

## OJT Training Module Cover Sheet

**Title: 1023 How to recognize potential suitable sites for agricultural waste storage facilities, ponds, and dams onsite.**

**Type:**      Skill      Knowledge

**Performance Objective:** Trainee will be able to ...

- Understand the importance of an interdisciplinary team for site selection.
- Utilize soil information during the onsite investigation.
- Understand the process of the site investigation to verify soil suitability or limitation.

**Target Proficiency:**

- Awareness    Understanding    Perform w/ Supervision  
 Apply Independently    Proficiency, can teach others

**Trainer Preparation:**

- Review “National Engineering Handbook,” Section 8 (“Engineering Geology”), Chapter 6 (“Preliminary Site Investigation”).
- Contact local engineer and State geologist to discuss their techniques and requirements for locating potential sites. These could include State regulations on dam safety, water-quality standards, geology and soil hazards, and water availability and water rights issues affecting pond building.
- Determine at what soil property threshold there is a need to install a synthetic liner versus the in situ soils and any reworking of the soils that can be done to ensure limited permeability or water loss from ponds, agricultural waste storage facilities, and dams.
- Get a general sense of the cost of hauling in suitable soil materials or reworking the in situ soils versus installing a synthetic liner.
- Work with one of the area’s district conservationists to schedule an onsite investigation for an agricultural waste storage facility, pond, or dam and coordinate field investigation with the engineer, geologist, and resource conservationist trainee.

**Special Requirements:**

- Initiate an external learning request with a SF-182 in Aglearn for this activity. Instructions and a template are located on the training webpages for OJT modules.
- Coordination with the State geologist and local engineer to provide a block of time for training and any materials needed for help in training. Coordinating with them and with the district conservationist, schedule a time for an onsite investigation.

**Prerequisite Modules:**

- 1022 How to recognize potential suitable locations for agricultural waste storage, dams, etc., using soil information.
- 1103 Understand the relationship of the factors of soil formation.
- 1104 How to identify landscapes landforms and surface morphometry.
- 1107 Understand the soil survey procedures used in initial soil surveys.

**Notes:**

Make sure that the trainee understands the importance of using a multi-disciplined team for the onsite investigation intended to identify a potential site for agricultural waste storage facilities, dams, or ponds. The team may include a resource conservationist, a soil scientist, an engineer, and a geologist if available.

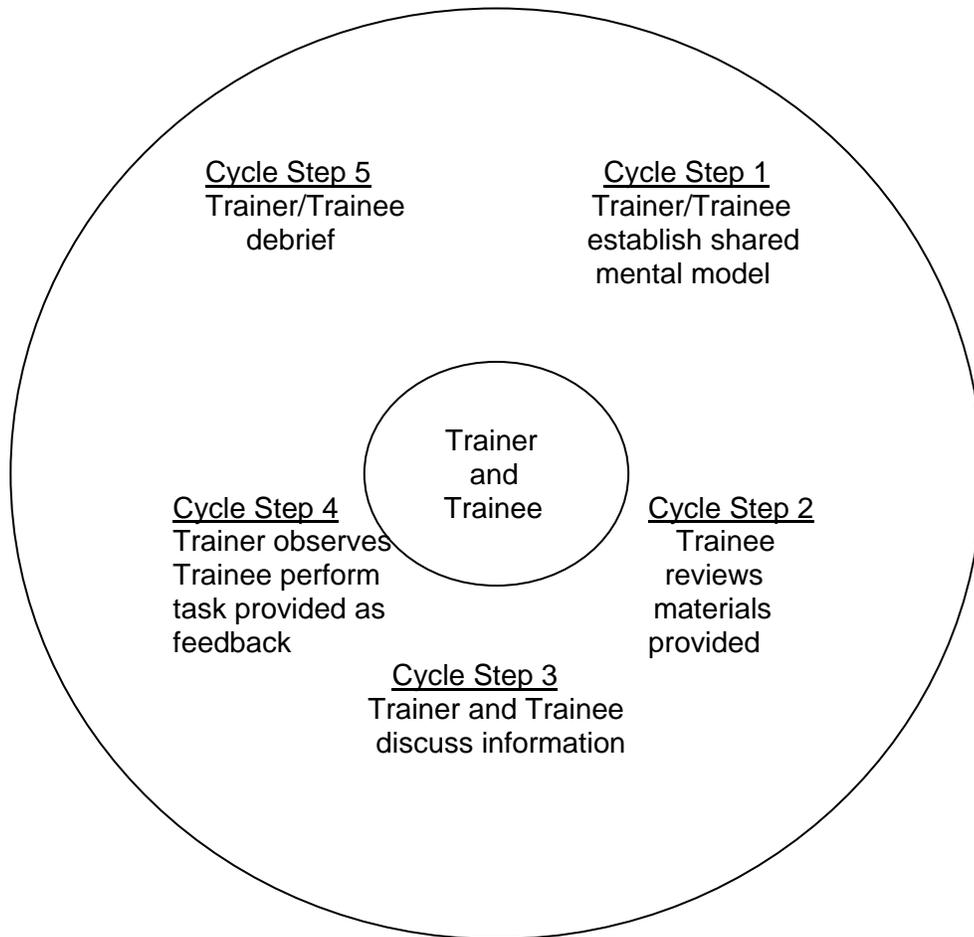
**Authors:**

Tony Rolfes  
Shawn McVey

**Approved by:**

Marc Crouch

# The Five-Step OJT Cycle for Declarative Training (Knowledge)



## OJT Module Lesson

### Title: 1023 How to recognize potential suitable sites for agricultural waste storage facilities, ponds, and dams onsite.

