

May 31, 2005

Mr. John Peters, Jr.
Fabco Industries, Inc.
170 Wilbur Place, Suite 12
Bohemia, NY 11716

CFD Analysis Results for Fabco's StormBasin Unit

Dear Mr. Peters:

Alden Research Laboratory, Inc. (Alden) is pleased to provide you with the results of the CFD simulations modeling the bypass flow of your 28in StormBasin unit. To model the basin, a solid model (Figure 1) provided by Fabco was processed into the *FLOW-3D* software system; and a structured mesh was generated. This mesh consisted of approximately 600,000 cells.

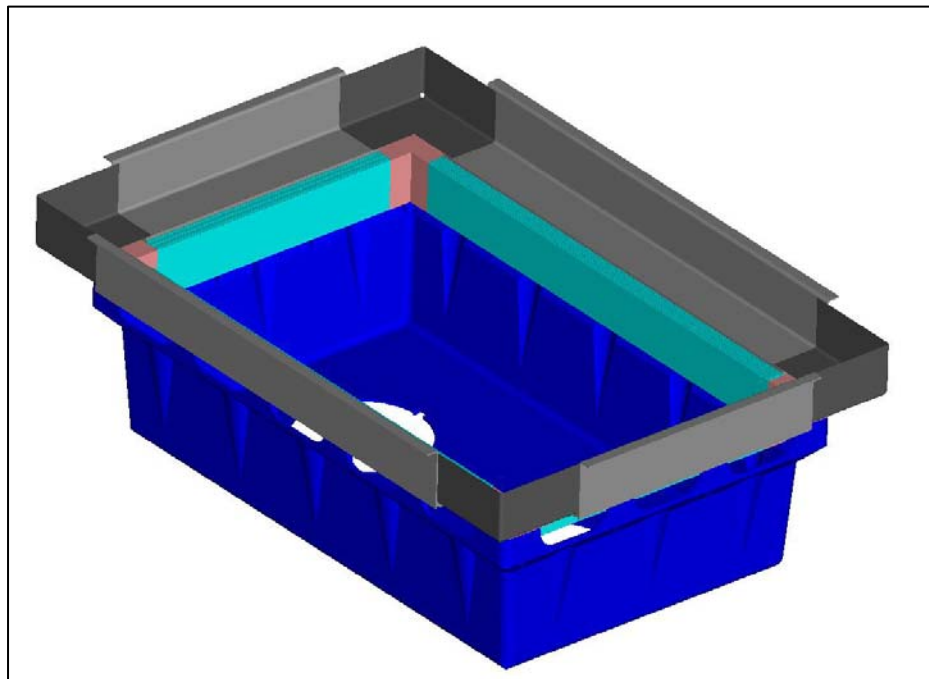


Figure 1 - Solid model provided by Fabco

The unit was modified by removing the filters from the bottom of the basin, in order to measure the bypass flow only; and three inches was added to the support flange to simulate a typical grate fitted to the basin. Bypass holes, oriented vertically, were also added to the corners of the flange connecting pieces. An inflow of 5.5cfs was added to the model, and was set up to have equal flow into the unit on all four sides of the grate.

The simulation was then run to a steady state to determine if the unit can bypass the 5.5cfs inflow, with a water level below that of the grate. Figure 2 shows the steady state outflow rate reached in the simulation at 5.5cfs. While the data in the chart is for time 0 - 20 seconds, the simulation was run to approximately 50 seconds to verify that the solution is in fact converged.

