POULTRY COMPOSTER/LITTER DRY STACK STRUCTURE
DESIGN WORKSHEET
(TWO WALLS)
Composter (on opposite walls) and Litter Storage in Same Building

Conservation District: _____ Field Office: _____

Cooperator: _____ Location: _____

Identification No.: _____ Field No. _____

V_L = Volume of litter stored (Form FL-ENG-317B, "Storage Requirement"): _____ ft^3

L_p = Length of Primary stage (Form FL-ENG-317A, "Dimensions of Linear Stack Bins"): _____ ft

L_s = Secondary stage length (>= L_P): _____ ft

W_c = Width of composter pile (Form FL-ENG-317A, "Dimensions of Linear Stack Bins"): _____ ft

W_b = Width of building (dimension from inside of post to inside of post): (calculate below)

h_m = Max height of pile (Max. 7 ft.): _____ ft.

h_w = Height of wall (h_s + Freeboard): _____ ft.

h_s = Height of pile at side walls (Max for wooden wall = 5 ft): _____ ft.

h_e = Height to gable end closure wall: _____ ft.

Z = Side slopes: _____ (If Z is not known, use 1.5)

L_c = Length of linear stack bin required (calculate below)

A_x = Cross sectional area of pile (calculate below)

L_m = Length of litter pile (calculate below)

L_i = Length of building (initial calculation) including freeboard (FB_e).

L_{iR} = Recommended value for L_i (rounded to accommodate Post Spacing)

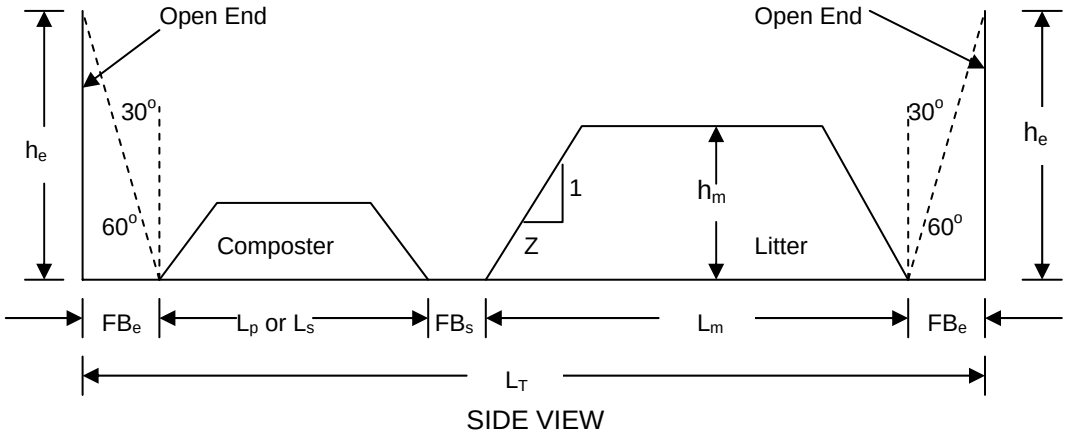
L_T = Total length; L_i adjusted to account for spacing between side posts

FB_s = Freeboard from toe of composter pile to toe of litter pile to accommodate equipment, minimum of 8 ft: _____ ft.

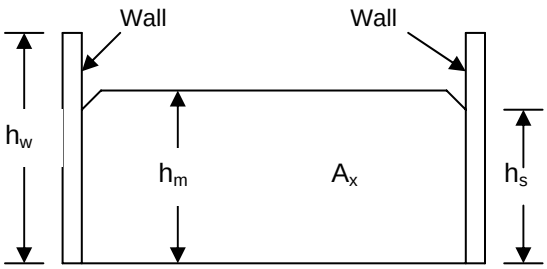
FB_c = Freeboard from toe of composter (primary) pile to toe of composter (secondary) pile to accommodate equipment, minimum of 8 ft: _____ ft.

FB_e = Horizontal freeboard between toe of pile and open end (calculate below). Recommend 30 degrees from the vertical on all exposed sides to prevent windblown rainfall from impacting on the containment area.

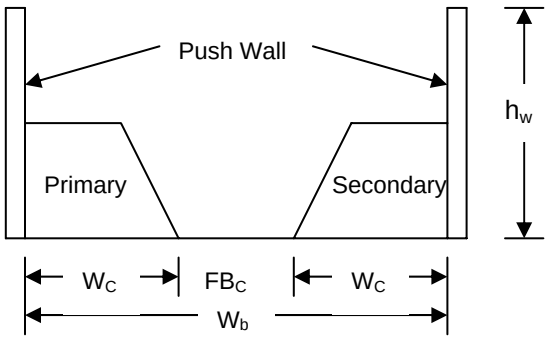
Assume: (1) trapezoidal x-section of pile.



SIDE VIEW



END VIEW



END VIEW

$FB_e = h_e / \tan 60^o =$ _____ / tan $60^o =$ _____ ft

$W_b = W_c + W_c + FB_c =$ _____ + _____ + _____ = _____ ft

$A_x = (h_m \times W_b) - Z(h_m \times h_s)^2 =$ (_____ x _____) - (_____ x (_____ - _____)^2) = _____ ft^2

$L_m = (V_L / A_x) + Zh_m =$ (_____ / _____) + (_____ x _____) = _____ ft

$L_c = L_P$ (or L_s)+ $FB_s =$ _____ ft + _____ ft = _____ ft

$L_i = L_m + 2FB_e + L_c =$ _____ ft Post Spacing: _____ ft. c-c

L_{iR} = _____ (Rounded to accommodate Post Spacing) **Calculate Recommended Values**

L_T = _____ ft

Floor area $= L_T \times W_b =$ _____ x _____ = _____ ft^2

Designed by: _____ Date: _____

Checked by: _____ Date: _____

Approved by: _____ Date: _____

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