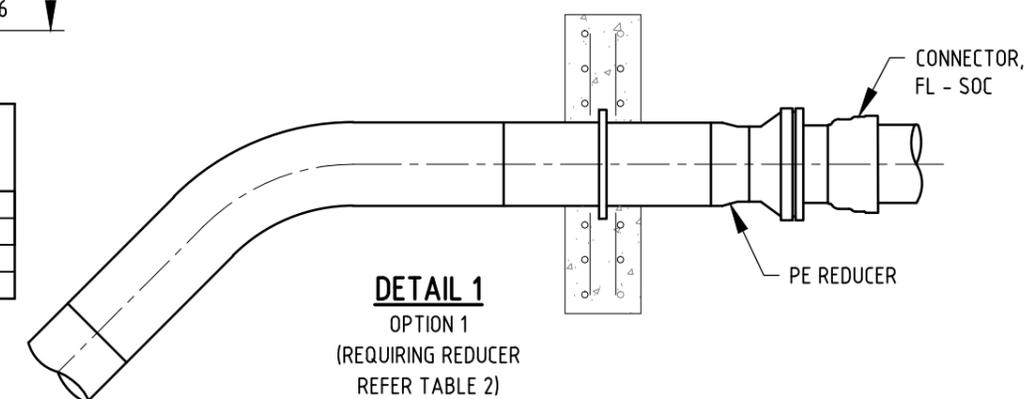


TABLE 2

PIPE DN	EQUIVALENT PE PIPE OD (AS PER TG105)	OPTION 1 > 6m LENGTH (FROM FLANGE - FLANGE) REDUCER REQUIRED	OPTION 2 UP TO MAX 6m LENGTH (FROM FLANGE - FLANGE) SMALLER OD APPROVED
200	250	250-225	225
250	315	315-280	280

TABLE 1

PIPE DN	EQUIVALENT PE PIPE OD (AS PER TG105)
100	125
150	180
200	250
250	315



CONSIDERATIONS FOR DOGLEG DESIGN:

- LENGTH AND DEPTH: THE PRIMARY CONSIDERATION FOR ANY DOGLEG SHALL BE THE MINIMISATION OF LENGTH & DEPTH.
- POSITIONING OF BRANCH MAINS & FITTINGS: THE LOWER SECTION OF THE DOGLEG SHALL BE A CONTINUOUS ITEM. THE POSITIONING OF BRANCHES, VALVES AND PROPERTY CONNECTIONS IS NOT PERMITTED. APPROVAL SHALL BE OBTAINED FROM THE SA WATER REPRESENTATIVE FOR DEVIATION FROM THIS REQUIREMENT.
- VERTICAL CLEARANCE TO OBSTRUCTION: REFER WSA03 2011 TABLE 5.5 FOR MINIMUM CLEARANCE REQUIREMENTS.
- THE USE OF A SMALL DOGLEG (RATHER THAN VERTICAL DEFLECTION OF PIPES) IS NOT A GIVEN. SA WATER HAS THE AUTHORITY TO NOT APPROVE THE USE OF A DOGLEG IN SUCH INSTANCES. FOR MINOR VERTICAL CHANGES CONFIRMATION OF REQUIREMENTS SHALL BE SOUGHT FROM THE SA WATER REPRESENTATIVE.

STANDARD / NON STANDARD DOGLEG:

- A DOGLEG IS CONSIDERED STANDARD IF IT IN ACCORDANCE WITH THIS DRAWING. REQUIREMENTS ARE:
 - THE LOWER LENGTH BEING A MAXIMUM 1500,
 - THE VERTICAL CHANGE BEING EITHER 500 OR 1000. THE PREFERRED VERTICAL CHANGE (DIMENSION 'A') IS 500. THE 1000 OPTION MAY BE UTILISED WHERE THE OBSTRUCTION SIZE OR TYPE JUSTIFIES ITS USE, AND,
 - THERE IS ONLY ONE OBSTRUCTION.
- A DOGLEG IS CONSIDERED NON STANDARD IF IT:
 - INVOLVES MULTIPLE OBSTRUCTIONS,
 - IS UNUSUALLY DEEP, OR, IS EXCESSIVELY LONG.
 - IS OVER THE TOP OF AN OBSTRUCTION. THIS REQUIRES APPROVAL BY THE SA WATER REPRESENTATIVE.
 FOR THIS OPTION, AN AUTHORISED AIR RELEASE MECHANISM SHALL BE INSTALLED. THE VALVE FLANGE & BOLTS SHALL BE WRAPPED IN ACCORDANCE WITH TS 18.

