

Association of Hydraulic Services Consultants Australia – Research Foundation

## Flow Characteristic Curve – Q200S4/C 140 TRANSITION FLOW REGION Please note that the water depth levels in this shaded area of 120 the chart were observed to fluctuate continuously between maximum and minimum levels due to the transition between weir and orifice flow conditions occurring at the outlet. Only 100 Nater Head Level (mm) the maximum observed water levels are plotted on this chart. 80 60 40 20 0 2 3 4 6 7 1 5 8 0 Flow Rate (L/s) Weir Flow – 2.0 L/s (20mm) Orifice flow - 4.0 L/s (30mm)

## **Observation Comments:**

- Flow rates from 0-2.0 L/s (20mm Head) produced a linear characteristic curve which began to flatten at 2.5 L/s.
- At 3.0 L/s the weir flow transitioned to vortex flow, cycling between vortex and surcharged flow characterised by the water level fluctuating 10mm.
- At 4.0 L/s the flow surcharged.
- Flowrates between 5.0-8.0 L/s produced surcharged flow conditions with the water head rising rapidly or fluctuating 40 mm with the vertical pipe.
- The maximum flow limit to maintain weir flow conditions is 2.0 L/s.

I hereby certify that the test results presented on this outlet performance certificate are true and correct and were obtained using recognised AHSCA Gutter Outlet Testing procedures.

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