

Can I drill holes in the sides and the bottom of a sump pump pit?

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Ken in Winnipeg wants to know if he can modify his sump pump pit. There are really two kinds of sump pump pits. One is an underground container or catch basin designed to receive water from the perimeter drain tiles and any other basement spillage or back-up and pump that up and out of the house. The other is designed to relieve subterranean water pressure, usually from a high water table, to prevent it from pushing up around the basement floor slab. Sometimes people combine the two. The first graphic, from the City of Winnipeg, gives some details on proper installation of the catch basin type. Note that it is a closed concrete box; no holes in either the sides or the bottom. This is particularly used when surface water from the perimeter drains would actually add water to the clay under the house if there were holes in the pit. Holes in such a case could create problems where there were none before, especially with expansive clay soils like is common from Winnipeg to Regina. A pit with holes in the sides would be common near a body of water where the water table is close to the basement floor level, and might seasonally rise even higher. But holes should never be put in the bottom of the pit. Holes in the bottom would cause a suction directly on the soil below the pit and could cause a flow that eroded the support for the basement slab and perhaps even the house footings. The proper way to build this type is best illustrated with Saber Pit from Winnipeg, shown in the second graphic. The bottom of the pit is a catch basin, like in the first graphic, with no holes in it. Water under the slab will spill into the pit through the holes higher up, preventing the suction effect on the ground soil. For this type of application it is best to consult a specialist and use engineered pits like the "Saber Sump Pit" Properly done, this pit can serve both purposes as the lower portion could collect runoff which would be pumped out before it rose as high as the side holes, hence not add water to the clay under the house. The side holes would only come into play if an underground water source were rising up towards the basement floor. This water would then spill into the catch basin before getting the floor slab wet.

Keywords:

Drainage, Pump, Drains, Sump Pump, Water, Basement, Plumbing