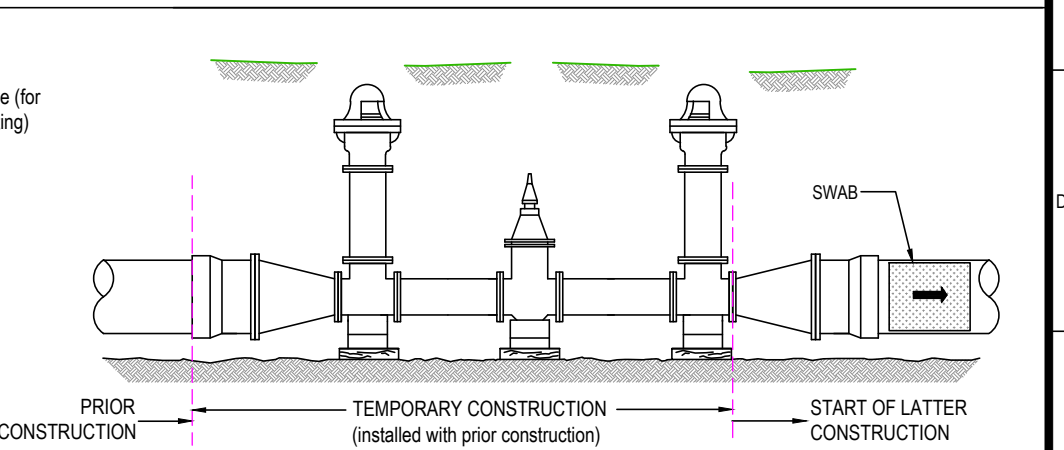
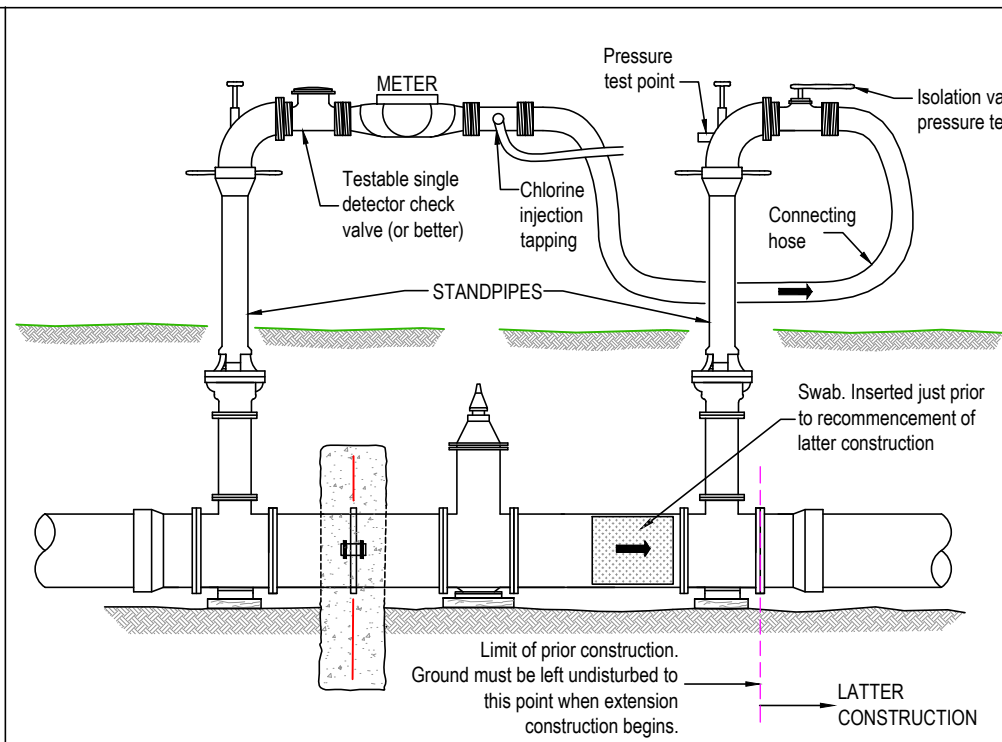


NOTES Regarding Swabbing:

- All mains ≥DN100 > 15m long shall be swabbed unless the main contains butterfly divide valves. Two swabs are required for each swabbing run on mains > DN200.
- Swabbing is to be undertaken in accordance with the swabbing plan (authorised by the superintendent) to a velocity of 0.5 to 1.0 m/s.
- Swabs are single use only, manufactured from polyurethane foam to AS2281 & AS4020.
- Swabs are to be marked with the entry point property address using a permanent marker. This is to aid swab reconciliation.
- Single swabs are acceptable for ≤DN200 mains. (DN100 & 150 swabs are under review)
- Swab discharge drinking water may only be discharged to open land where it will pond, to a tanker truck or to a storm water system which has adequate silt containment and environmental controls.

