40 The Ridgeway - Cheshire East Council

2D Flood Modelling

Model Details

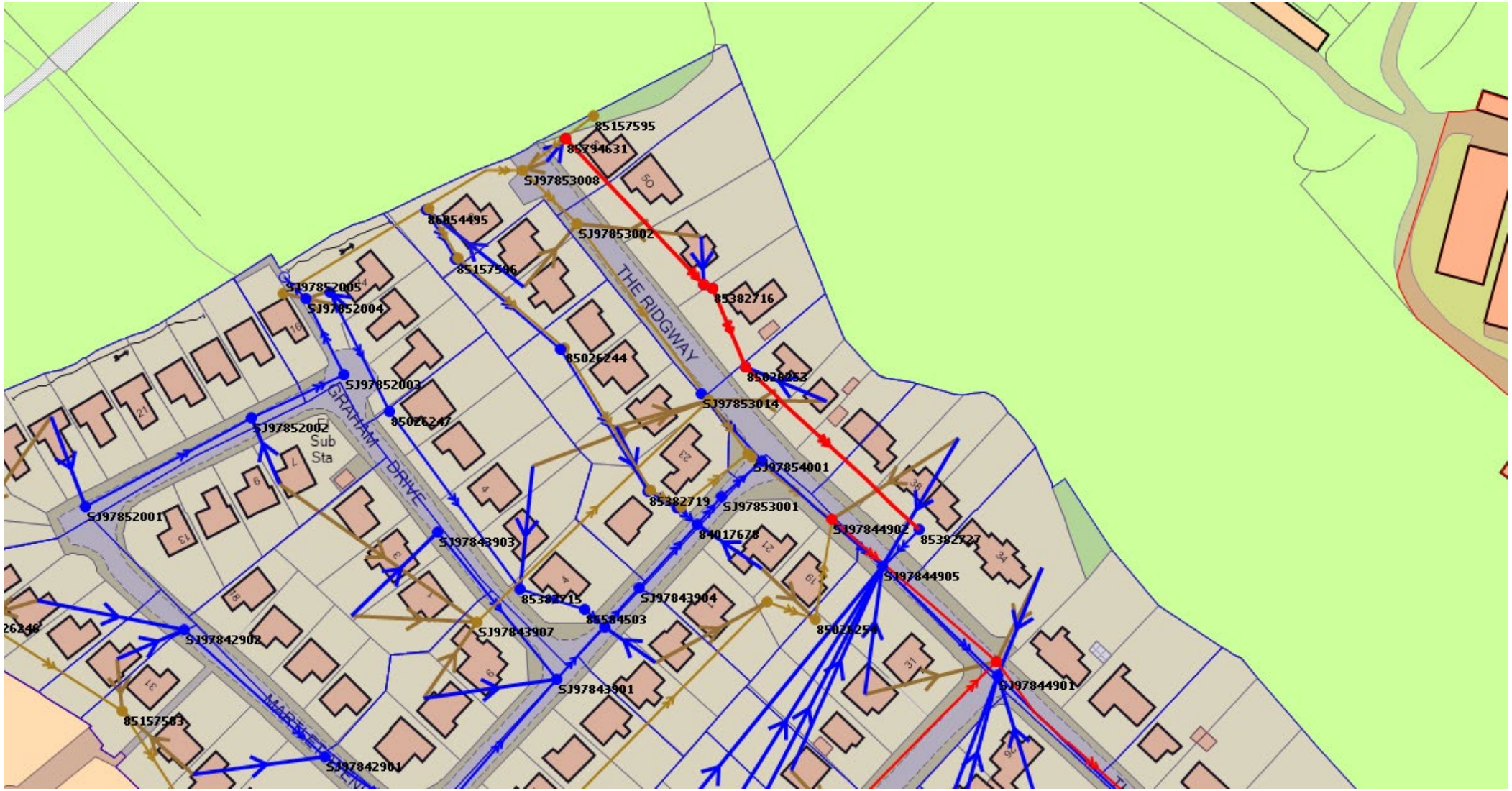
- Whaley bridge WWTW 2021 Model Maintenance Performance Dec 2021 model was used during the investigation.
- The model was last verified in 2021, no flow monitors were installed on the surface water system, IAS was carried out on all surrounding subcatchment. Closest monitor on the combined system is 340m downstream
- Medium confidence in the model.

