



MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES
 ONSITE WASTEWATER TREATMENT PROGRAM
Licensed Inspector CEU Exercise

FOR DHSS USE ONLY
Date Paid:
Check # and Amount:

\$45.00 CEU FEE

2015 OWTS Inspection/Evaluation Procedures– Exercise #123

January 2016

3.0 Select Licensed Inspector CEU \$45.00

For 3.0 General and 3.0 Select Licensed Inspector ONLY Continuing Education Unit (CEU) credit, complete the questionnaire, attached a check or money order for \$45.00 and return the completed questionnaire and fee by mailing to:

Department of Health and Senior Services
 Attn: Fee Receipts
 Onsite Wastewater Treatment Program
 P.O. Box 570
 Jefferson City, MO 65102

I, _____
 Last First Middle Initial Inspector ID Number

 Signature Contact Phone Number Date

 Email Address Fax Number

All answers will be found in the DHSS Laws/Regulations Governing Onsite Wastewater Treatment Systems, Private Inspection/Evaluation Assessment Procedures and training course.

- For a Hydraulic Test (HT), how many gallons of water should be ran for a four (4) bedroom house with a conventional system that has been vacant for 31 days? _____
- Who MUST be notified prior to introducing dye into an Onsite Wastewater Treatment System (OWTS)?

- Are evaluations allowed for lagoons? _____
- Do all septic and pump tanks need to be opened and assessed for both inspections and evaluations? _____
- Weather conditions within _____ hours of the assessment should be documented.

Draw a line to match the word to the correct definition.

- Assessment ■ A comprehensive assessment of the functionality of an OWTS and all accessible components on the day of the assessment based on the current Missouri Minimum Construction Standards.

Evaluation ■ An assessment of the OWTS components on the day of the assessment based on the current Missouri Minimum Construction Standards.

Inspection ■ Judge the condition of an OWTS.
- Before an assessment can be performed, water levels in each tank must be at _____
_____.

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8. Assessment reports MUST be submitted to:
- a. _____
 - b. _____
 - c. _____
 - d. _____
9. If chlorine is detected in the water supply, *Unacceptable / Acceptable* should be marked on the Water Supply Form? (circle one)
10. It is a requirement that accessible distribution boxes are checked for water tightness and even distribution for both types of assessments. T / F
11. Approximately _____ gallons of water should be ran through an ATU during an HT.
12. How many gallons of water are in a cubic foot? _____
13. List 3 ways to submit reports to the Department of Health and Senior Services.
- a. _____
 - b. _____
 - c. _____
14. How long MUST a system be in operation before an HT can be performed? _____
15. For an evaluation, a _____ is used to provide general soil information within a defined area.
16. What are the three (3) criteria that MUST be met for an alternate dye test to be performed?
- 1) _____
 - 2) _____
 - 3) _____
17. For an occupied 3 bedroom home with an ATU, approximately how many gallons should bypass the ATU during an HT? _____
18. For a single family residence, what is the minimum size (in gallons) for a septic tank in Missouri?

19. When should you sample public drinking water sources? _____
20. What is the mathematical formula for calculating the volume of a rectangular tank?

21. If a three (3) bedroom house is being sold and is on a shared conventional system with a two (2) bedroom house, how many gallons of water should be ran during the HT if both houses are currently occupied? _____
22. An *evaluation / inspection / neither* can be performed on a exempt system within six (6) months of installation. (circle one)

- 23. Are inspectors allowed to submit a *re-inspection report* for a site that was originally inspected by another inspector? _____
- 24. How many gallons of water should be introduced during an HT for a nursing home with 20 beds that do not have laundry facilities? _____
- 25. If water is not available in the structure being assessed, can you still complete an evaluation? _____
- 26. How many square feet of trench bottom exists in an absorption system with three (3) trenches that are two (2)' wide and 65' long? _____
- 27. When performing an evaluation, how many gallons of water (max) can be introduced into the system to confirm all plumbing fixtures are connected to the OWTS? _____
- 28. List the ONLY 4 reasons an evaluation may be performed.
 - a. _____
 - b. _____
 - c. _____
 - d. _____
- 29. When a Missouri Department of Natural Resources wastewater system is being used, should an assessment of the tank still be performed? _____
- 30. What is the volume of a cylindrical tank (in gallons) that has a diameter of eight (8)' and is five (5)' long? _____ (round up to the nearest 100)
- 31. Two (2) consecutive water samples taken _____ apart must have satisfactory results after chlorination for the water supply to be considered suitable for drinking.
- 32. When a tank is associated with a lagoon, is it mandatory to perform a full inspection on the tank? _____
- 33. When any components of an assessment are marked Unacceptable, the assessment as a whole is _____.
- 34. If possible, bypass _____ and _____ when sampling water.
- 35. Should inspectors comment in the appropriate section that deficiencies of an OWTS are in violation of state law? _____
- 36. If components of an OWTS are located on another property, the inspector MUST _____ before entering the property.
- 37. Is a labeled site diagram required for all assessments? _____
- 38. If the components of a tank cannot be observed and the owner will not have the tank pumped, mark _____ on the form.

