TABLE 300-A: RETICULATION SHUT OFF BLOCK (SOB) DESIGN PROCESS

STEP	PROCESS STEP DESCRIPTION	NDW OR DW ONLY	DW OF DUAL WATER	KEY REFERENCES
A	Valve all offtakes from ≥DN300 mains at the tee	✓	✓	SECTION 8.2.7.2
B	Valve all offtakes from ≤DN280 mains at the splay. CWW & SEW do not require valves on DN100 offtakes from DN100 mains	✓	✓	SECTION 8.2.7.3
C	Valve the smaller main (if ≥DN100) adjacent to tapers / reducers	✓	✓	SECTION 8.2.7.5
D	Valve just after transition to sub-mains	✓	✓	MRWA-W-108
E	Valve offtakes to court bowls where there are more than 10 connections between the intersection and the valve inserted as part of Step D	✓	✓	
F	Identify all SOBs containing too many property service connections. Place as few valves as possible in these SOBs to meet this requirement, locating valves: • to create SOBs of approximately equal size. • at un-valved offtakes (if present). • at high points where practicable, especially where there is a significant elevation change in the SOB (ie: > 2m).	✓	✓	TABLE 300-B
G	Identify all SOBs containing a length between valves in excess of the limit. Place additional valves as required to reduce the distance to < the maximum.	✓	✓	TABLE 300-B
H	Identify all SOBs containing too many shut off valves. Place additional valves centrally as required to reduce the number of shut off valves.	✓	✓	TABLE 300-B
I	Place a hydrant at the end of DN100 mains in court bowls and dead ends. Ensure fire fighting hydrant is within 60m of the furthest kerb of a dead end rd.	✓ ✓	✓ ✗	MRWA-W-108
J	Place a hydrant adjacent to a valve in each SOB (typically the highest valve unless the SOB includes a dead end hydrant). Placement at the highest valve is especially important where there is a significant rise in the SOB. (ie: >2m difference in elevation).	✓	✓	
K	Place a hydrant at the lowest point in the SOB where the SOB has a difference in elevation >5m	✓	✓	
L	Identify where the distance between neighboring hydrants is excessive. Place as few additional hydrants as possible in the SOB to ensure that the distance between hydrants is not excessive. • additional hydrants **not** required for DW network where dual water. • locate adjacent to valve(s) where practical as a first priority. • ensure the distance between hydrants is approximately equi-distant as a second priority. • all of these hydrants shall be designated "Council Owned".	✓	✗	TABLE 300-C
M	Designate the ownership of these hydrants: • where a hydrant could be removed and the maximum spacing distance still be met, this hydrant shall be marked as "Water Agency owned". • all other hydrants shall be marked as "Council Owned".	Will be mostly Council Owned	Will probably all be Water Agency Owned	

TABLE 300-B: MAXIMUM SOB SIZES

WATER MAIN SIZE (DN)	NUMBER OF PROPERTIES CONNECTED	MAXIMUM VALVE SPACING	MAX NUMBER VALVES OF SOB
≤DN150	25 (YVW), 40 (CWW & SEW)	300 / 500m *	6
200-300	100	750m	
375	N/A	1000m	
450	N/A	1150m	8
525 / 600	N/A	1500m	
675 / 750	N/A	1900m	10
> 750	N/A	5000m #	

* 300 in urban areas, 500 in rural areas.

\# Valve spacing for larger mains shall be decided in consultation with the Water Agency.

TABLE 300-C: MAXIMUM HYDRANT SPACINGS

	WATER AGENCY	RESIDENTIAL	COMMERCIAL INDUSTRIAL	HIGH DENSITY URBAN	RURAL
CFA	CWW, SEW or YVW	200m	120m	50m	500m
MFB	CWW	120m	90m		
	SEW or YVW	200m	120m		

