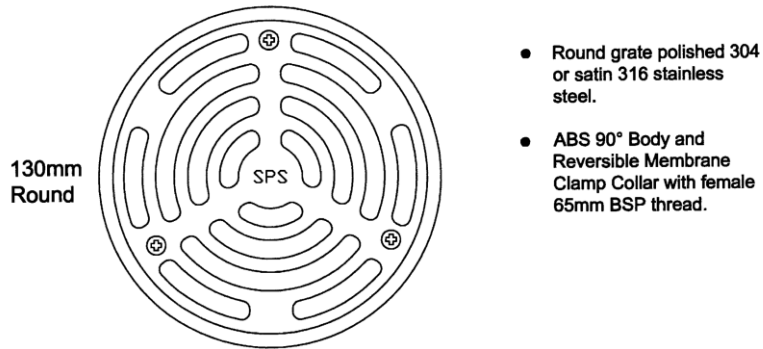
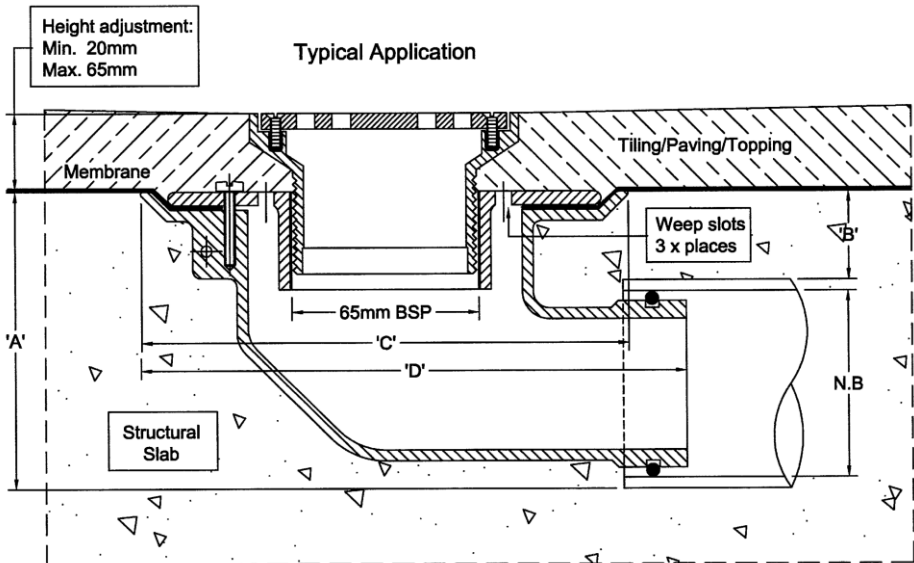
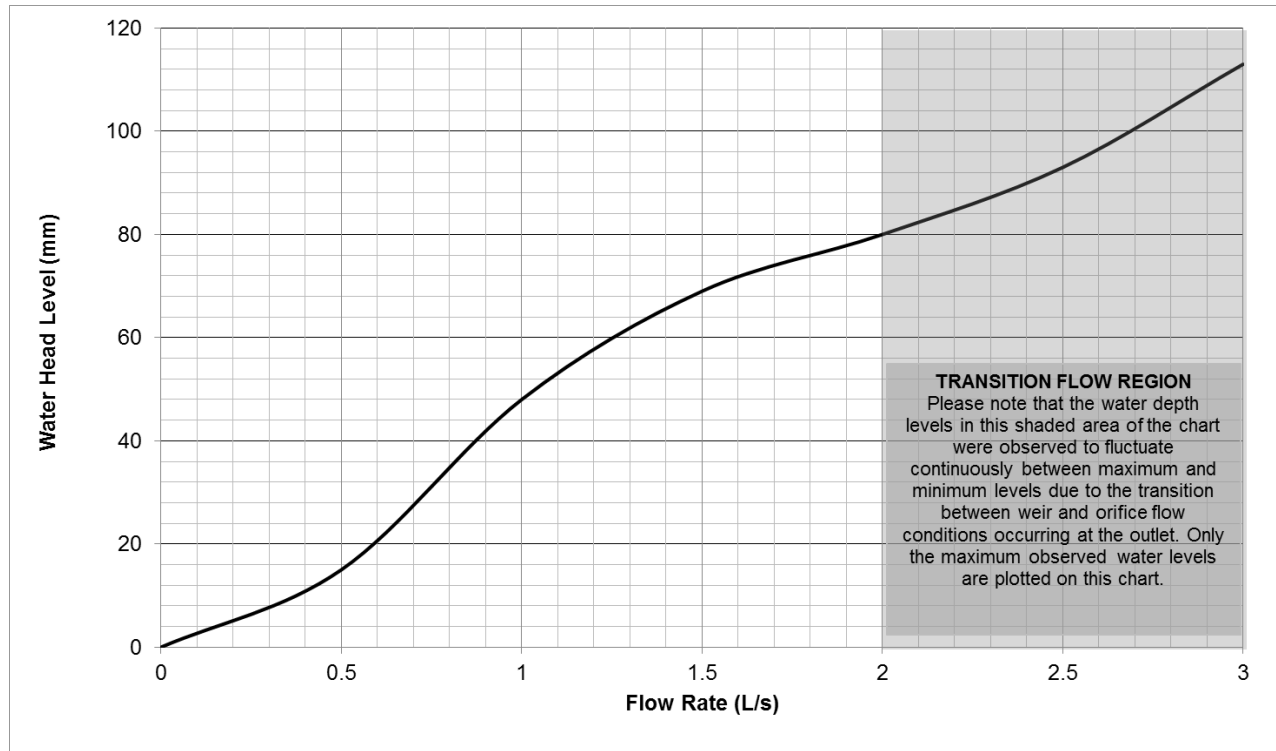


OUTLET PERFORMANCE CERTIFICATE ID: SPS011 - R130S4/C90

Test Results		ID: SPS011
Description	SPS Vari-Level Drains – 90° Outlet	
Drain Type	130mm Round Side Outlet Drain	
Model	R130S4/C90	
Outlet Size	65NB	
Test Date	Friday 12 th August 2016	
Grate Drawing	 <p style="text-align: center;">SPS Catalogue Ref: 4.03</p>	
Housing Drawing		
Drain Pipe Configuration	<p>Due to the side entry 90 degree bend design of the housing the horizontal pipe configuration was modified to suit the housing. The 90 degree bend configuration was omitted from this test.</p>	

Flow Characteristic Curve – R130S4/C90



Weir flow – 1 L/s (50mm)



Surcharged Flow - 3.0 L/s (110mm)

Observation Comments:

- A concentric swirl pattern and air core was observed which indicated weir flow conditions, with the water head level stabilising at each flow rate setpoint from 0-2.0 L/s.
- At 2.5 L/s a transition from swirl motion to vortex flow was observed, as the air core decreased to approximately 10mm Diameter and moved to the side of the grate. At 3-3.5 L/s the vortex surcharged and transitioned to orifice conditions characterised by the water level surging between 40-100mm at constant flow rates above 3 L/s.
- 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.

Dr Terry Lucke,
Chief Researcher:



Mark Alexander,
AHSCA Foundation Chairman:



Date: 16th November 2016

Date: 16th November 2016