We discuss several algorithms, including quadratically convergent algorithms, which can be used to calculate the Laplace-Stieltjes transforms of the time taken to return to the initial level in the stochastic fluid flow model. We give physical interpretations of the algorithms within the fluid flow model. These physical interpretations are built upon the physical interpretations of the generator of the Laplace-Stieltjes transform of the total amount of fluid that flowed in and out the buffer. The major benefit of understanding these physical interpretations is the ability to analyze the model using direct, elegant methods, within the fluid flows.