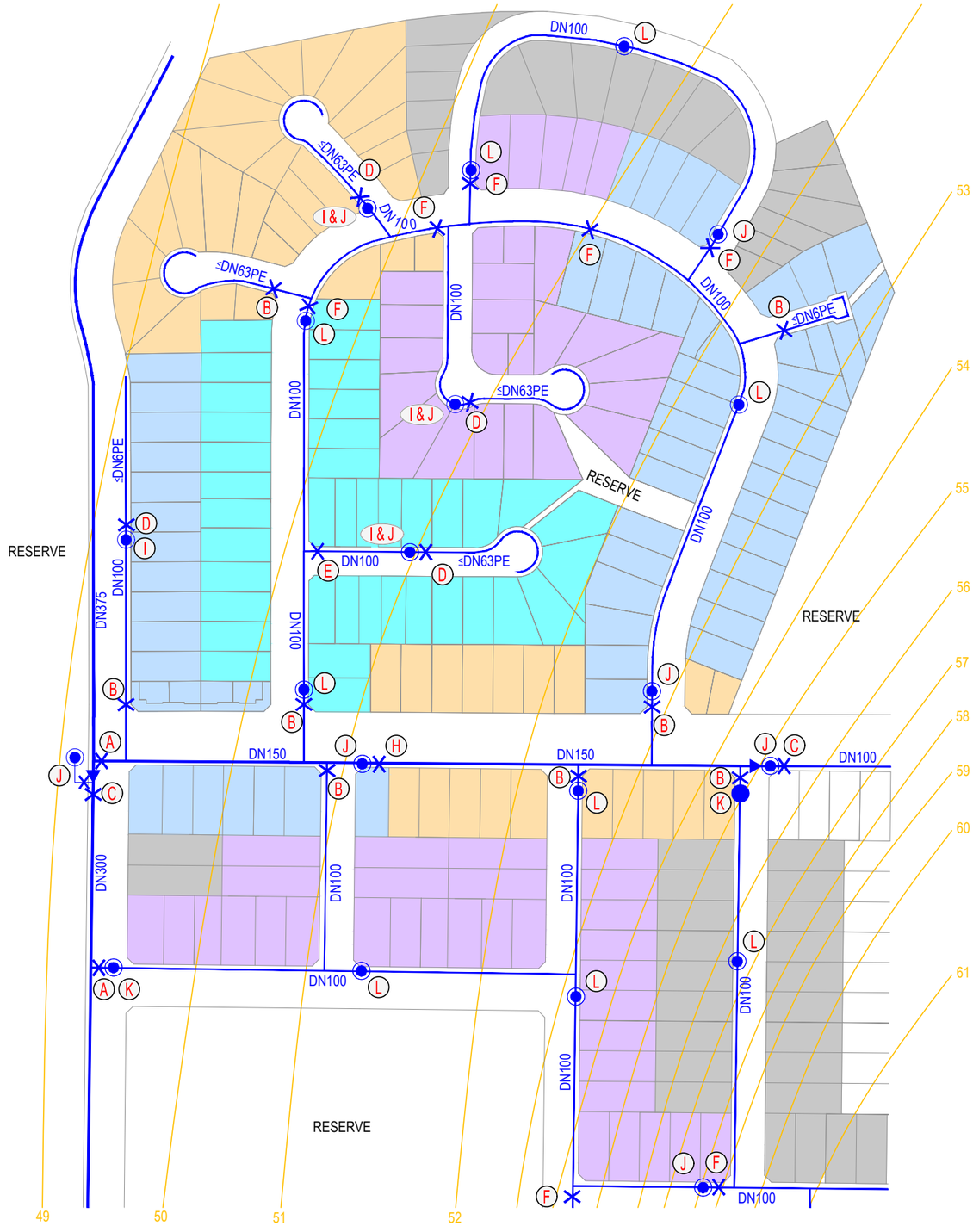
The front of every property shall be no more than the maximum hydrant spacing / 2 from the nearest hydrant.

NOTES Regarding FIGURE 300-A to C:

1. Example is suitable for:
   - DW only networks, and
   - NDW networks, however
   - For DW network of a dual water system, all hydrants installed as part of step "L" shall not be installed.
2. Colours denote unique SOB areas.
3. Uncoloured lots are part of SOBs which extend off the example area and so are incomplete.
4. Letter markings next to valves and hydrants correspond to the Step ID in Table 300-A.
5. Detailed placement of hydrants (ie: offset / inline etc) shall be as per MRWA-W-304.
6. All connections within a court bowl should be counted in with connections on the adjacent network main, (ie: where practical, court bowl SOBs shall include some network main).

SCALE: 1mm = 2m at A3

FIGURE 300-A: SOB DESIGN EXAMPLE - RELEVANT TO CWW (RESIDENTIAL MFB AREAS)
(40 lot SOB and max 120m between hydrants shown)



REV	DESCRIPTION	DATE	APPROVED
2	PUBLISHED FIRST ISSUE	1/12/16	CP / JT / RJ
1	FIRST DRAFT	01/05/16	CP / JT / RJ

	NAME	DATE
DESIGNED:	R. JAGGER	DATE:
DRAWN:	R. JAGGER	DATE:
CHECKED: ☒ CWW	B. VANOS	01/09/16
☒ SEW	C. PAXMAN	01/09/16
☒ YVW	J.TOMASI	01/09/16
APPROVED: ☒ CWW	R. CARRUTHERS	01/09/16
☒ SEW	D. O'DONOVAN	01/09/16
☒ YVW	D. ERREY	01/09/16

MELBOURNE RETAIL WATER AGENCIES

City West Water™ | South East Water | Yarra Valley Water

MRWA WATER SUPPLY STANDARDS

SHUT OFF BLOCK DESIGN
APPERTUNANCE PLACEMENT

MRWA-W-300A

ISSUED 2016 VERSION NO. 2