Oakley Green, Windsor

Case Study

Client: Wates Developments

Design Services Provided

- Modelling of pre-development fluvial (river) and surface water flood risks to improve on the accuracy of published mapping.
- Post-development fluvial and surface water flood modelling, including optioneering and mitigation, to maximise developable area.

Overview

This former greenbelt land site is located just west of Windsor. Planning has been secured to sustainably build 320 vitally needed homes along with a special educational needs school, community centre, public open spaces, and an outdoor gym.

JNP Group was employed to carry out the flood risk assessment and drainage strategy, including detailed site-specific modelling of pre- and post-development fluvial and surface water flood risks to support the outline planning application.

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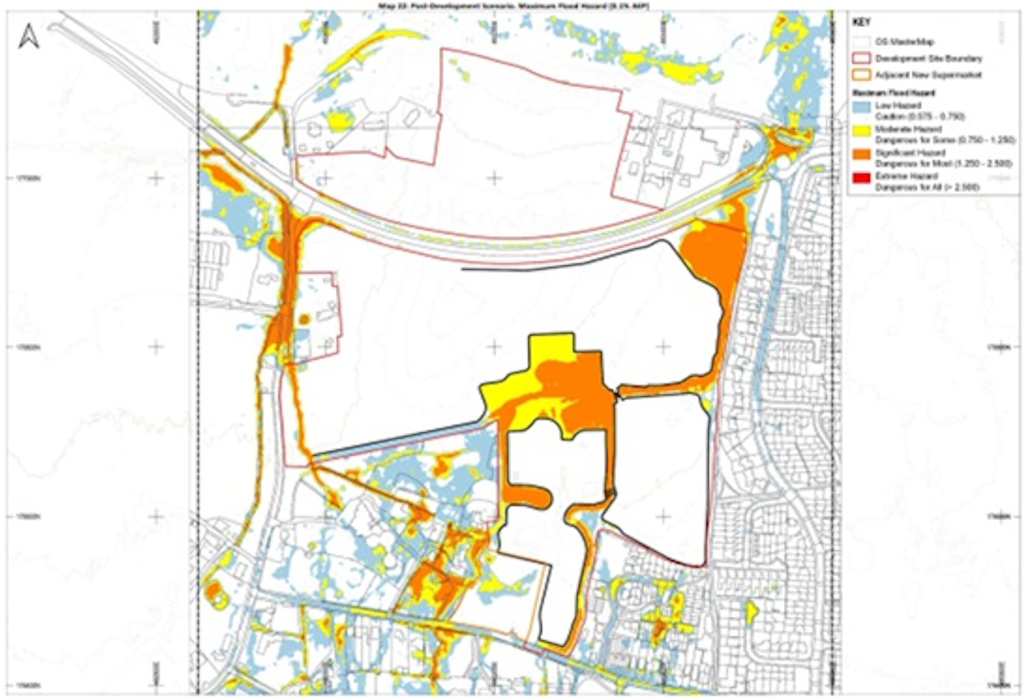
Project Solutions

In preparation for the site layout, JNP engineers accessed the readily available flood risk information. This was based on a coarse regional model, displaying a precautionary approach that lends to overestimating flood risk. Our solution was to develop detailed site-specific 1D-2D hydraulic models of the site and its surrounding areas. This enabled us to establish more accurate fluvial and surface water flood conditions to shape the master planning and devise mitigation measures.

While creating plans for the site, great attention was paid to the severe flood risk in certain areas that were overlooked by the local plan allocation. Through the development of 1D-2D hydraulic models of the post-development site, we were able to design several options that lead to the optimal solution to maximise the site's developable area to be taken forward to outline planning.

Compliance with the Environment Agency's requirements proved to be the most challenging aspect of the development plans. Through workshops and regular communication with the Environment Agency, the team were able to agree on modelling parameters and outputs, as well as dispel any objections regarding flood risk.



Case Study

Challenges

- Flood risk information is over cautious
- Maximise the Site's developable area near floodplain
- Meeting the Environment Agency's Standards

Solutions

- Utilising more accurate Fluvial and surface water levels in site specific models.
- Developing detailed hydraulic models of post-development site.
- Regular consultations with the Environment Agency to agree design parameters.

