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Building Plan & Management Group

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## See Distribution List

Dear Sir/Madam

### **ADVISORY ON GOOD PRACTICES FOR DESIGN, CONSTRUCTION AND MAINTENANCE OF INFINITY EDGE POOLS**

#### **Aim**

This letter serves as an advisory to the industry to adopt the following good practice in the design, construction and maintenance of infinity edge pools, particularly if the pools are with long lengths and are located along the building edges, so as to allow safe and proper maintenance.

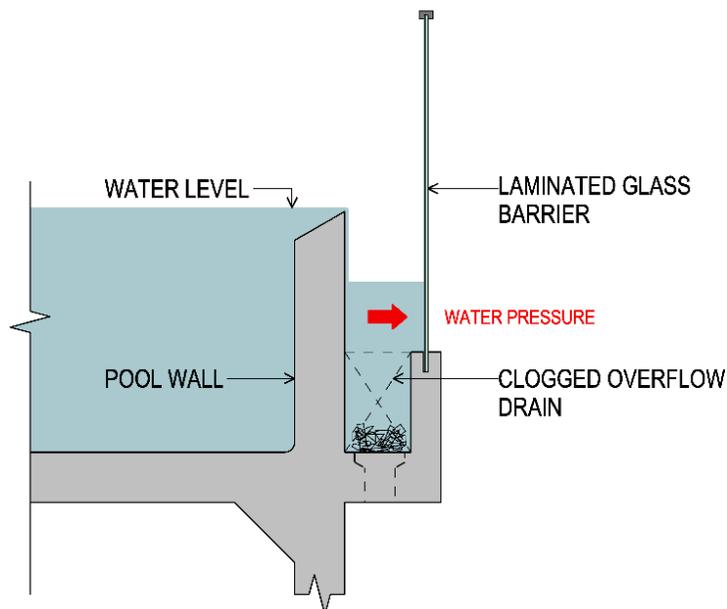
#### **Infinity Edge Pool**

2 An infinity edge pool (also known as and includes negative edge, zero edge, disappearing edge or vanishing edge pool) is a swimming or reflecting pool which produces a visual effect of water extending to the horizon, vanishing, or extending to 'infinity'. Overflowing water falls into an overflow drain that sits beneath the vanishing edge. From here, the water is collected and pumped back into the main pool.

3 In recent building plan submissions and TOP inspections, we have observed a trend of infinity edge pools with glass barriers installed on the walls of overflow drains (see Figure 1 for illustration). Some of these pools are located at height such as the rooftop of the developments.

4 While the glass barriers are designed to withstand the minimum horizontal loads as prescribed in the Approved Document to protect people from falling off the building, they are not designed to withstand unexpected loading conditions such as the build-up pressure from large volume of water retained in the drain in the event of failure of the drainage system (see Figure 1 for illustration)

5 Open overflow drains are susceptible to clogging caused by fallen tree leaves or foreign objects such as plastic bags. In some cases, the overflow drains are not easily accessible for maintenance. The maintenance worker is required to swim across the pool to access the drains along the building edge.



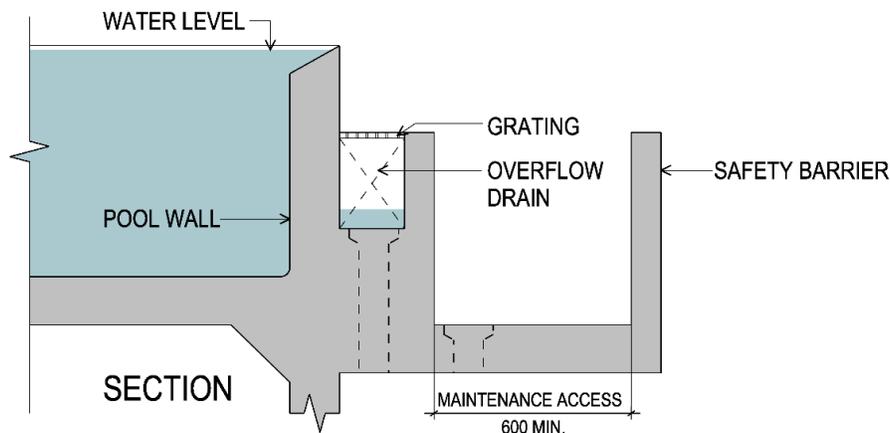
**Figure 1**

Unexpected loading condition on the glass barrier caused by the build-up of water pressure between the pool wall and glass

### **Good practices in Design, Construction and Maintenance of Infinity Edge Pools**

6 BCA recommends that as a good practice, the Qualified Person should adopt the following when designing and constructing infinity edge pools (see Figure 2 for illustration):

- a. Design the infinity pool with proper drainage and setback from the building edge;
- b. Provide sufficient outlet discharge points at regular intervals and proper grating cover for the overflow drain and for the maintenance access 'corridors' to prevent clogging due to foreign objects;
- c. Provide safe and convenient means of access to the overflow drain and maintenance access 'corridors' to facilitate ease of routine inspection and maintenance;
- d. Carry out risk assessment and evaluate the need to design the safety barrier for additional loading conditions due to the build up of water pressure in any circumstances; and
- e. Provide preventive measures to stop inflatable floats on which users could lie on from falling off the edge of the pool



**Figure 2**  
Provision of overflow drain and maintenance access

7 Where glass barriers are used, the QP for structural plan (QP (ST)) for the glass barrier is reminded that it is a mandatory requirement to design the reinforcement for the kerb or nib supporting the fixings of the glass barriers to sustain the design imposed loads of the barriers. The casting sequence and details of reinforcement for the kerb or nib supporting the glass barriers are to be clearly indicated in the structural drawing.

**For Clarifications**

8 We would appreciate it if you could convey the contents of this letter to the members of your organisation. For further clarifications, please contact the following officers. Thank you.

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Yours faithfully

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