DESIGN DRAWINGS:

- 'NON STANDARD' DOGLEGS SHALL BE DETAILED ON THE DESIGN DRAWINGS. SUFFICIENT DETAIL SHALL BE PROVIDED TO ALLOW PROPER ASSESSMENT. THIS REQUIRES THE INCLUSION OF A SECTION AND/ OR ENLARGEMENT ON THE DESIGN DRAWING. ALL OBSTRUCTIONS SHALL BE LABELLED, EG 375 SWD, TOGETHER WITH THE WATER MAIN CHAINAGE, THE DESIGNED CLEARANCE BETWEEN THE WATER MAIN AND THE OBSTRUCTION. INDICATIVE DIMENSIONS ARE UNACCEPTABLE.
- WHERE A DOGLEG IS IN ACCORDANCE WITH THIS DRAWING (WITH STANDARD CLEARANCES), A NOTE PLACED ON THE DESIGN DRAWING IS SUFFICIENT. THE NOTE SHALL IDENTIFY THE CHAINAGE FOR THE DOGLEG TOGETHER WITH THE TYPE OF CONFLICTING SERVICE, AND THE DESIGNED CLEARANCE.

PE DOGLEGS:

- PE PIPE FOR USE AS A DOGLEG SHALL BE PERMITTED FOR DIAMETERS UP TO AND INCLUDING DN250. LARGER DIAMETER DOGLEGS SHALL BE CONSTRUCTED USING OTHER APPROVED PIPE MATERIAL.
- FOR DN200 & DN250 DIAMETERS, THE PE OD EQUIVALENT MAY REQUIRE A REDUCER TO MATCH THE FLANGE OF THE ADJOINING PVC OR DICL PIPE. DETERMINATION IS DEPENDENT UPON THE LENGTH OF THE DOGLEG (6 METRES). REFER TABLE 2 ABOVE.
 - FOR LENGTHS GREATER THAN 6 METRES A REDUCER WILL BE REQUIRED.
 - FOR LENGTHS UP TO 6 METRES, AN ALTERNATIVE SMALLER OD IS APPROVED.

FABRICATION OF PE SPECIALS & DELIVERABLES:

- APPROVED FABRICATION METHODS:
 - BUTT WELD (FACTORY MANUFACTURE)
 - OR
 - ELECTROFUSION COUPLINGS.
- FABRICATION SHALL ONLY BE UNDERTAKEN BY QUALIFIED PE WELDERS. BUTT WELDING OF PE SPECIALS MAY ONLY BE UNDERTAKEN BY AN AUTHORISED MANUFACTURER LISTED IN THE AUTHORISED PRODUCTS FOR WATER SYSTEMS.
- THE FABRICATION COMPANY SHALL PROVIDE A FORM:
 - IDENTIFYING EVERY WELD, WITH THE DATE OF THE WELD AND NAME AND ID OF THE EMPLOYEE WHO UNDERTOOK THE WELD.
 - DETAILING THE MATERIALS USED, IE ITEM MANUFACTURER & DESCRIPTION.
 - THE TECHNICIAN WHO UNDERTOOK THE WELD. EACH WELD SHALL BE STAMPED WITH THE WELDER ID.
- AN AUTHORISED OFFICER OF THE FABRICATION COMPANY SHALL SIGN THE FORM.
- A COPY OF THE FABRICATION COMPANY'S FORM SHALL BE PROVIDED TO THE CONSTRUCTION CONTRACTOR WHO SHALL INITIAL THE FORM AND PROVIDE A COPY TO THE SA WATER REPRESENTATIVE.

1. FOR GENERAL NOTES REFER 4005-30002-01 & 4005-30002-02.
2. ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE.

REVISION PANEL					DESIGN PANEL			<p>SA WATER STANDARD DRAWINGS WATER SUPPLY CONSTRUCTION MANUAL DOGLEG CONSIDERATIONS & STANDARD PE DOGLEG</p>	A3	1
REV	DATE	DRN	DETAILS	APR	CURRENT REV	DESIGNED: 28/09/15	AUTHORISED: 31/03/16		SHT SIZE	REVISION
					AUTHORISED:	RJP	T.GALEK		TOTAL SHEETS:	
					SIGNATURE:	DRAWN: 16/11/15	SIGNATURE:		SUPERSEDES: 91-0060-02 (C13)	
1	31/03/16	MS	2016 STANDARDS REVIEW	TG		REVIEWED: 21/03/16	TG	DRAWING NUMBER		
								4005-30005-08		
								PREFIX	NUMBER	SHEET

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