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39. For properties with alternative systems, how much water should be ran during an HT if the house has been vacant for 30 days? _____
40. If influent floods a tank during an HT, what should be done? _____

41. What is the maximum number of water connections allowed for an inspector to perform a water sample?

42. How long do inspectors need to retain a copy of an assessment? _____
43. What type of assessment should be performed for a lagoon serving 2 homes on 3 acres?

44. A discharge pipe is *acceptable / unacceptable*? (circle one)
45. How many square feet are represented on a rectangular concrete tank that is nine (9)' long and five (5)' wide and six (6)' deep? _____
46. Which assessments require setbacks to be measured? _____
47. What is the total volume (in gallons) of a tank that is 8' long, 5' wide, and 5' deep? _____
48. A report from the water lab must be turned in with the assessment forms. T / F
49. Define "Retention Time". _____

50. Does the presence of an open pipe in the yard indicate a discharge pipe? _____
51. What type of assessment should be performed on a residence that replaced their OWTS with a new permitted OWTS 4 months prior to the assessment? _____

Match the correct setback distance of the OWTS component to a land feature.

- | | |
|--------------------------------|------|
| 52. Lagoon to property lines | 50' |
| Dispersal area to private well | 100' |
| Sewage tank to foundation | 75' |
| Sewage tank to public well | 25' |
| Dispersal area to basement | 300' |
| Sewage tank to lake | 5' |

53. All septic tanks must have _____ or _____
_____ brought to the surface over the inlet AND outlet.
54. If a site has a tank that has a homemade aerator in it, the Septic Tank Form / ATU Form is used to assess the tank. (circle one)

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55. Is performing a water sample on a site without completing the rest of the assessment of the OWTS allowed?

56. How long does the inspector have to submit assessment reports to the Department of Health and Senior Services? _____
57. Inspector license are valid for 1year / 3 years / 5years. (circle one)
58. Where should the drinking water be sampled? _____
59. In a 3 bedroom home, what is the retention time in a tank that is eight (8)' long and five (5)' wide and 50" deep with six (6)" of scum and 20" of sludge? _____
60. Would the tank in question 51 need to be pumped? _____
61. Licensed inspectors are responsible for chlorination of well when a water sample result comes back unacceptable. T / F
62. OWTS assessment checklists are based on *county standards / state standards*? (circle one)
63. What is the acceptable range for retention time? _____
64. For two or more residences, what is the minimum size (in gallons) for a septic tank in Missouri? _____ gal.
65. The boxes on the left-hand side of the *Setback Form* are used to indicate:
- The setback distance was measured
 - Indicate component setback not measured
 - Indicate an approved variance for the component
 - I just noticed them!
66. Systems that are "grandfathered in" are assessed using the standards in place at time of installation. T / F
67. What is the mathematical formula to calculate the volume of a cylinder? _____
68. A good rule of thumb for determining pump-out needs is: Before the top of the sludge layer reaches a level of _____ below the bottom of the outlet device, or whenever the bottom of the scum layer is within _____ of the bottom of the outlet device.
69. How many gallons are in a cylindrical tank that has the following dimensions? Diameter = 5' and Length = 7½': _____ gal.
70. Match the Laws/Regulations to its correct title:
- | | |
|-------------------|---|
| 19 CSR 20-3.080 | Missouri Laws for Onsite Disposal Systems |
| 701.025 – 701.059 | Minimum Construction Standards for Onsite Sewage Disposal Systems |
| 19 CSR 20-3.070 | Requirements for Percolation Testers, Onsite Soil Evaluators and Registered OWTS Installers |
| 19 CSR 20-3.060 | Requirements for OWTS Inspectors/Evaluators |
71. Tank manholes can be located within 18" of final grade. T / F

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72. The definition of Turbid: (choose the best)
- Muddy or cloudy from having sediment stirred up.
 - Headress.
 - The quality or state of being clear.
 - None of the above.
73. There is an easement document at the Recorder of Deeds for a site you are performing an OWTS assessment. When assessing the setback distances on that site, the original property lines should be used. T / F
74. _____ General of which _____ Select CEUs are required for renewal during the first renewal period?
75. Define "completion of assessment". _____

76. List the three (3) types of assessments. _____, _____, and _____
77. Re-inspections are to be done _____ deficiencies have been corrected.
78. What is the mathematical formula for calculating the area of a circle? _____
79. On a report, an _____ indicate items most critical to the long term operation of the OWTS.
80. For a permitted onsite wastewater system that is less than 6 months old, which type of assessment is allowed?
- Inspection
 - Evaluation
 - Either one can be performed
 - Neither one can be performed
81. When a component of an OWTS is found *unacceptable* the rest of the assessment does not need to be completed. T / F
82. The printed name, signature, and _____ of the inspector are required on the OWTS Assessment Summary Form.
83. What is the mathematical formula for calculating retention time? _____
84. What is the acceptable rate at which you can introduce water during an HT? _____
85. What is the minimum height required for a fence around a lagoon? _____
86. System history information must be completed based on the _____ of the property owner or their representative.
87. The results of an assessment should **NOT** be misinterpreted to conclude that any deficiency noted is a _____ of _____.
88. Verify all wastewater is plumbed to the system including _____ discharges.
89. The Onsite Wastewater Treatment Program has the right to _____ or _____ an inspector's license for repeated non-compliance issues.
90. Onsite systems with a designed daily flow of _____ or more should not be assessed because they are under the jurisdiction of the _____ of _____.