Model Updates

- SW System to the north of the Ridgeway removed and roof area from the storm subcatchment draining to this system was applied to foul subcatchment.
- A detailed 2d zone was created around the study area.
- Walls were added to the model with information collected during the topography survey.
- Subcatchment boundaries altered to allow 2d rainfall to be applied directly to the road.
- Contributing road area removed from the Subcatchments covering Marlet Avenue and The Ridgeway as rainfall was applied to the model via the 2d mesh.

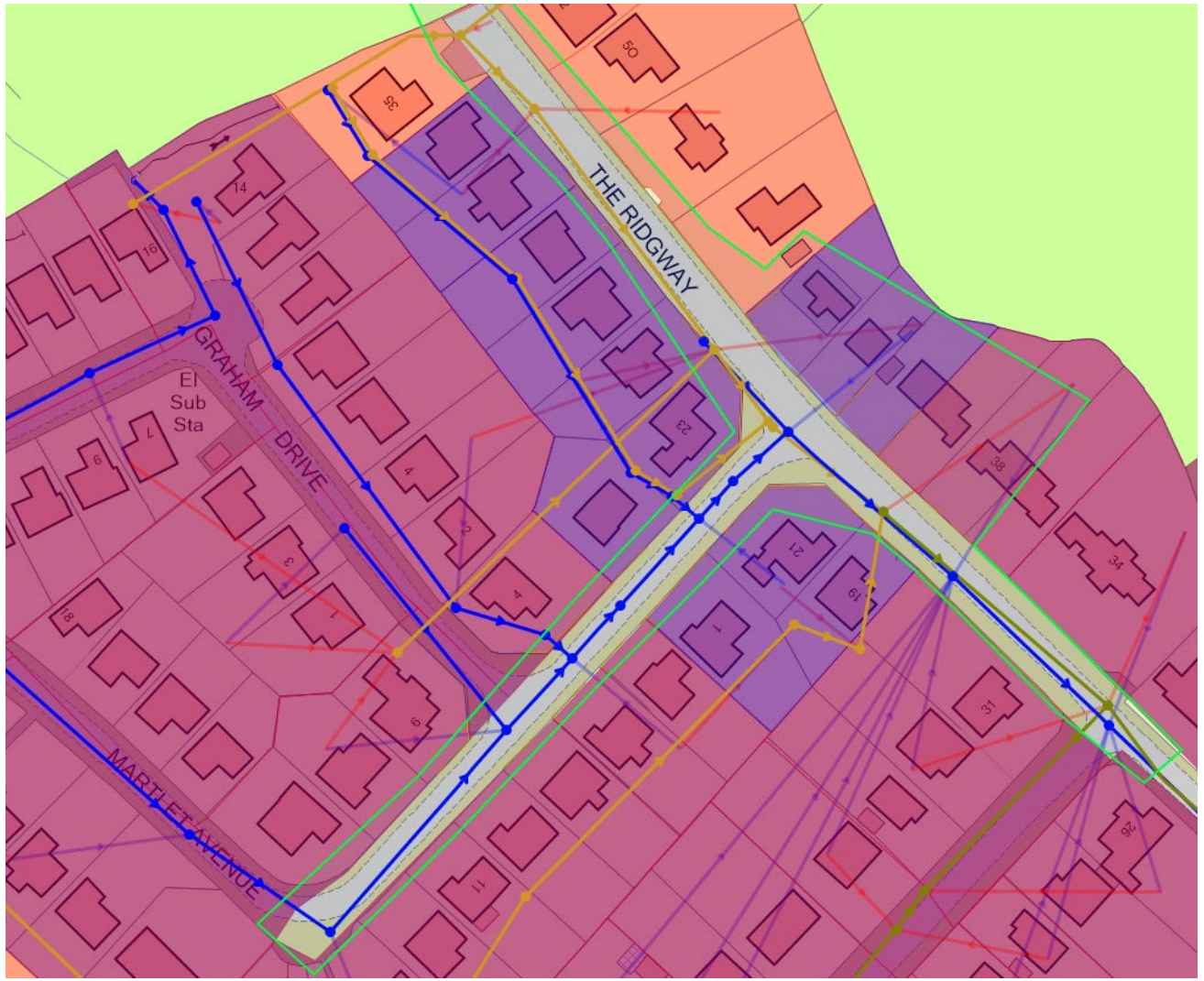
Model updates

Surface water sewer highlighted in red doesn't exist and was removed from the model



