



ENVIRONMENTAL



FLOOD RISK



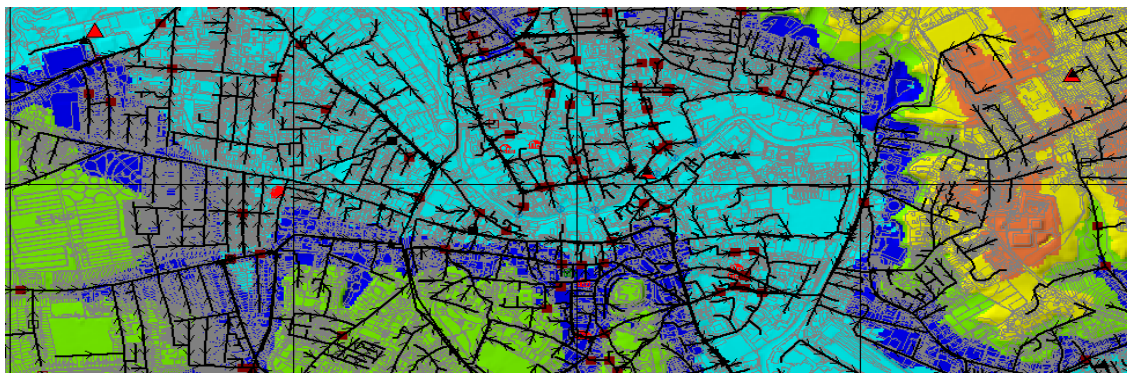
DRAINAGE



ECOLOGY

Whitlingham (Norwich) DAP

Anglian Water Services, 2007-10



Project aims

The Whitlingham DAP is comprised of the city of Norwich (population 245,000), along with 24 outlying pumped villages.

A single hydraulic model of the sewer system draining to Whitlingham STW was required by Anglian Water Services to allow the following drivers to be assessed:

- Growth
- Flooding – 54 DG5s (internal and external) and 43 other reported flooding locations
- Overflows - confirmation of CSOs and EOs in the catchment and performance analysis
- Dual manhole performance analysis
- Pollution – investigations into water quality issues in the River Wensum and River Yare

Project summary

An InfoWorks DAP model was built & verified against 26 raingauges, 177 flow monitors, 15 depth monitors and 3 River level gauges. This model contains 28,200 nodes, 126 pumping stations and 40 CSOs, and utilises the New UK and Wallingford runoff models.

Historic constraints of modelling software and computer processing capacity had prevented a single hydraulic model of the catchment being constructed. However, a total of 16 previous studies/models had been completed for individual areas. The data manuals from the older studies were reviewed and where possible key data was incorporated into the new DAP model, which was constructed from the AW raw asset data. For some of the more recent models, where the level of detail was greater and confidence higher, a model combination process was undertaken to utilise these older models, rather than construct the model from new in that area.

This DAP was interesting as LIDAR data was utilised in the model build, providing the following benefits:

- Rapid population of missing ground levels.
- Correction of existing sewer record ground levels and subsequently invert levels.
- Assessment of overland flow routes in known flooding areas.

