

- 1. At velocities in excess of 2.0 m/s, the stability of foundations and poles can be affected by scour. Also, grass and earth surfaces begin to scour and can become rough and unstable
- 2. The velocity of floodwaters passing between buildings can produce a hazard, which may not be apparent if only the average velocity is considered. For instance, the velocity of floodwaters in a model test has risen from an average of 1 m/ sec to 3 m/sec between houses.
- 3. Vehicle instability is initially by buoyancy.
- 4. At floodwater depths in excess of 2.0 meters and even at low velocities, there can be damage to light-framed buildings from water pressure, flotation and debris impact.
- 5. Derived from laboratory testing and flood conditions which caused damage.

Figure G1 Velocity & Depth Relationships

However, even plans with effective in-built maintenance mechanisms (such as local flood plans prepared under the guidance of the SES) cannot be guaranteed to overcome flood risk nor do they change the degree of hazard itself, ie. if they do not work effectively the level of hazard is unchanged. Maintenance of local flood plans and floodplain risk management plans is necessary to ensure that they remain appropriate in the light of future changes within the catchment and in management policies, procedures or practices.

It should be noted that evacuation measures proposed in a site specific flood plan for individual developments, which are outside the development types considered appropriate in the management plan, is **not** an appropriate measure to rectify adverse impacts, to manage the consequences of inappropriate decisions or to override the management plan. Therefore site specific flood plans (or flood emergency response plans) should not form the basis for development consent.



Depth of Flood at Site (D metres)

Note

The degree of hazard may be either -

- reduced by establishment of an effective flood evacuation procedure.
- increased if evacuation difficulties exists.

In the transition zone highlight by the median colour, the degree of hazard is dependant on site conditions and the nature of the proposed development.

EXAMPLE

If the depth of flood water is **1.2 m**

and the velocity of floodwater is 1.4 m/sec

then the provisional hazard is high

Figure G2 Provisional Hydraulic Hazard Categories

It may be necessary to increase the hydraulic hazard classification derived from Figures G1 and G2, from low to high, if there are substantial difficulties associated with the evacuation of people and their possessions. In assessing these aspects, it is necessary to consider the difficulty of the conditions that could be expected if an extreme flood occurred.

Figure G2 is presented as a tool to assist in the development of hazard categories in floodplain risk management plans. It is not appropriate to use Figure G2 to determine the hazard implications of individual developments. Flood hazard, like flood hydraulics, needs to be assessed on an integrated and strategic basis across the entire flood prone area, not on an isolated basis associated with individual developments.