

## **Appendix A: Explanatory Material for Division B Combined Treatment and Dispersal System**

### **A-8.7.9.1.(7), 8.7.9.1.(8) and 8.7.9.1.(9) Sand Layer, System Sand and Imported Sand.**

Sentence 8.7.9.1.(7) requires the sand layer in a Type C dispersal bed to include the system sand required for the model of the Combined Treatment and Dispersal System.

Sentence 8.7.9.1.(8) provides that if the system sand is less than 300 mm then imported sand or system sand may be used as supplemental material where required to achieve the minimum combined sand thickness. It is not intended to replace any system sand thickness, placement, gradation, or configuration requirement associated with the model.

Where imported sand is used, it must meet the percolation time and fines content requirements in Sentence 8.7.9.1.(9). These requirements are intended to limit the use of material that could adversely affect the hydraulic function of the sand layer or the long-term performance of the system sand.

### **A-8.7.9.1.(10) and (11) Vertical Separation for Type C Dispersal Beds.**

Sentence 8.7.9.1.(10) establishes the base of the system sand layer required by the manufacturer for the model of the Combined Treatment and Dispersal System as the reference point for measuring vertical separation and is the part of the system in which the sampling device required by 8.7.9.1.(14) is installed. This reference point does not change where additional system sand, imported sand, or leaching bed fill is placed below the required system sand layer.

Leaching bed fill with a percolation time not exceeding 15 min may be used to obtain the vertical separation required by Sentence 8.7.9.1.(11). However, this leaching bed fill is not intended to form part of the minimum 300 mm combined thickness of the sand layer required by Sentence 8.7.9.1.(7). The minimum combined sand thickness must consist of system sand, imported sand meeting Sentence 8.7.9.1.(9), or a combination of the two.

### **A-8.7.9.1.(14) Sampling from the Base of the System Sand Layer.**

Sentence 8.7.9.1.(14) is intended to ensure that a Type C dispersal bed is constructed so that effluent can be practically sampled from the base of the system sand layer required for the model of the Combined Treatment and Dispersal System. The sampling device, location, and method of installation should conform to the manufacturer's installation manual and design criteria for the model.

### **A-8.7.9.1.(18) Even Distribution.**

Sentence 8.7.9.1.(18) is intended to ensure that the pipes, modules, conduits, or other treatment and distribution components forming part of a Combined Treatment and Dispersal System within a Type C dispersal bed are arranged so that effluent is distributed over the system sand layer in a manner that avoids localized hydraulic overloading and makes reasonable use of the sand layer area required by Sentences 8.7.9.1.(5) and (6).

For the purposes of applying Sentence 8.7.9.1.(18), even distribution may be demonstrated by considering the following factors:

- (1) whether the array of pipes, modules, conduits, or other treatment and distribution components is generally centred within the sand layer area required by Sentences 8.7.9.1.(5) or (6), as applicable;

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- (2) whether the array of pipes, modules, conduits, or other treatment and distribution components occupies a sufficient portion of the required sand layer area to avoid concentrating effluent within a limited portion of the bed;
- (3) whether unoccupied margins between the installed array and the edge of the required sand layer area are generally balanced along the length and width of the bed, subject to adjustments required to satisfy horizontal clearance requirements, site constraints, or the manufacturer's installation manual and design criteria for the model;
- (4) whether rows or zones of pipes, modules, conduits, or other treatment and distribution components are arranged with generally consistent spacing, except where adjustments are required to maintain clearances, follow site contours, or comply with the manufacturer's installation manual and design criteria for the model; and
- (5) where the system uses dosing or multiple distribution zones, whether the design provides for reasonably balanced flow distribution to the rows or zones in accordance with the manufacturer's design criteria.

The intent of this Note is not to require identical spacing, exact geometric symmetry, or a single prescribed layout for all installations in Type C dispersal beds. The arrangement should be consistent with the model and the manufacturer's installation manual and design criteria, while avoiding an arrangement that unnecessarily concentrates effluent in a limited portion of the minimum sand Layer area required by Sentences 8.7.9.1.(5) or (6) in a manner that is inconsistent with the intended treatment and dispersal function of the Combined Treatment and Dispersal System.