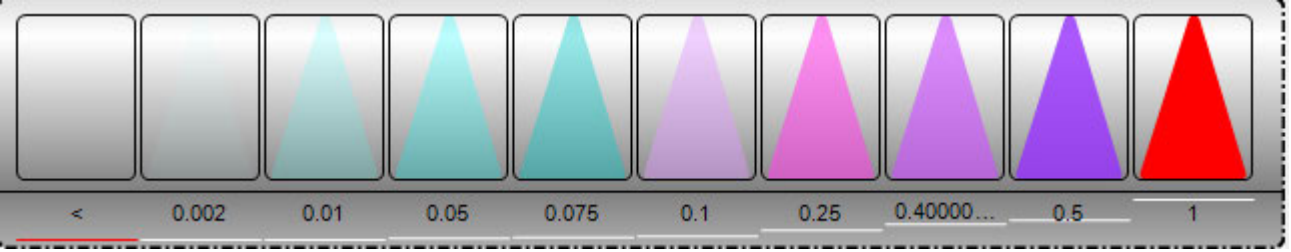
Model updates

Rainfall applied to road (2d mesh) area below to create runoff

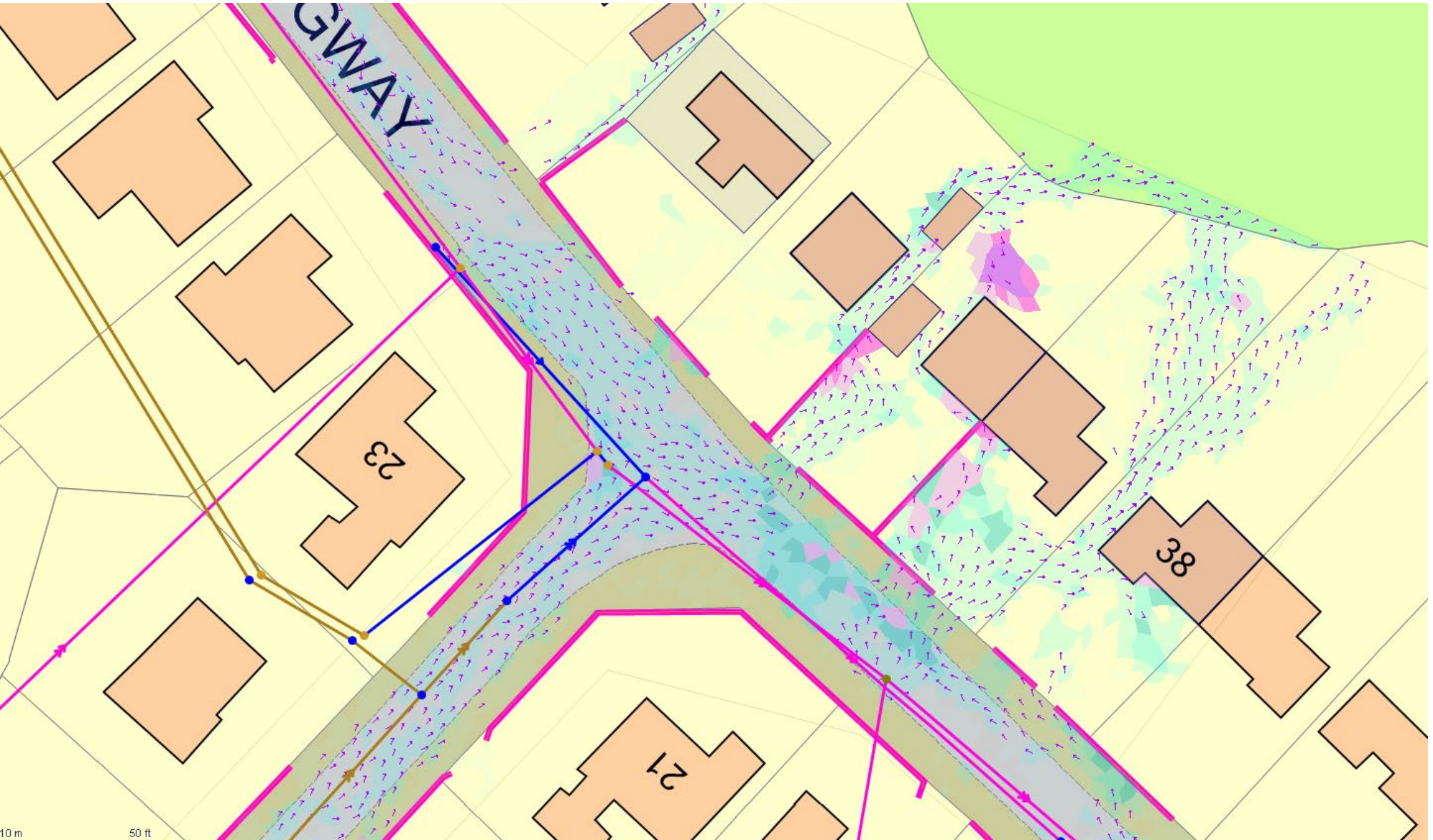


No Flood Gates

