how they can protect their infrastructure from premature failure. Using this tool, an engineer, septic professional, community facilitator, or educated community member is able to develop a guide to create an effective management, and service schedule, by entering basic information on the users, system, rate structures and any regional, state, or local differences in regulations that affect the management of community systems.

A team lead by Ms. Sara Heger – Onsite Sewage Treatment Program in the Water Resources Center at the University of Minnesota, including Wastewater Education 501c3, has created H2OandM.com. An administration fee of \$10 will be charged to oversee the CEU requirement which is to answer a 10-question quiz about the tool plus create a System Guide Template for an actual site.

Course Cancellation/Rescheduling: Some courses may be cancelled or rescheduled due to low enrollment/registration or other reasons. The MDEQ is not responsible for any course cancelled or rescheduled by a course sponsor. Course sponsors are strongly encouraged to notify the MDEQ and those who have registered for the course in a timely manner when a course is cancelled or rescheduled prior to the date the course is scheduled to be offered. Course attendees from Michigan are encouraged to make adequate consultation with the course sponsor before registering for the course.

To obtain additional information about reimbursement contact Mr. Matt Rockhold, MDEQ, at 517-284-6540.

Questions regarding the above courses may be directed to the Director of Wastewater Education 501(c)(3) Ms. Dendra J. Best, at 231-233-1806.