

8 Acceptability of Development

8.1 1% Fluvial & 0.5% Tidal event outlines

The Environment Agency advise that developments should be flood free during the 1% (1 in 100) fluvial flood and the 0.5% (1 in 200) tidal flood. The flood combined outlines for these events from the 2D model are presented in Figure 8.1 to

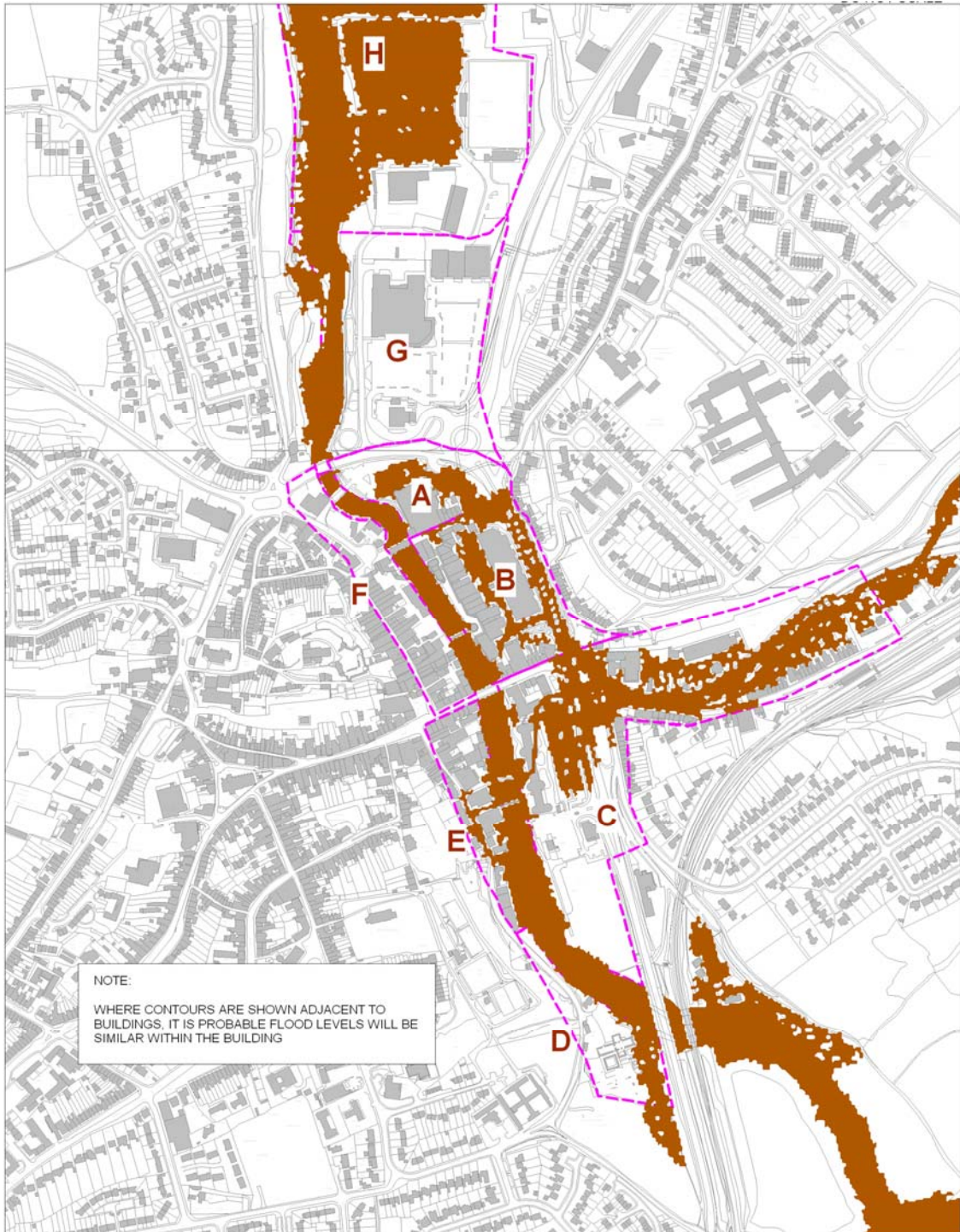
Figure 8.3.

