

**LEGEND**  
 2000L RAINWATER TANK

**NOTE:**  
 STORMWATER PLAN PREPARED ONLY FOR THE SITE PORTION COVERED BY THIS DEVELOPMENT (3,260m<sup>2</sup>). FUTURE PROPOSALS FOR DEVELOPMENT ALONG NEIGHBOURING BOUNDARIES TO BE PART OF A SEPARATE STORMWATER MANAGEMENT PLAN.

**SUMMARY AND RESPONSE TO ASSESSABLE RULES:**  
 RELEVANT CODE AND ELEMENT: R22 SUBURBAN CORE MULTI-UNIT HOUSING DEVELOPMENT CODE.

- RULES:**
- R86** COMPLIANT. 40% REDUCTION IN POTABLE WATER DEMAND ACHIEVED.
  - R87** COMPLIANT. 1.4kL/100m<sup>2</sup> IMPERMEABLE AREA. 35% OF TOTAL AREA RETAINED FOR WATER RE-USE.
  - R88** NOT APPLICABLE. DEVELOPMENT SITE < 5,000m<sup>2</sup>.
  - R89** COMPLIANT. 1 IN 5 YEAR AND 1 IN 100 YEAR PEAK FLOWS REDUCED TO PRE DEVELOPMENT LEVELS.

**POTABLE WATER DEMAND NOTES:**  
 TWO MODELS WERE USED TO DEMONSTRATE COMPLIANCE DUE TO THE DIFFERING PROPOSED METHODS OF COLLECTION AND REUSE. ASSUMPTION WERE AS FOLLOWS:  
**UNITS WITH REUSE TANKS (UNITS 1,2,3,6&9)**

- EACH UNIT TO HAVE INDIVIDUAL 2000L RETENTION TANK CONNECTED TO TOILET AND OUTSIDE TAPS.
- TANK CATCHMENT TO BE UNIT ROOFS.
- SITE AREA FOR THIS MODEL IS ROOF AREA, IRRIGATED AREA.

**UNITS WITHOUT REUSE TANKS (UNITS 4,5,7&8)**

- COMMON AREA HARD STAND PAVEMENT AND REMAINDER OF SITE AREA INCLUDED.

**TOTAL DEVELOPMENT WATER REDUCTION**

	PROPOSED	PRE2003	REDUCTION
UNITS WITH REUSE TANK (UNITS 1,2,3,6&9)	2122	4179	49.2%
UNITS WITHOUT REUSE TANK (UNITS 4,5,7&8)	2729	4179	34.7%
DEVELOPMENT TOTAL	4851	8358	42.0%

FIGURES FROM ACTPLA WATER CALCULATION SPREADSHEETS FOR MULTI-UNIT RESIDENTIAL DEVELOPMENTS

**WATER SENSITIVE URBAN DESIGN CHECKLIST**

REFERENCE: WATERWAYS, WATER SENSITIVE URBAN DESIGN GENERAL CODE. ACT PLANNING & LAND AUTHORITY (ACTPLA), JULY 2007.

<b>MAINS WATER USE - RESIDENTIAL</b>		RATING (★★★min.)
<b>PLUMBING FITTING</b>		
SHOWER HEADS	★★★★	
CLOTHES WASHING MACHINES	★★★★	
DISHWASHERS	★★★★	
TOILETS	★★★★★	
<b>LANDSCAPING</b>		
AREA OF IRRIGATED LAWN	800m <sup>2</sup>	
AREA OF IRRIGATED GARDEN BEDS	200m <sup>2</sup>	
TOTAL IRRIGATED AREA	1000m <sup>2</sup>	
AREA OF NON-IRRIGATED LAWN	400m <sup>2</sup>	
AREA OF NON-IRRIGATED GARDEN BEDS	48m <sup>2</sup>	
TOTAL NON-IRRIGATED AREA	448m <sup>2</sup>	
<b>RAINWATER STORAGE &amp; USE PROPOSED</b>		
USES FOR STORED WATER		
IRRIGATION	YES (U 1,2,3,6&9 ONLY)	
TOILET FLUSHING	YES (U 1,2,3,6&9 ONLY)	
OTHER	NO	
<b>STORMWATER MANAGEMENT</b>		
DEVELOPMENT AREA	3260m <sup>2</sup>	
<b>IMPERVIOUS AREA - ROOF</b>		
ROOF AREA CONNECTED TO RAINWATER STORAGE	626m <sup>2</sup>	
ROOF AREA NOT CONNECTED TO RAINWATER STORAGE	625m <sup>2</sup>	
TOTAL	1251m <sup>2</sup>	
<b>IMPERVIOUS AREA - PAVING</b>		
HARD PAVED AREAS	491m <sup>2</sup>	
PERMEABLE/POROUS PAVING	0m <sup>2</sup>	
TOTAL	491m <sup>2</sup>	
TOTAL IMPERVIOUS AREAS WITH 50% REDUCTION OF PERMEABLE/POROUS PAVING	1742.0m <sup>2</sup>	
<b>STORMWATER SITE STORAGE</b>		
SITE STORAGE REQUIREMENT, SSR = (Ai-Ai x 35%) x 1.4 / 100	8.4m <sup>3</sup> (kL)	
TYPE OF STORAGE PROPOSED		
VOLUME OF RAINWATER STORAGE	10m <sup>3</sup> (kL)	
<b>SUMMARY OF WSUD TARGETS AND ACHIEVEMENTS</b>		
	TARGET	ACHIEVED
STORMWATER SITE STORAGE	8.4m <sup>3</sup> (kL)	10m <sup>3</sup> (kL)

**LEGEND**  
 SW STORMWATER  
 SSD SUBSOIL DRAINAGE

**STRUCTURES**

EXISTING	1500 @ A1	PROPOSED
○		○
○		○
○		○
○		○
○		○
○		○
○		○
○		○
○		○

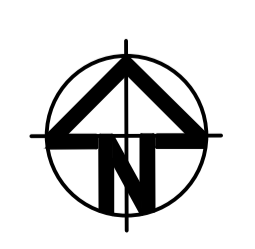
**MINIMUM INTERNAL DIMENSIONS FOR STORMWATER INLET PITS**

DEPTH TO INVERT OF OUTLET	MINIMUM INTERNAL DIMENSIONS		
	RECTANGULAR WIDTH	RECTANGULAR LENGTH	CIRCULAR DIAMETER
≤600	450	450	600
>600-900	600	600	900
>900-1200	600	900	1000
>1200	900	900	1000

AS3500.3.2 TABLE 8.2

ISSUE	DESCRIPTION	DATE	DRAWN	AMEND	DESCRIPTION	DATE	DRAWN
A	FOR DEVELOPMENT APPROVAL	30.06.14	CMO				
A	FOR REVIEW	06.06.14	CMO				

DO NOT SCALE OFF DRAWINGS. VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING WORK.  
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PROJECT TITLE  
**PROPOSED BLOCK AMALGAMATION**  
 CLIENT  
**ACT HOUSING**

DESIGNED BY  
 AM  
 CHECKED BY  
 BC  
 AUTHORISED BY  
 DATE  
 30/06/2014

DRAWING TITLE  
**STORMWATER MANAGEMENT PLAN 1**  
 PROJECT LOCATION  
**BLOCKS 20,22,23,24&25 SECTION 39, NARRABUNDAH**

SCALE  
 0m 2.5 5 7.5 10 12.5  
 1:250 @A1 1:500 @A3  
 JOB NO.  
**140028**  
 DRAWING NO.  
**C401**