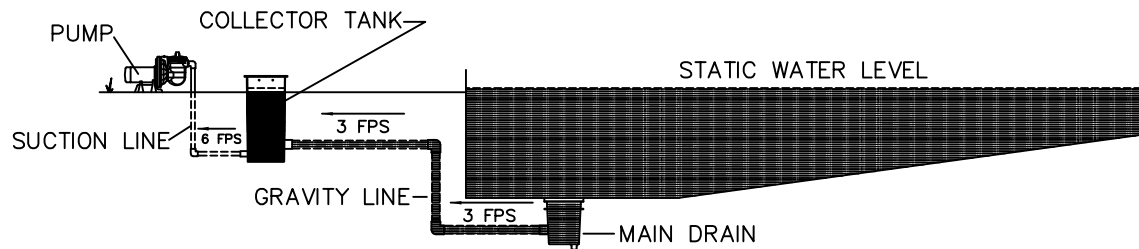
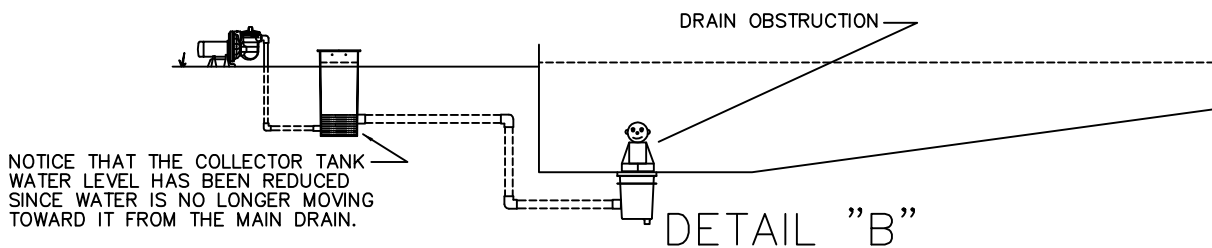


GRAVITY FLOW COLLECTOR TANK RECIRCULATION SYSTEMS FOR SWIMMING POOLS, SPAS, HOT TUBS AND WADING POOLS

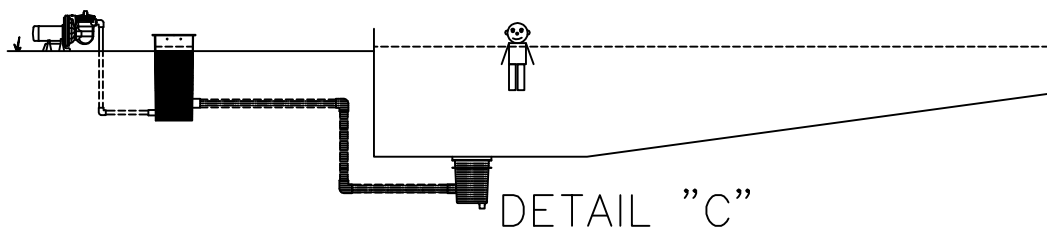
ANTI-ENTRAPMENT DETAIL



Gravity piping shall be sized to allow for no more than 3 fps of flow velocity from the pool to the collector tank. A pump shall draw water directly from the collector tank through piping that has been sized not to exceed 6 feet per second.



If a body obstructs the main drain, detail "B", water flow to the collector will be restricted. Since there is no direct suction on the main drain pipe the person may freely move from the drain without any entrapping effect. While the body is obstructing the drain the pump will continue to draw suction from the tank at a normal rate of flow until either the person moves, detail "C", or the pump loses prime.



The collector tank shall be sized to retain 1 gpm of the design flow of all pumps that draw from it on pools, wading pools and spa pools. The collector shall be sized to retain 3 gpm retention on all interactive water feature systems for the benefit of chemical contact time.

Drawdown calculations must be determined when sizing gravity drain pipe and suction pipe. No more than 8" of differential between the pool static water level and the collector tank water level should be allowed. Drawdown levels can be determined by using the Williams and Hazen formula for 100 feet of pipe.