



TaylorThomsonWhitting

15 January 2013

111470 PC

Fairfield City Council
PO Box 21 Fairfield
NSW 2165

Attention: David Niven

Fairfield Youth & Community Centre – Stormwater Design

Dear David,

Taylor Thomson Whitting (TTW) has revised the stormwater OSD modelling in line with the recent request from Council.

The stormwater design includes above ground on-site detention (OSD) within an area of soft landscaping to the west of the proposed Youth Leisure Centre. In the original design this OSD serves only the proposed development as the upstream catchment bypassed the storage. The basin was sized to accommodate a 100 year ARI storm event with no overflow.

Following a meeting with Council the stormwater design has been amended to divert the upstream catchment to the OSD basin. This means the total catchment of 1.9ha is now routed through the OSD basin which has led to increased water levels in the basin. The table below summarises the results for the revised design for the different average recurrence intervals (ARI's). The ponding depth is given in relation to the grated outlet pit which has a surface level of 7.6m. The overflow weir was set at a height of 8.0m with a width of 6m.

ARI	Ponding Height	Ponding Depth	Pipe Flow	Overflow
year	m	mm	l/s	l/s
100	8.05	450	207	127
50	8.00	400	202	1
20	7.93	330	201	0
10	7.85	250	198	0
5	7.78	180	193	0
2	7.71	110	188	0
1	7.67	70	123	0

The results show that there will effectively be no overflow up to the 20 year ARI storm event. In the 100 year ARI storm event there will be 250mm freeboard to the proposed Youth Leisure Centre finished floor level of 8.30m. This complies with TTW's Flood Investigation letter dated 27th February 2012 which advised that 150mm freeboard is provided from the 100 year ARI flood level for all habitable floor areas.

Prepared by:

TAYLOR THOMSON WHITTING

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APPENDIX A; Catchment Plan

APPENDIX B; Civil Plan