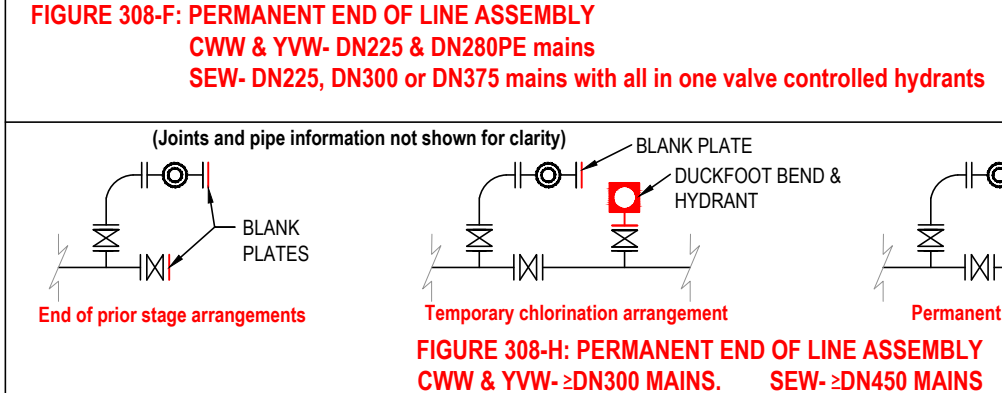
TABLE 308-A: SWABBING REQUIREMENTS

MAIN SIZE (DN)	SWAB DIAMETER (mm)	SWAB LENGTH (mm)	DISCHARGE CONTROL UNIT LENGTH (mm)	FLOW REQUIRED TO ACHIEVE A SWABBING VELOCITY OF 0.5 m/s		
				HYDRANT 1 FLOW (l/s)	HYDRANT 2 FLOW (l/s)	HYDRANT 3 FLOW (l/s)
100 OR 125PE	200	300	NOT REQUIRED	5		
150 OR 180PE	250	350	NOT REQUIRED	10		
225 OR 280PE	300	400	1500	20	20	
300 OR 355PE	400	500	1600	18	18	18
375 OR 450PE	475	550	1800	26	26	26
450 OR 560PE	550	650	2000	SITE SPECIFIC PLAN REQUIRED		
600	750	900	2600	SITE SPECIFIC PLAN REQUIRED		
750	900	1050	3200	SITE SPECIFIC PLAN REQUIRED		



NOTES Regarding Large Main End of Line Arrangements:

- For ≥DN300 and in lower pressure (static P < 400 KPa) DN225 mains, a temporary hose connection between the hydrants will be unable to push the swab with adequate velocity.
- In such cases, swabbing flows will need to be delivered through the operation of an in line valve.
- This valve (and any bypass valve) shall successfully pass a pressure test to the new system test pressure prior to installation (to ensure it does not leak super chlorinated water back into the in service main).
- Install these valves closed and do not operate them until the downstream system successfully passes its pressure test.
- Where the distance back to the last permanent divide valve on the main is close to the maximum spacing (ie: > 2/3rds of the maximum spacing in Table 300-B), the end of line valve and hydrant arrangement shall be permanent (refer Figure 308-F and Figure 308-H).
- Where the distance back to the last permanent divide valve on the main is substantially less than the maximum spacing, the end of line valve and hydrant arrangement shall be temporary (refer Figure 308-G).
- Temporary end of line assemblies shall be sized as per Table 106-D.



NOTES Regarding Fig 308-H:

- Components shown in red are temporary.
- Connect chlorination hose & fittings (as indicated in Figure 308-F) between the permanent and temporary hydrants to facilitate charging and chlorination.
- Refer to MRWA-W-105 for assembly details.
- Where valves cannot be offset, refer to MRWA-W-304A & B for details.

KEY REFERENCES:

- Chlorination and water quality compliance as per WSA 03-2010 / MRWA Specification 04-02.
- Concrete thrust restraints as per MRWA-W-204 and 205A or 205B.
- Surface covers as per MRWA-W-302 & 303.

DESIGNED:	R. JAGGER	DATE:	20/01/2011
DRAWN:	R. JAGGER	DATE:	20/01/2011
CHECKED:	NAME	DATE	APPROVED: NAME
3	ADD TEMPORARY END OF LINE ARRANGEMENT	1/12/16	RJ / CP / JT
2	PUBLISHED FIRST ISSUE	04/04/12	R. JAGGER
1	PRE PUBLISHED DRAFT FOR COMMENT	12/07/11	R. JAGGER
REV	DESCRIPTION	DATE	APPROVED

MELBOURNE RETAIL WATER AGENCIES

CityWest Water

South East Water

Yarra Valley Water

MRWA WATER SUPPLY STANDARDS

SWABBING, CHLORINATION AND EXTENDING MAINS

NOT TO SCALE

MRWA-W-308

ISSUED 2012 REVISION NO. 3