

# Hydrology



## Water management and quality

Hydrological modelling (water movement and flooding) has been undertaken to inform site design and surface water management.

The project has been designed to ensure there are no negative off-site flood impacts, and that electrical infrastructure is sufficiently clear of on-site floodwater.

A Flood Impact Assessment will accompany the planning permit application. Separately, approval will be required from the Glenelg Hopkins Catchment Management Authority (GHCMA).

The hydrology process began with existing conditions modelling, that found large low-lying areas of the site are subject to inundation. These results informed concept design layout updates, to avoid these areas as much as possible.

Flood modelling progressed iteratively with design layouts, to ensure that runoff is appropriately directed to on-site drainage infrastructure. Holding ponds will capture runoff, allowing sedimentation settling and filtering prior to water flowing into the site's central wetlands.

The project must meet Glenelg Shire Council's engineering and drainage standards, including no net-negative impact off-site.

Works approval is required from the Glenelg Hopkins Catchment Management Authority (CMA) and address water quality requirements.

To ensure the project addresses surface water management requirements, the following steps have been undertaken:

- Existing conditions modelling
- Post-development flood modelling
- Water quality assessment
- Functional drainage concept design

A Flood Impact Assessment will accompany the planning permit application.

The central wetlands will be fenced to exclude stock and replanted with appropriate vegetation, seeking to improve overall ecology and hydrology.

We have engaged with Glenelg Shire Council's engineering unit to ensure that drainage infrastructure and run-off control is appropriate.



**Hydrology (continued)**



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**Flood level afflux, developed vs existing conditions.**

Notably, there are overall benefits to flooding off-site, with post-development flood levels being lowered on nearby land.



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