WHAT	WHY, WHEN, WHERE, HOW, SAFETY, QUALITY
Cycle step 1	Trainer and trainee review objectives of module and recognize that this module is the next step after the prerequisite module on recognizing suitable sites using soil information.
Cycle step 2	Trainer and trainee review the following for your State and local area: <ul style="list-style-type: none"> <li>• Example area maps provided by the trainer or produced by the trainee</li> <li>• “<b>National Engineering Handbook</b>,” Section 8 (“<b>Engineering Geology</b>”), Chapter 6 (“<b>Preliminary Site Investigation</b>”)</li> <li>• As selected by the trainer, any information that has been gathered locally from NRCS geologists and engineers concerning , dam safety, water-quality standards associated with agricultural waste storage facilities, local geologic or soil hazards, and water availability and water rights issues affecting pond building</li> </ul>
Cycle step 3	Trainer and trainee discuss the following during the onsite investigation: <ul style="list-style-type: none"> <li>• The site-specific soil information that is necessary for this level of land use development.</li> <li>• The importance of working in coordination with the district conservationist, the area or local engineer and engineering tech, the resource soil scientist, and the State geologist to begin site assessment. Communicate the needs of specific locations land owners, topographic suitabilities, geologic suitability or hazards, stream or runoff wetland concerns, etc.</li> <li>• The importance of having awareness of 1) dam safety and water-quality issues, 2) water availability and water rights issues affecting pond building, and 3) local geology and soil hazards.</li> <li>• Use of an interdisciplinary team for the onsite investigation, including geologists, engineers, and soil scientists.</li> <li>• Potential of using synthetic liners or hauling</li> </ul>

	<p>in suitable soil materials if the local soils are not suitable and a general cost analysis of these options.</p> <ul style="list-style-type: none"> <li>• Hazards of high shrink-swell clays in relation to possible seepage if the sites have a potential of going through wet and dry periods.</li> <li>• Implications of the project in relation to impacts on any hydric soils or wetlands, important farmlands, or other sensitive environmental issues.</li> <li>• Field techniques for soil investigations, including the five soil-forming factors; understanding landforms, landscapes, and surface morphometry; and mapping procedures and tools used in the area to conduct the onsite investigation.</li> </ul>
<p>Cycle step 4</p>	<p>Ask the trainee to:</p> <ul style="list-style-type: none"> <li>• Use soils information (maps and reports) and knowledge gained from OJT modules on soil mapping techniques, identifying landforms and landscapes, and soil-forming factors to get a sense of where to make the soil site observations on the basis of where soil types or properties could be expected to change.</li> <li>• Identify and record soil property and site information for each observation point. Consider all soil properties and site characteristics described at each site in relation to the limitations and suitabilities for the land use, pond, agricultural waste storage facility, or dam.</li> <li>• Discuss findings with interdisciplinary team to make a recommendation of a potential site for the proposed project. Discuss the need to consider alternative sites or other options to make the site suitable (such as using synthetic liners and hauling in adequate soil materials).</li> </ul>
<p>Cycle step 5</p>	<p>Trainer reviews the trip report and discusses any concerns about the soils and site for the proposed project. To help the trainee understand the application of soils information to other situations, the trainer may want to incorporate discussion of other sites that he or she has examined.</p>

## OJT Module Lesson Measurement of Learning

**Title: 1023 How to recognize potential suitable sites for agricultural waste storage facilities, ponds, and dams onsite.**

<b>WHAT</b>	<b>WHY, WHEN, WHERE, HOW, SAFETY, QUALITY</b>
Trainee's learning is measured.	Have the trainee replicate the process of gathering preliminary site information for a predetermined site provided by the trainer. Have the trainee identify the steps and protocol involved in preparing for the onsite investigation, including contacts with the interdisciplinary team members. The trainee should identify potential site limitations and/or suitabilities and other hazards or environmental concerns. Ask the trainee to provide an opinion on whether the site is suitable for a pond, dam, or agricultural waste storage facility and discuss any other alternatives available to ensure proper functioning of the intended land use. Sign off on the module when the trainee satisfactorily understands the concepts.

### **SF-182**

Trainee and/or supervisor access Aglearn to verify completion of the module via its SF-182.