



## PROJECTS

### HYDROLOGY

#### Assessment of leakage contribution from Surface water Compensating dams to groundwater, Perth airport.

Sw13



A series of five surface water compensating dams are located within the former Forrestfield marshalling yards, located along the Perth airport eastern boundary. Part of the marshalling yard has been redeveloped as the Access Park industrial estate. The compensating dams receive run-off from the hills suburb of Kalamunda, together with Forrestfield and High Wycombe.



Compensating dams in the north of Access park (dams 5 and 6) discharge into the Northern Main Drain, while dams 9 and 10 discharge into the Southern Main Drain, which together form the main groundwater level control structures across Perth airport.



A water balance approach was used to estimate the upper and lower bound leakage rates from the dams as a function of surface water run-in. It was estimated that between 13% and 53% of run-in may be lost via infiltration as groundwater recharge, which is likely to contribute to a locally elevated water table. This data was used to assist in the calibration of a numerical model for the airport.



HydroSolutions Pty Ltd  
U14/14 Whyalla Street  
Willetton  
Western Australia 6155  
Tel: (+61 8) 9457 5448  
Fax: (+61 8) 9457 4293  
Mob: 0403 021 533

E-mail: [stuart.jeffries@hydrosolutions.com.au](mailto:stuart.jeffries@hydrosolutions.com.au)  
Website: [www.hydrosolutions.com.au](http://www.hydrosolutions.com.au)