**Section 370.740 Imhoff Tanks**

a) General

Imhoff tanks may be used for the sedimentation of settleable solids and for the unheated anaerobic digestion of these solids.

b) Settling Compartment Design

1) Settling Rate

Surface settling rate shall not exceed 1000 gallons per day per square foot based upon design peak hourly flow.

2) Detention Period

A detention period of not less than 1 hour based upon design peak hourly flow shall be provided.

3) Dimensions

The minimum length of flow between inlet and outlet should be 10 feet and at least 6 feet of settling depth should be provided.

4) Freeboard

The freeboard shall be 18 inches or more.

5) Hopper Slope

The bottom of the settling chamber of the conventional tank shall have a slope of at least 1.4 vertical to 1.0 horizontal. The slot at the bottom of the settling chamber allowing solids passage shall have a minimum opening and a minimum overlap of 6 inches.

6) Inlets and Outlets

Inlet and outlet arrangements should be designed so that the direction of flow may be reversed to allow for a more even distribution of solids in the digestion compartment. Adequate scum baffles shall be provided at the ends of the flow-through chamber.

7) Weirs

Weir design and overflow rates shall be in accordance with Section 370.710(d).

8) Walkway

A walkway along the length of the tank shall be provided.

c) Sludge Digestion Compartment Design

1) Digestion Chamber Capacity

The digestion chamber shall provide 4 cubic feet of volume per capita for primary treatment and should provide 6 cubic feet of volume per capita if secondary process sludge is also to be digested. The capacity shall be measured below a horizontal plane 18 inches below the settling chamber slot.

2) Vent Area

A surface area equal to 20% of the total tank surface area shall be provided for venting the digestion compartment.

3) Hopper Slope

The bottom of the digestion chamber should be a hopper type structure with minimum side slopes of 1.75 vertical to 1.0 horizontal. Sludge draw-off from the digestion chamber is usually accomplished by utilizing the hydrostatic head with a minimum differential of 6 feet being required. Eight inch diameter sludge draw-off piping or larger shall be used.

(Source: Amended at 21 Ill. Reg. 12444, effective August 28, 1997)