

Indiana Standards for Type II Elevated Sand Mound Systems

This standard applies to new construction. The Indiana State Department of Health (department) Rules 410 IAC 6-8.3 and 6-10.1 outline the site suitability and design requirements for elevated sand mound systems for the state of Indiana. All elevated sand mound systems must meet the site suitability, design and construction requirements of the rule.

The department has determined that there are sites which may be suitable for a modified elevated sand mound – designated by the department as a Type II elevated sand mound. This technology may be applied where a site is suitable for an elevated sand mound as described in the state rules, except that there is a shallow seasonal high water table that cannot be modified by installation of a subsurface drainage system that meets all of the requirements of 410 IAC 6-8.3-59 or 410 IAC 6-10.1-63. For proper performance of this technology, the soils underlying the elevated sand mound must have a permeability which will permit a satisfactory rate of subsurface water movement away from the mound site, in order to prevent the encroachment of groundwater into the mound and the unsaturated zone below it.

The department hereby publishes this standard for Type II Elevated Sand Mound Systems under the provisions of 410 IAC 6-8.3-52(h) and 410 IAC 6-10.1-49(h).

A plan submittal for a Type II elevated sand mound must be reviewed and approved by:
The department; or

1. The local health department (LHD) having jurisdiction when the department delegates authority, in writing, to LHD staff member(s) for plan review and approval:
 - a. Delegation is automatically rescinded if the staff member(s) to which delegation was granted leaves employment with the LHD onsite program and the LHD has no remaining onsite program staff delegated responsibility for plan review and approval;
 - b. Delegation may be revoked upon documentation that the LHD program is not operating in compliance with 410 IAC 6-8.3, 410 IAC 6-10-1 or standards set by the department, or provisions of the delegation.
2. If delegation is revoked, the department will notify the LHD, in writing, stating reason(s) for revocation and criteria for delegation to be reinstated.

For a Type II elevated sand mound to be considered, the site must meet all of the minimum requirements of 410 IAC 6-8.3 or 410 IAC 6-10.1, whichever is applicable, except that:

1. No soil horizons from the ground surface to 20 inches below the ground surface shall have a soil loading rate less than 0.25 gpd/ft² or greater than 1.20 gpd/ft².
2. The seasonal high water table must be at least 12 inches below original grade:
 - a. As determined by the soils evaluation report from a certified soil scientist, and

- b. Taking into consideration that organics or organic staining may mask the redoximorphic features of a shallow seasonal high water table in the surface horizons (A or Ap);
3. The soil loading rate [See 410 IAC 6-8.3-72(b)(7) (Table V) for residential systems and 410 IAC 6-10.1-80-(b)(7) (Table VI) for commercial systems]:
 - a. Must be 0.50 gpd/ft² or greater from original grade to the depth of the natural seasonal high water table; and
 - b. The most restrictive soil loading rate from the original grade to the depth of the natural seasonal high water table shall be used to size the basal area.
4. A set-aside area must be provided that qualifies for either a system as described in 410 IAC 6-8.3 or 410 IAC 6-10.1 or for an additional Type II elevated sand mound in accordance with this standard. The set aside area must:
 - a. Be deemed to be suitable based on:
 - i. soils evaluations by a certified soil scientist;
 - ii. dimensions and total area; and
 - iii. topography; and
 - b. Be recorded on the deed to the property.

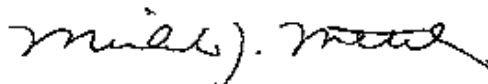
The design of a Type II elevated sand mound must meet all of the minimum requirements of 410 IAC 6-8.3 or 410 IAC 6-10.1, whichever is applicable, except that:

1. The minimum depth of INDOT Spec 23 sand underneath the aggregate bed shall be determined by the following formula:

Minimum sand depth = 12 inches + (20 inches - depth of seasonal high water table in inches).

For example, if the depth to the seasonal high water table is 15 inches, the calculation would be [12 inches + (20 inches - 15 inches)] = [12 inches + 5 inches] = 17 inches. The resulting minimum depth of INDOT Spec 23 sand would be 17 inches instead of the conventional 12 inches under the aggregate bed as required by the residential and commercial rules.
2. The sideslope grades of the INDOT Spec 23 sand and the final soil cover shall be a minimum of 3:1. The additional depth of INDOT Spec 23 sand will result in an elevated sand mound with dimensions larger than those prescribed in Rule 410 IAC 6-8.3-81 and Rule 410 IAC 6-10-89 in order to maintain the minimum side slopes of 3:1.
3. Timed dosing may be used for the application of effluent. If timed dosing is to be considered please contact the department.
4. An operating permit should be issued for each Type II elevated sand mound system by the health department having jurisdiction [See 410 IAC 6-8.3-54 for residential systems and 410 IAC 6-10.1-54 for commercial systems].
5. A pressure check of the pressure network must be conducted as a part of the construction inspection process in order to affirm proper design, construction and installation practices.

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MICHAEL METTLER, REHS, DIRECTOR
 ENVIRONMENTAL PUBLIC HEALTH DIVISION