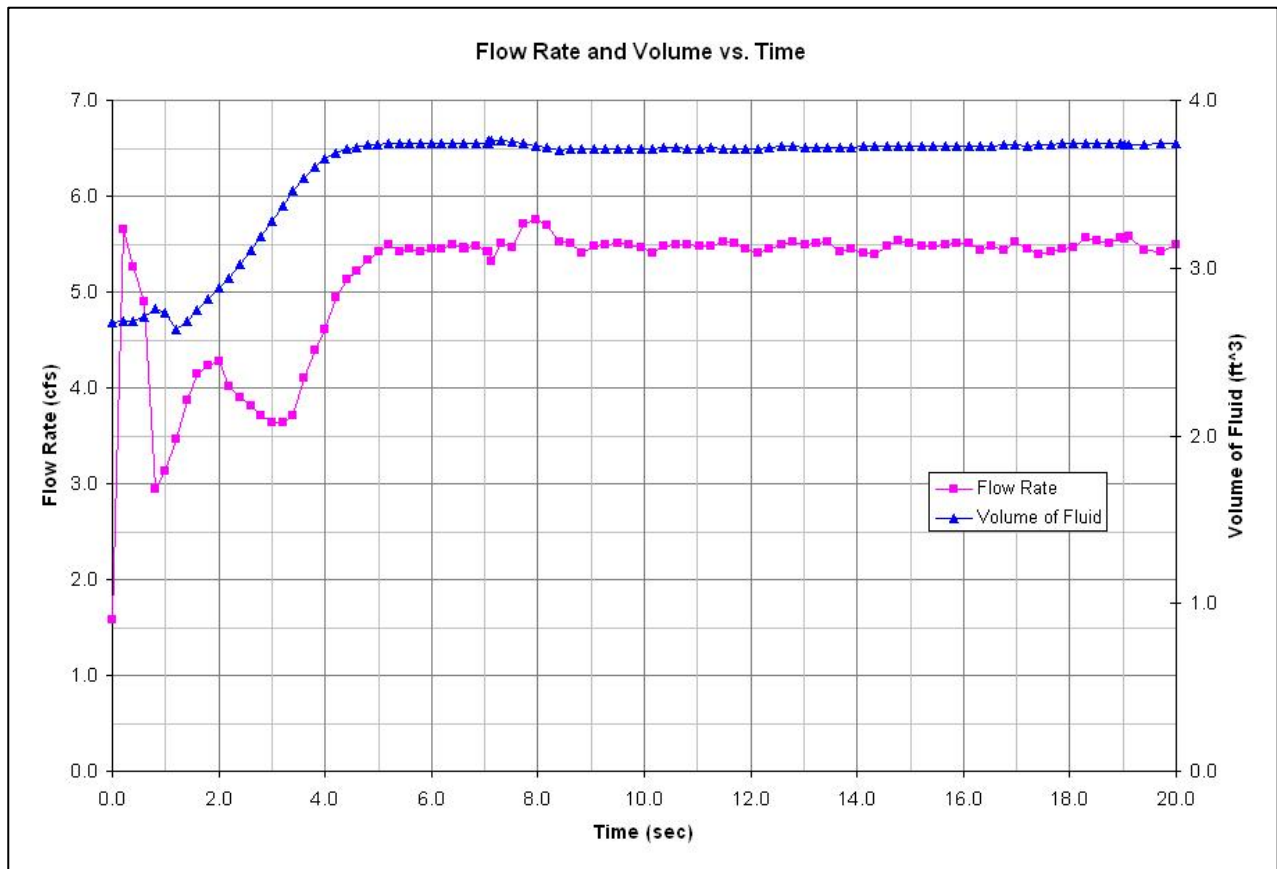


Figure 2 - Flow rate and water volume within the unit plotted against time

The water level within the unit is approximately 1 to 1.5in below the grate in a steady state condition, as shown in Figure 3. With the data shown, it is conclusive that this unit will be able to bypass the given flowrate of 5.5cfs with the geometry modeled.

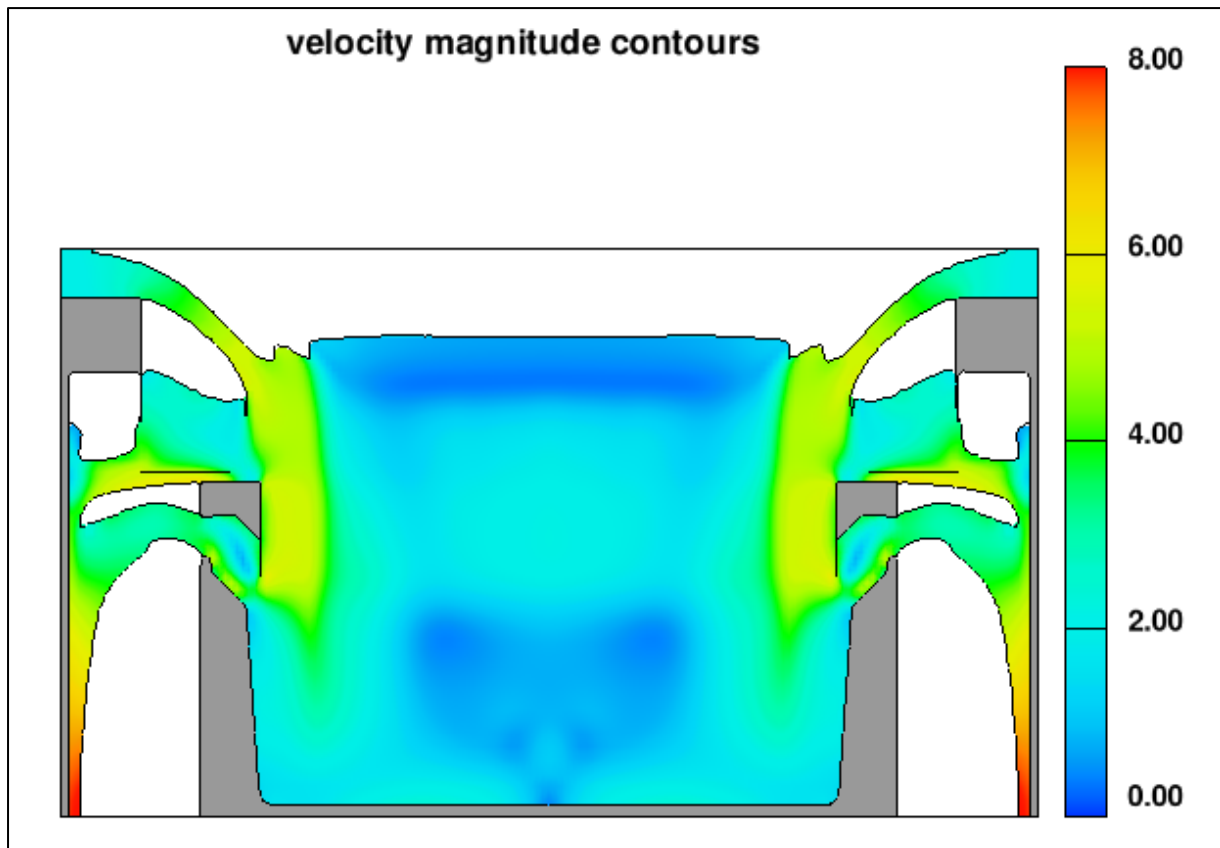


Figure 3 - Vertical section through unit, contours colored by velocity magnitude (ft/s)

It has been a pleasure working with you on this project, and if you need anything further, please don't hesitate to contact me.

Best regards,

Scott McIntosh
Engineer