



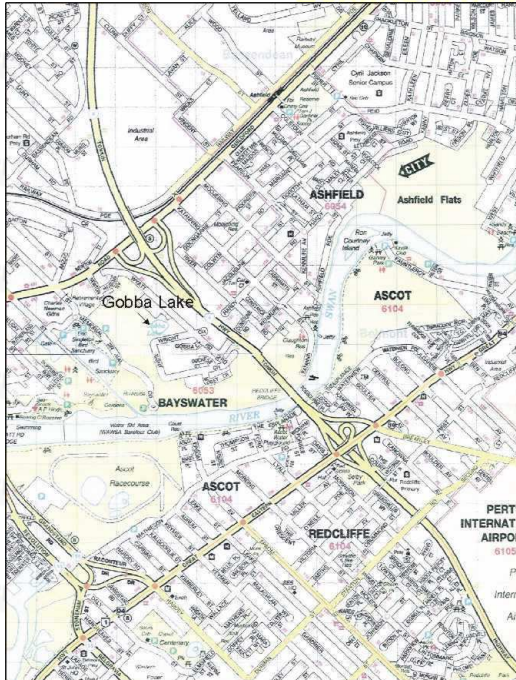
PROJECTS

HYDROLOGY

HydroSol SW 12

City of Bayswater:

Hydrological review of the proposed redesign of Lake Gobba



A hydrological and hydrogeological review was undertaken of proposals to redesign the Lake Gobba artificial wetland. The site was formed within a former clay extraction quarry on the Swan River floodplain at the junction between sandy and silty alluvium and the outcropping Bassendean Sand. The lake receives run-in from the Water Corporation's Stanmuir Road Main Drain, and is an expression of the local water table. Discharge occurs to the City of Bayswater's Southern Main Drain, which empties into the Wright Crescent Swan River foreshore floodplain.

The proposed redesign includes low gradient irregular margins to form shallow inlets and resting banks for birds, an island or islands with low relief, rock piles as protruding habitats for cormorants and tortoises, logs on the lake margins as roosting sites, native revegetation and the separation of public access with walk trails, gazebos and dog fences.



Water quality data was reviewed and compared to applicable guidelines values. Acidity may represent natural levels, while nutrients may be present from road run-off and potential groundwater contamination discharge from an adjacent former fertiliser plant.

Stakeholder consultation was undertaken with the Department of Water, Water Corporation, Main Roads WA, the City of Bayswater, local civil

engineers and the Department of Environment and Conservation, to elicit items of concern and preferred input.

Potential impacts from the site redevelopment were identified, including short-term sediment disturbance, increased nutrient run-in, increased volumetric run-in from surrounding urban development and increased outflow volume from reduced bottom gradients.

Recommendations were made for possible alteration of the design to off-set the identified impacts, including increasing the inflow pipe to accommodate a 1 in 100 year storm and development and implementation of a surface water monitoring program.

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