It is worth noting that the contours are based on interpolation from a 5metre grid of results in the model. Individual development sites close to the flood outline may need to be re-assessed based on more detailed topographic survey, as individual sites are identified. This would give confidence to any proposed planning application with respect to compliance with indicative guidance in TAN15.

8.1.1 Existing situation - base year 2007

Under the existing situation, in the base year, the only areas to remain flood free during the 1% fluvial event and the 0.5% tidal flood events are Areas F, the right bank and Area G the Morrison's supermarket. The combined flood outline for the base year is presented in Figure 8.1 below. All other areas are affected by either the 1% fluvial or the 0.5% tidal flood events and as such, currently fail the indicative guidance given in TAN15.

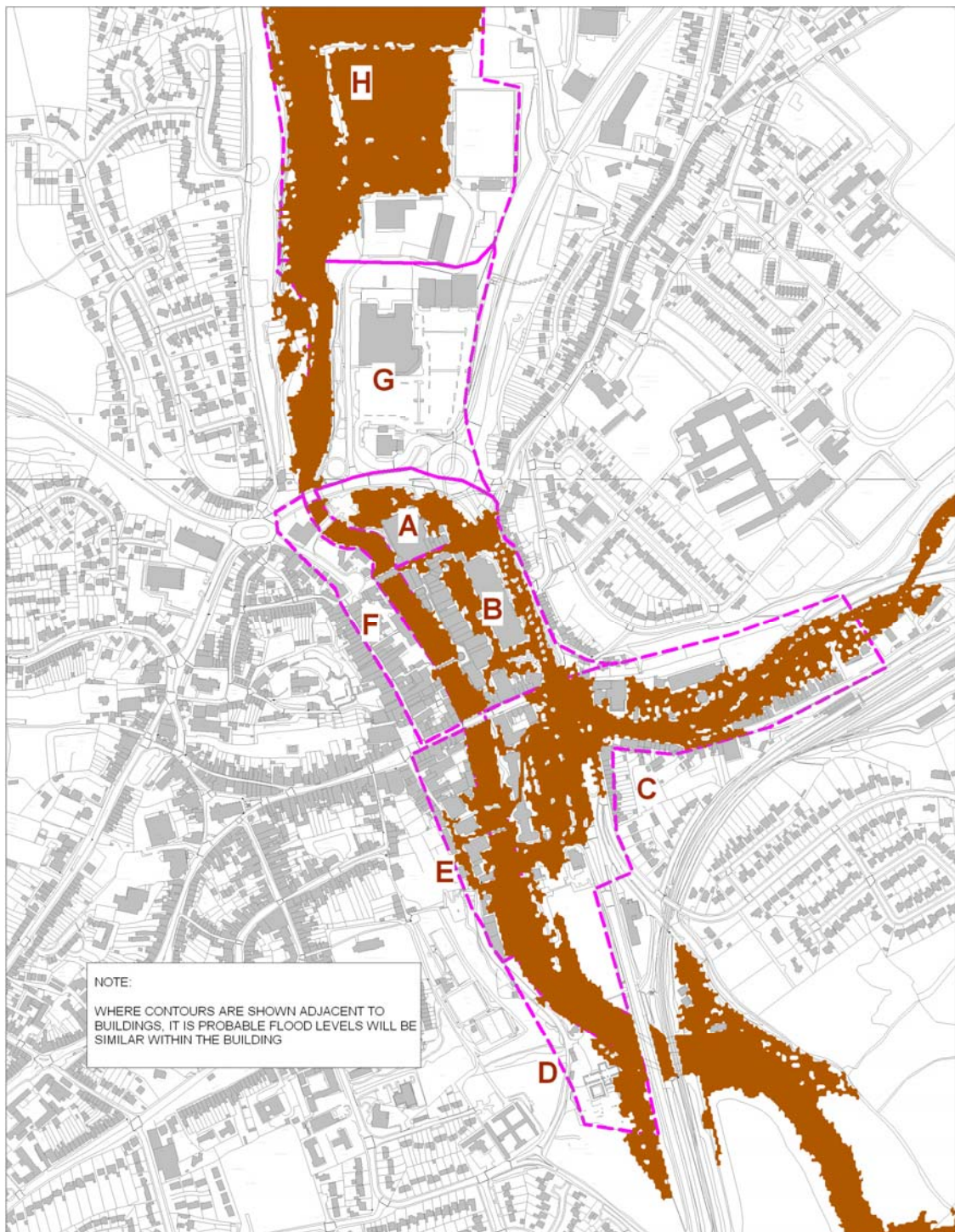
Figure 8.1 Base year (2007)- 1% fluvial & 0.5% tidal flood outline 2D model



