

Frank L. O'Bannon  
Governor

Richard D. Feldman, M.D.  
State Health Commissioner



# Indiana State Department of Health

An Equal Opportunity Employer

**DATE:** November 21, 2000

**TO:** Local Health Departments

**FROM:** Alan M. Dunn, Supervisor *AMD*  
Residential Sewage Disposal  
Sanitary Engineering  
AC (317) 233-7177

**SUBJECT:** Residential On-site Soils Evaluations

This memorandum is to assist local health departments with the interpretation and administration of Rule 410 IAC 6-8.1, specifically Sections 33(a) and 48(a).

I outlined in detail the requirements for on-site soils evaluations in my memorandum of November 6, 1991 to local health departments. A copy of that memorandum is attached. As most of you understand, Rule 410 IAC 6-8.1 requires an on-site soil evaluation before the issuance of any on-site sewage disposal permit for new construction and for repair/replacement of an existing absorption field. The proper conduction of the on-site soil evaluation and the written record of that evaluation are basic and necessary components for the proper operation of a local on-site sewage disposal program.

A few local health departments have elected to use staff members to provide on-site soil evaluations. This practice may meet the minimum requirements of Rule 410 IAC 6-8.1 provided that:

- The employee is performing and recording the on-site soil evaluation consistent with UDSA-NRCS (SCS) guidelines and handbooks, and
- The information required in Section 48 is recorded, in writing, as a part of the application for an on-site sewage disposal permit. This information must be maintained with the permanent record for the property.

Finally, you should discuss with your local health board and legal counsel the potential liabilities of local health department staff conducting these evaluations.

I hope this clarifies the provisions of Rule 410 IAC 6-8.1 pertinent to local health department staff conduction of on-site soils evaluations. If you have any questions, please don't hesitate to contact me.

Attachment

cc: Residential Sewage Disposal Program staff

EVAN BAYH, GOVERNOR  
JOHN C. BAILEY, M.D., STATE HEALTH COMMISSIONER

INDIANA STATE BOARD OF HEALTH  
1330 WEST MICHIGAN STREET  
P.O. BOX 1964  
INDIANAPOLIS, IN 46206-1964



INDIANA STATE BOARD OF HEALTH

AN EQUAL OPPORTUNITY EMPLOYER

November 6, 1991

TO: Local Health Departments

FROM: Alan M. Dunn, R.E.H.S., Chief *AMD*  
Residential Sewage Disposal Section  
Division of Sanitary Engineering

SUBJECT: Rule 410 IAC 6-8.1-48  
On-Site Soils Evaluations

Many of you were involved in the discussion of Rule 410 IAC 6-8.1 on February 6, 1991, during our annual sanitarians training course. Many of you have also attended individual training sessions provided by my staff. I appreciate your participation in these discussions.

A topic covered at each of these meetings has been the requirement for on-site soils evaluations.

Section 48(a) states that "Before issuance of any permit for construction of a residential sewage disposal system or the alteration of an absorption field, an on-site evaluation, which shall include an evaluation of the soil profile, shall be conducted. System feasibility, location, selection, and design shall be based on the site evaluation and information obtained from the soil profile. The site and soil information needed is outlined and further defined in subsection (e). Properties of the soil at each site shall be determined using the guidelines set forth in the soil manuals, technical bulletins, and handbooks of the SCS. . . ." (emphasis added)

Section 48(b) states that "When direct soils profile observations are made, soil profile information shall be recorded to a depth of five feet or until a layer is encountered which cannot be readily penetrated, whichever is shallower."

Section 48(e)(2) lists all the soil characteristics required for the soil profile.

Section 33(a) states that "The owner or agent of the owner shall obtain a written permit, signed by the health officer, for construction of a residential sewage disposal system prior to:

- (1) Construction of a residence or placement of a mobile home which will be connected to a sanitary sewage system.

- (2) Any replacement, reconstruction of, expansion or remodeling of a residence which may increase the number of bedrooms.
- (3) Any addition to, alteration of, or repair of an existing residential sewage disposal system."

The application for such a permit shall be made on a form approved by the commissioner, which application shall contain information outlined in Section 48 of this Rule, the profile analysis of all the soils in which the system is to be constructed, and any other information deemed necessary by the health officer. (emphasis added)

One of the primary objectives of ISBH Rule 410 IAC 6-8.1 is to make the septic system recommendations very site specific. This means that each septic system is designed for the exact soil characteristics within the individual septic site.

Some local health department personnel have stated that they have been forced to rely on the soil survey map unit descriptions and soil maps included in their individual county soil survey report or information provided to them by their local contractors about the site. At the same time, many local health department personnel have mentioned that the soil survey maps do not appear to be accurate for making septic system recommendations. They are correct in this statement. The initial soil survey maps were made on a scale of four inches to one mile. This scale is too small to be used in making septic system recommendations. The soil survey map units were designed to encircle areas with similar soil characteristics. These map units are not pure soil units and generally contain different soil series or inclusions.

In addition, a named soil series used in mapping may have a wide range of characteristics. An example of this is seen in the official Blount soil series for Blackford County. On Page 44 of the Blackford-Jay soil survey report, the Blount series indicates that the depth to firm, massive, glacial till varies between 22 and 45 inches. In making septic system recommendations, a depth of less than 34 inches to the massive glacial till will require an above ground system (either an elevated sand mound or the experimental "At-Grade" system) while a depth to the till of equal to or greater than 34 inches may permit the use of a subsurface trench system. In addition, erosion or soil alteration may place the glacial till close enough to the surface that the site must be rejected. Therefore, it is imperative that the depth to the glacial till at the site is verified prior to making any decisions concerning system selection.

The soil profile evaluation is site specific and is made in the exact area where the septic system is to be installed. To provide this evaluation, a series of soil borings must be made at each individual site. Without the necessary equipment, it is

impossible to obtain this information. This equipment includes a soil auger with the capacity to make a soil boring to a minimum depth of 60 inches; a Munsell soil color book with a minimum of seven different charts; a slope finder (usually either an abney level or clinometer); an eight to ten foot metal pocket tape measure; and a device to measure distances greater than 150 feet (usually this is either a distance Measuring Wheel or a Rangefinder capable of measuring up to 600 feet).

Most local health departments visit every site where a septic system is to be repaired or a new system is to be installed, but they are not able to complete a soil profile evaluation because of the lack of equipment. Many members of local health department staffs have indicated that they would feel comfortable in doing at least some of the soils evaluations (detailed soil profile analyses), if they had the necessary equipment. Until the necessary equipment is obtained, I strongly suggest that a soil scientist provide a detailed soils profile for all sites, as outlined in Rule 410 IAC 6-8.1-48(a): "The local health department may, when necessary, provide or require to be provided, a direct soil profile observation by a soil scientist, using the guidelines set forth in the soils manuals, technical bulletins, and handbooks of the SCS." (Emphasis added) The definition of soil scientist is provided in Rule 410 IAC 6-8.1-29.

I hope this clarifies the provisions of Rule 410 IAC 6-8.1-48, that all sites, regardless of whether they are for new construction or the repair of an existing system, require an on-site evaluation, including a direct profile analysis of the soils. If you have any questions, please contact me.

cc: Durland H. Patterson, Jr.  
Howard W. Cundiff