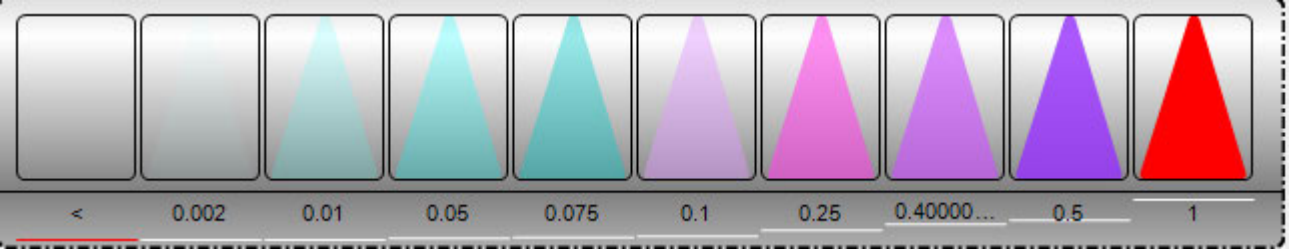
Baseline



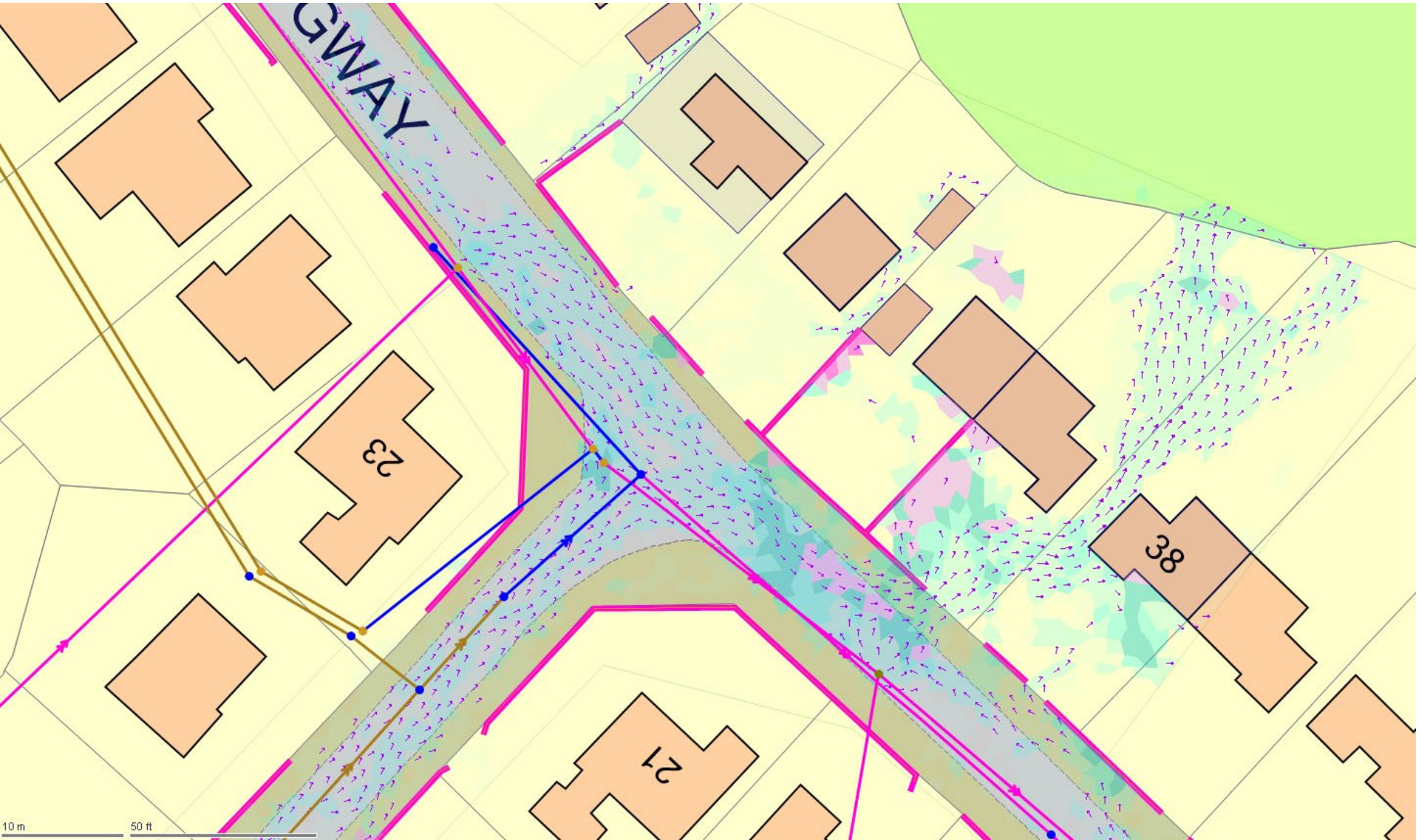
Worst Case Flooding 30 year



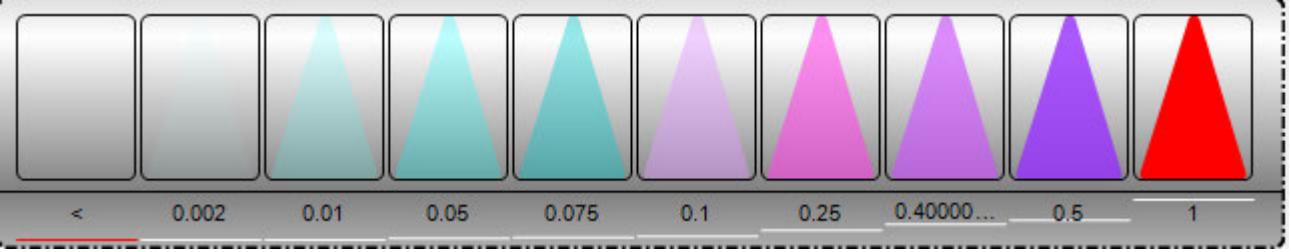
Flood Gates on Property 42