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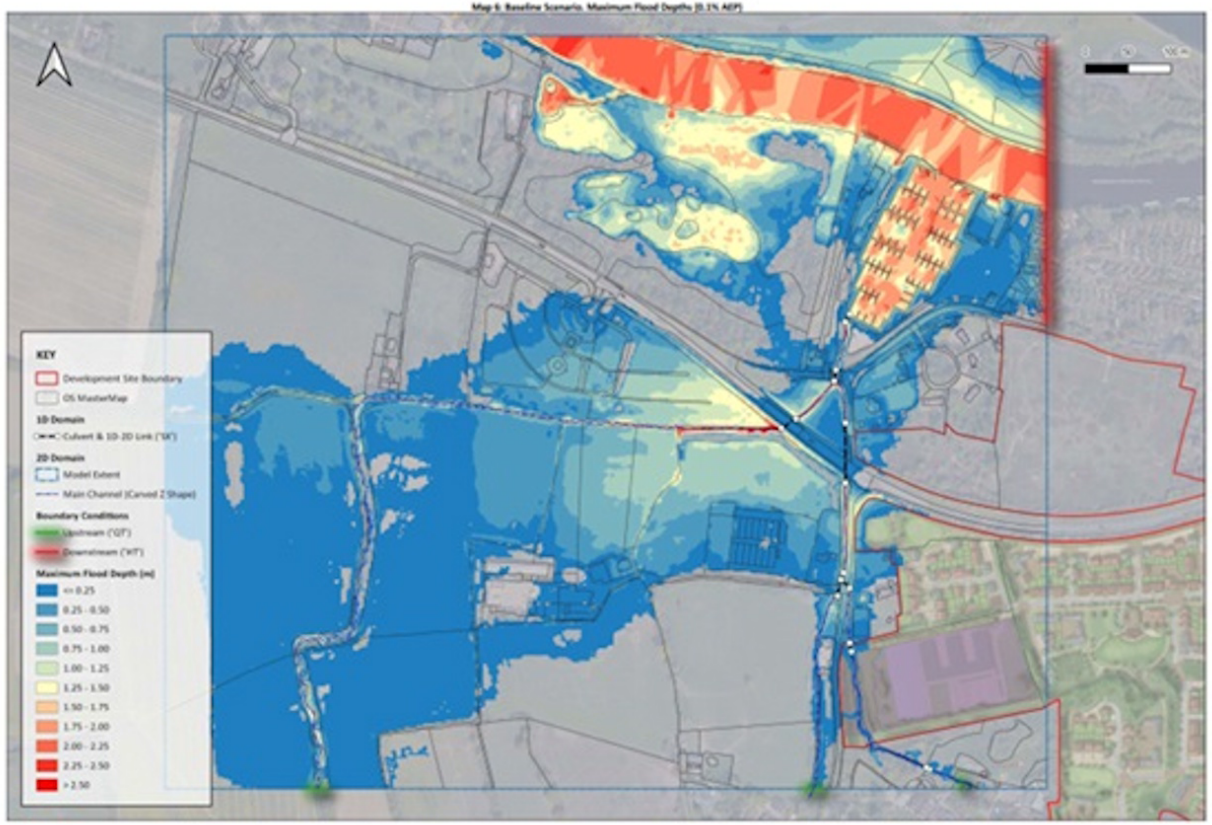
Project Summary

JNP Group conducted a comprehensive flood risk assessment and drainage strategy for a new 320-home development, which also includes a SEN school, community centre, open spaces, and an outdoor gym. JNP developed detailed site-specific 1D-2D hydraulic models to accurately assess both pre- and post-development flood risks. Despite challenges in meeting the Environment Agency's strict requirements, the team successfully collaborated on regular consultations to gain approval, ensuring the development could proceed safely and sustainably.



JNP Group Project Team

Project Manager: Anthony McNevin

Project Team: Rodrigo Magno

Client Feedback

"Good news chaps, the Environment Agency objection is gone! Thanks for all your hard work on this one. The Agency made it more difficult than it needed to be, but we got there in the end."