



Government of **Western Australia**
Department of **Water**

Your ref:

Our ref: WT2743 v2

SwanDWMP_Erratum_Letter.doc

Enquiries: Peter Muirden (6364 6925)

Revision: Swan urban growth corridor drainage and water management plan

The Department of Water has issued this revision to notify all stakeholders of changes to the drainage and water management plan (DWMP) for the Swan urban growth corridor.

This revision impacts data produced in tables 6.1, 6.2 and 6.3 and the flood levels in the long sections of the document.

An incorrect version (25% higher) of the 100 year 36 hour ARI rainfall pattern was used in the modelling undertaken by GHD as part of the development of the DWMP. This has resulted in 100 year ARI flow rates that are higher than those of the correct rainfall event.

The modelling has now been re-run with the correct rainfall data pattern resulting in reductions of the 100 year ARI flow rates and required sub catchment storage volumes. The 5 year ARI event results are unaffected by the revision and remain unchanged.

What are the potential implications for development?

There are two key impacts on proposed developments that may result from this revision:

1. Less land required for flood detention within public open space provisions.
2. Less imported fill required to provide flood protection to new properties and infrastructure.

The reported subcatchment peak flows in table 6.1 have not changed. The reduced rainfall intensity in the 100 year 36 hour ARI event reduces the volume of runoff generated within the catchment. However, the peak flow discharging from a particular subcatchment into the system is controlled by the available capacity within that system at that location.

Table 6.2 demonstrates reductions in the peak flow rates. Detention volumes required to maintain the required peak flow rates have reduced significantly in some cases, due to the reduction in volume of runoff generated. With less runoff volume entering the system from each subcatchment, the resulting flow within the downstream system is reduced. In addition the peak water level within downstream drains and waterways has been reduced. The change in peak water level is minor for waterways that have a broad, flat floodplain. The changes can be more substantial immediately upstream of constraints such as road crossings and narrow drain sections.

Table 6.3 provides new predicted top water levels within wetlands.

The updated tables (6.1, 6.2 and 6.3) are attached to this letter. The longitudinal sections will be posted on the department's website shortly along with the updated *Swan urban growth corridor drainage and water management plan*: refer

<http://www.water.wa.gov.au/Waterways+health/Stormwater+and+drainage>

To discuss aspects of the revision further, please contact Acting Urban Drainage Planning Section Manager Peter Muirden (08 6364 6925 or peter.muirden@water.wa.gov.au).

Yours sincerely

A handwritten signature in black ink, appearing to be 'John Ruprecht', written in a cursive style.

John Ruprecht
Director - Water Resource Management
5 June 2009

Table 6-1 Subcatchment drainage planning criteria

Subcatchment ID	Subcatchment peak discharge flow (m ³ /s)			detention volume (m ³)		
	Subdivisional Storage Basins:	area (ha)	5-year	100-year	5-year	100-year
Aa		27.4	0.1	0.6	16500	12000
Ab		67.5	0.0	0.8	3100	13800
Ac		25.5	0.1	0.6	2200	5500
Ad slc		228.5	0.1	0.9	24800	60100
Ad wc			0.3	0.6		
Af		121.8	0.2	1.4	7800	14400
Ag		103.6	0.2	1.5	12000	12900
WSEa		77.0	0.1	0.7	3700	7700
WSEb		108.9	0.1	0.8	10100	16300
WSEc		39.3	0.1	0.4	4300	9000
WSEd		43.8	0.2	0.7	8200	10700
WESchool		14.6	0.0	0.1	3600	9400
CWa		34.9	0.1	1.2	4200	5200
CWb		36.1	0.1	1.2	2400	4600
CWc		19.4	0.1	0.4	1500	2600
CWd		25.5	0.1	0.4	2600	4700
CEa		23.3	0.1	0.8	1200	2200
CEb		22.7	0.3	2.1	1000	2700
CEc		33.3	0.2	1.3	1800	2700
WSWa		24.2	0.0	0.4	3500	6500
WSWb		72.1	0.1	1.7	5500	12600
WSWc		67.0	0.1	1.9	9500	20700
WSWd		24.0	0.1	0.3	800	2300
WPSa		49.8	0.0	0.2		
WPSb		137.4	0.1	0.2		
WPSc		72.9	0.1	0.1		
WPSd		49.1	0.0	0.2		

Detention volumes are not presented for Whiteman Park South – development of this area is not anticipated within the next 10 years.

Table 6-2 Flows, levels and floodway widths at critical locations

Location Number(Fig. A-8) and description	peak flows (m ³ /s)		peak levels (m AHD)		indicative floodway width (m)
	5 Year ARI	100 Year ARI	5 Year ARI	100 Year ARI	100 Year ARI
1. Albion - Inflow to St Leonards Creek at Park St	0.5	1.1	30.8	30.9	16
2. Albion - St Leonards Creek at Murray Rd	0.5	1.5	23.4	23.4	50-100
3. Albion - St Leonards Creek at Woolcott Ave / Murray Rd	0.1	0.3	22.0	22.1	50
4. Albion - Inflow to Wandoo Creek at Lord St	0.2	0.6	32.8	33.0	16
5. Albion - Wandoo Creek at Henley Brook Ave	0.3	0.6	20.1	20.2	32
6. Albion - Outflow to Horse Swamp north of Lord St	0.1	0.4	24.0	24.3	-
6b. Albion - Outflow to Horse Swamp south of Lord St	0.1	0.5	24.0	24.1	-
7. Albion - Wandoo Creek via Bush Forever Site	0.2	0.5	15.1	15.4	50 - overland
8. West Swan East – Bennett Brook at Malvern St	0.1	0.2	17.9	18.0	16
9. West Swan East – Bennett Brook at Malvern St	0.3	0.5	13.9	13.4	16
10. West Swan East - Outflow to Caversham at Reid Hwy	0.3	0.4	12.5	12.6	16
11. West Swan East - Outflow to Horse Swamp	0.0	0.0	21.3	21.7	-
12. Caversham East - Inflow at West Swan Rd	0.7	1.2	10.9	10.8	16
13. Caversham East - Outflow to Bennet Brook U/S Benara Rd	0.9	1.6	8.0	9.4	16
14. Caversham West - Inflow at Reid Hwy	0.2	0.4	11.7	12.6	16
15. Caversham West - Outflow to Bennet Brook U/S Benara Rd	0.6	1.1	5.8	6.2	16
16. West Swan West - Outflow to Horse Swamp	0.0	0.1	21.4	21.7	50 - overland
17. West Swan West - Outflow to Bennet Brook at Reid Hwy	0.3	0.6	10.5	10.6	32
18. West Swan West - Outflow to Bennet Brook at Marshall Rd	0.1	0.1	16.1	16.6	35
19. Whiteman Pk S - Outflow to Local Authority System at Marshall Rd	0.0	0.2	23.5	24.6	40
20. Whiteman Pk S - Outflow to Local Authority System at Marshall Rd	0.1	0.2	19.2	19.3	100-200
21. Whiteman Pk S - Outflow to Local Authority System at Marshall Rd	0.1	0.1	18.2	19.6	100-200

Table 6-3 Modelled top water levels for selected wetlands

Wetland Name	Predevelopment Top Water Level (m AHD)			Post-development Top Water Level (m AHD)		
	1-year ARI	5-year ARI	100-year ARI	1-year ARI	5-year ARI	100-year ARI
Horse Swamp (CCW)	21.1	21.1	21.2	21.1	21.1	21.2
Albion wetland north (REW)	28.1	28.2	28.5	28.1	28.2	28.6
Albion wetland south (REW)	26.1	26.1	26.2	26	26.1	26.3