

Suggested procedures for sizing Infiltration Ponds using WWHM

Infiltration ponds may be sized for flow control or for runoff treatment purposes. Below are the procedures for sizing a pond to completely infiltrate 100% of runoff, to treat 91% of runoff to meet the water quality treatment requirements, and to partially infiltrate to meet flow duration standard.

To do 100% infiltration

(1)- Input dimensions of your infiltration pond,
(2)- Input infiltration rate and safety (rate reduction) factor,
(3)- Input a riser height and diameter (any flow through the riser indicates that you have less than 100% infiltration and must increase your infiltration pond dimensions).

That is all that you need. Next, run only HSPF for Developed Mitigated Scenario (if that is where you put the infiltration pond). Don't need to run duration. After that go back to your infiltration pond and look at the Percentage Infiltrated at the bottom left (push "Update" to make sure its calculation is up-to-date). If less than 100% infiltrated, then increase pond dimension until you get 100% (usually it take 4-5 iterations and about 5 minutes).

To do 91% for Water Quality Treatment

The procedure is the same as above, except that your target is 91%.

To meet flow duration standard with infiltration ponds

This design will allow something less than 100% infiltration as long as any overflows will meet the flow duration standard. You would need a discharge structure with orifices and risers similar to a detention facility except that, in addition, you also have infiltration occurring from the pond.

Using Auto-pond to sizing infiltration ponds to meet flow duration standard:

You may use the "Create Pond", 0-1 minute option, for a start. Then go to "Scenario Editor" and edit the selected pond by turning "On" the infiltration button and inputting the infiltration rate and safety (reduction) factor. Then go back to "Pond Wizard" and choose "Optimize Pond".