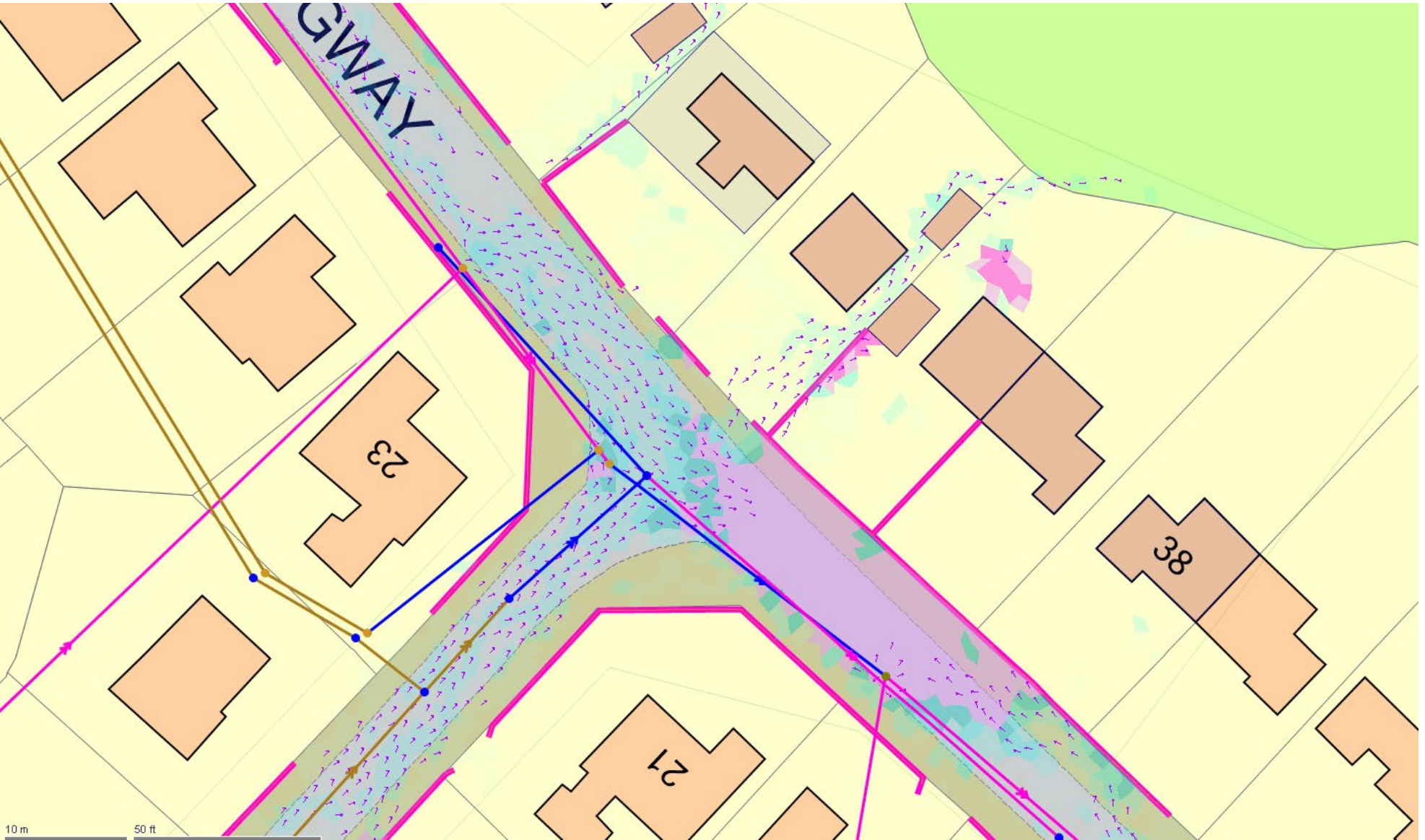
Worst Case Flooding 30 year



Flood Gates 38,40 and 42

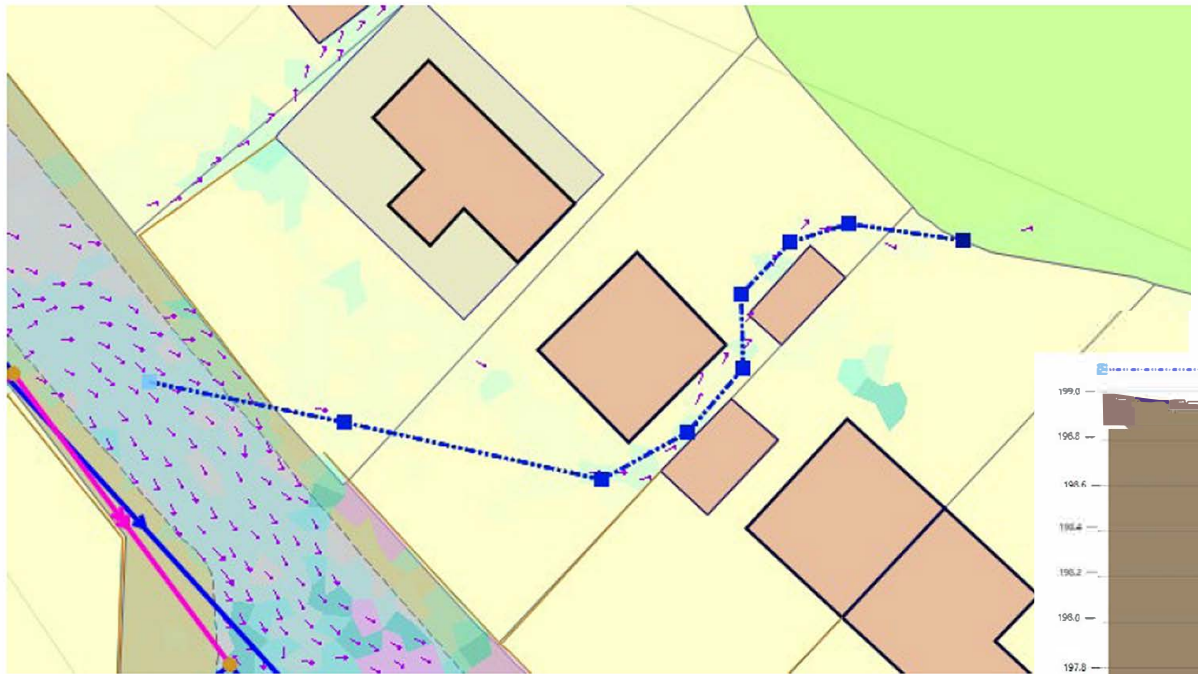


Worst Case Flooding 30 year



Note : Flooding is still predicted at properties with floodgates installed.

This is due to overland flow via property boundaries – i.e. no walls / fences



Ground levels of flood path