8.1.2 Scenario 50 year development lifetime - 2057

Over a fifty year development lifetime, the effect of climate change on the 1% (1 in 100) chance fluvial flow has been accounted for by increasing the magnitude of the current 1% fluvial flow by 20%. Sea level rise has been applied over this 50 year period as detailed in Table 5.3, Section 5.2. The combined flood outline for the fluvial and tidal events is presented in Figure 8.2.

Figure 8.2 50 year scenario (2057) - 1% fluvial & 0.5% tidal flood outline 2D model

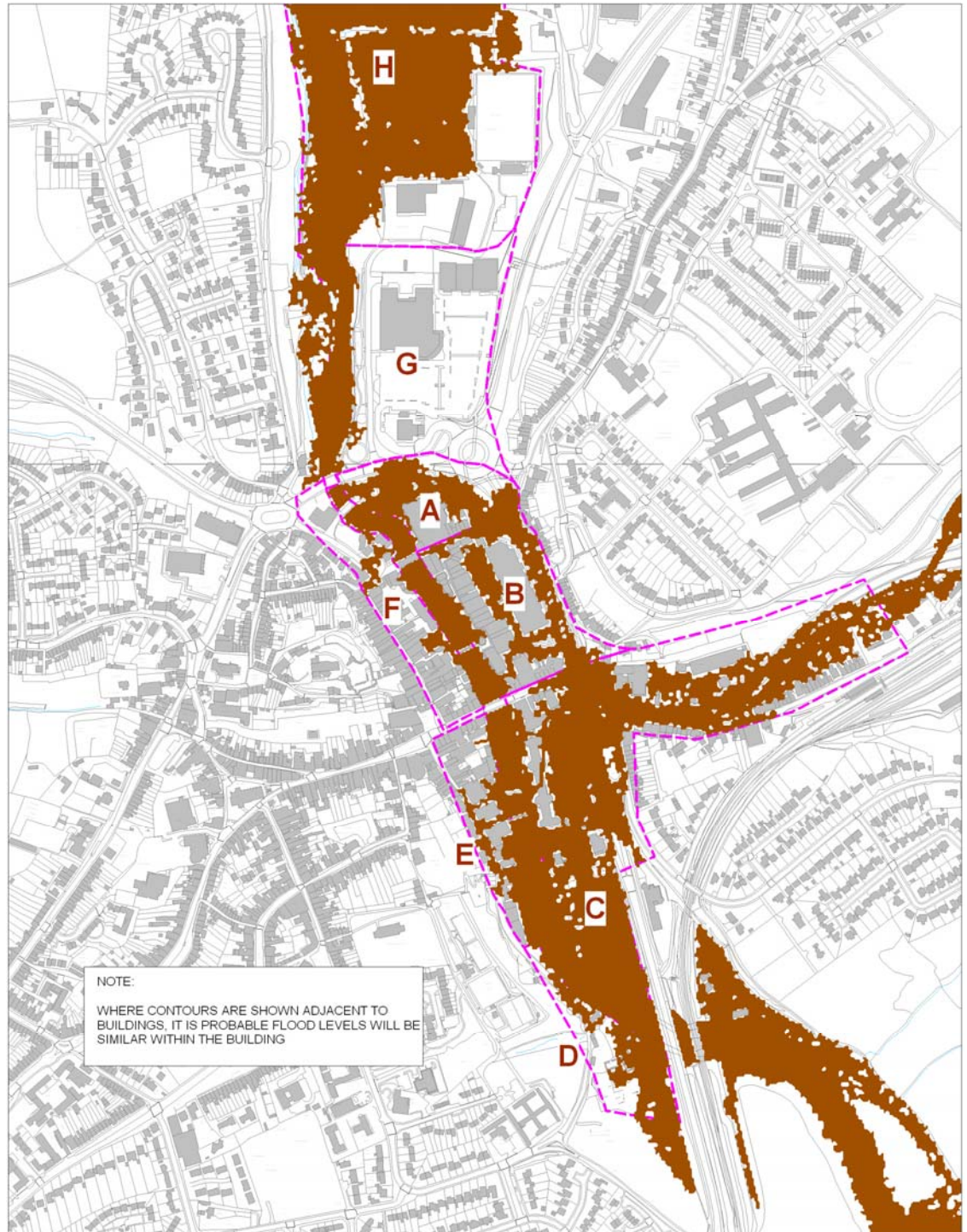


In terms of the sub areas of the town (Areas A to H) there is little change. Comparison with the base year case shows that the County Hall would be completely surrounded under this scenario. Individual development sites will need to be assessed, when they are known, for compliance or failure of the TAN15 indicative guidance with respect to remaining flood free for these flood events.

8.1.3 Scenario 100 year development lifetime - 2107

If a 100 year development lifetime is taken into account, the impact of sea level rise has a significant impact on the extent of the 0.5% tide, such that the right bank river walls are overtopped flooding the right bank of the Area F.

Figure 8.3 100 year scenario (2107) - 1% fluvial & 0.5% tidal flood outline 2D model



8.2 Acceptability Criteria for 0.1% Fluvial & Tidal events

The flood consequence assessment must cover the lifetime of the development. To cover residential and industrial/ commercial development options, the acceptability criteria have been assessed for the areas in the base year, over 50 years (2057) and 100 years (2107).

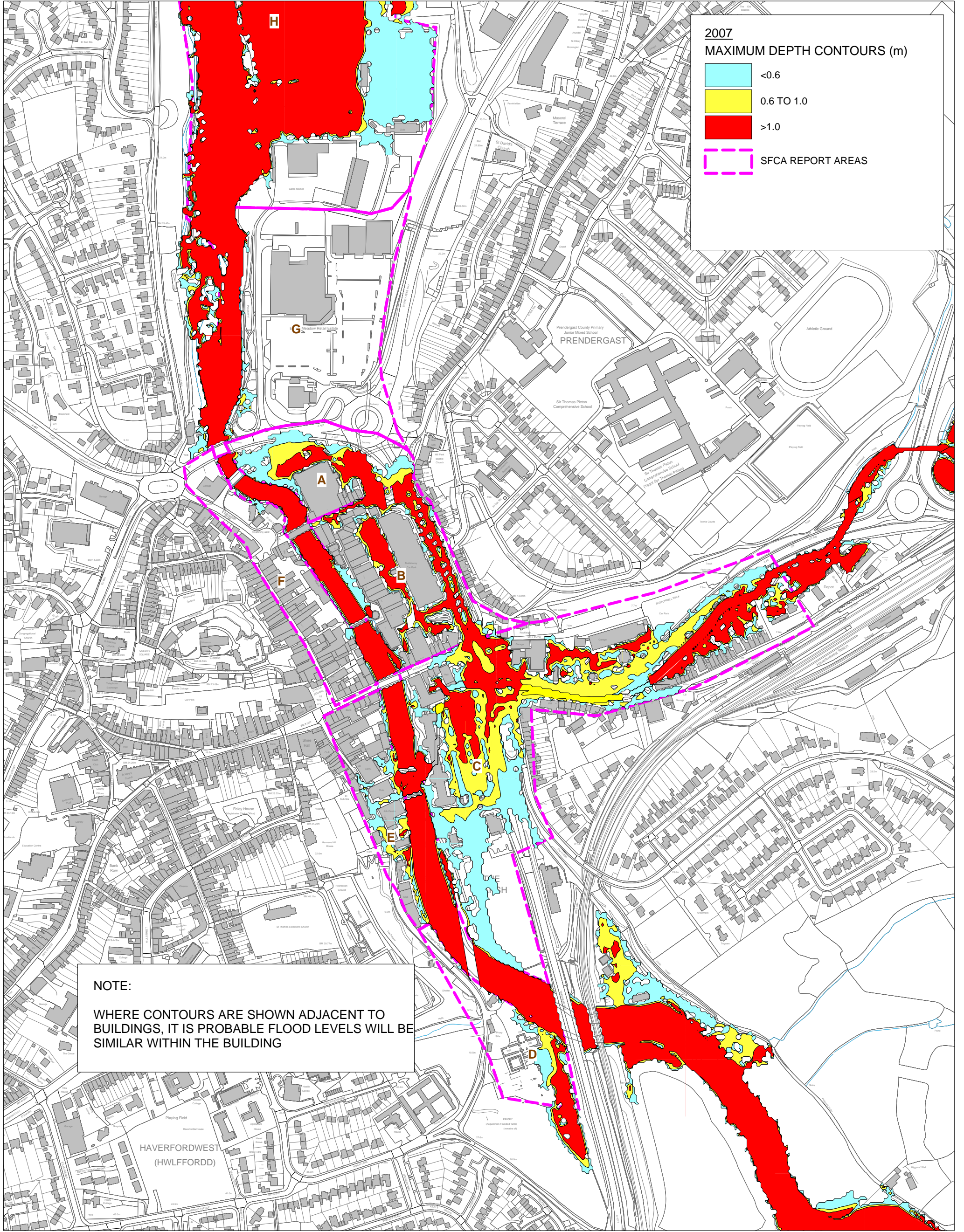
Each area of the town is assessed in turn as to whether or not it complies with the acceptability criteria for maximum depth of flooding and flow velocity for 0.1% annual chance flood event, without any mitigation of the flood risk i.e. the existing situation.

Where part of one of the Areas, A to H, fails the criteria, this is indicated as a "PART FAIL". Where the proportion of the area affected is small or can be envisaged to be easily managed, a score of OK is assigned to the area as a whole.

Note, that for the 0.1% annual chance events, the scoring in the tables below has been undertaken such that no account is taken as to whether the Areas remain flood free for the 1% (1 in 100) fluvial or 0.5% (1 in 200) tidal events. Mitigation will be required to ensure that this is met if the site is to be developed.

8.2.1 0.1% Tidal & Fluvial Flood Depth and Velocity Contour Maps

Contours of maximum velocity and maximum depth have been generated based on interpolation of 5m grid results from the 2D model. These are presented in Figure 8.4 to Figure 8.9, covering the existing situation in the base year (2007), a 50 year development life (2057) and a 100year development life (2107).



2007
MAXIMUM DEPTH CONTOURS (m)

■	<0.6
■	0.6 TO 1.0
■	>1.0

- - - SFCA REPORT AREAS

NOTE:
 WHERE CONTOURS ARE SHOWN ADJACENT TO BUILDINGS, IT IS PROBABLE FLOOD LEVELS WILL BE SIMILAR WITHIN THE BUILDING

A3

