

TABLE 402-A: VENT SIZE DETAILS (PIPE & BASE)

SEWERAGE MAIN SIZE (D.S) DN	VENT DIAMETER	MAX HEIGHT- m (56 m/s WIND)	MAX HEIGHT- m (89 m/s WIND)	VENT PIPE SCHEDULE	VENT OD	VENT ID	VENT WALL THICKNESS	REQUIRED PILE LENGTH (m)			
								Cu = 25 kPa	Cu = 50 kPa	Cu = 100 kPa	Cu = 200 kPa
225 to 375	150	14	9	S80	168.3	146.4	11.0	3.0	2.5	2.0	1.8
450 to 525	225	18	12	S40	273.1	254.6	9.3	4.0	3.2	2.6	2.1
600 to 750	300	18	14	S40	323.9	304.8	9.5	5.0	3.8	3.0	2.4
> 750	CUSTOM DESIGN, TYPICALLY CONSTRUCTED FROM FIBREGLASS, UP TO 400 IN DIAMETER AND UP TO 16m HIGH										

NOTES Regarding Table 402-A:

- Both induct and educt vents shall be set nominally 2m above the level of adjacent buildings.
- Where there is no suitable public open space or there are buildings higher than the vent maximum height, consult the Water Agency.
- SS vent pipe to ASTM312M.
- Vent diameters given assume total vent pipework (maintenance structure to top of vent) is < 10m long.
- Where total vent pipework is between 10 and 25m long, upsize underground pipework one size.
- Where total vent pipework is between 25 and 50m long, upsize underground pipework two sizes.
- Vent pipework > 50m long requires Water Agency approval.
- Wind speed of 89 m/s shall be chosen in highly exposed areas.
- Wind speed of 56 m/s shall be chosen in areas with a high degree of protection (eg: large, high and closely spaced constructions nearby).
- Erect vent pipe when concrete base is > 25MPa strength.

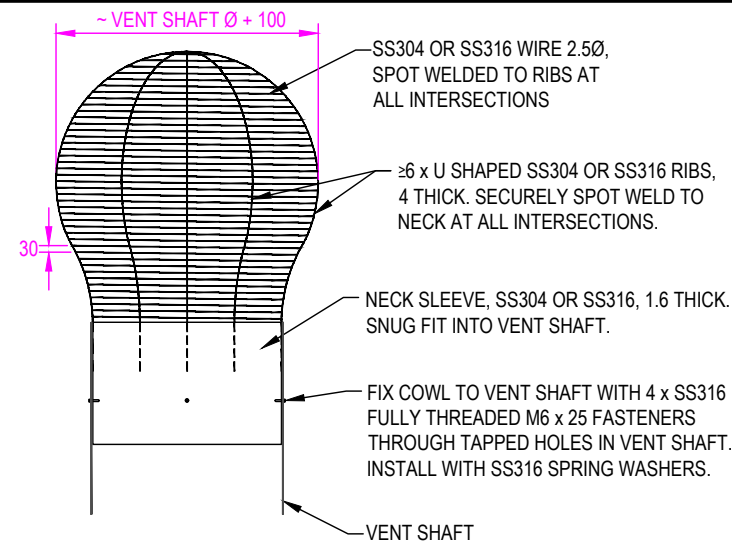


FIGURE 402-F: EDUCT COWL (ELEVATION)

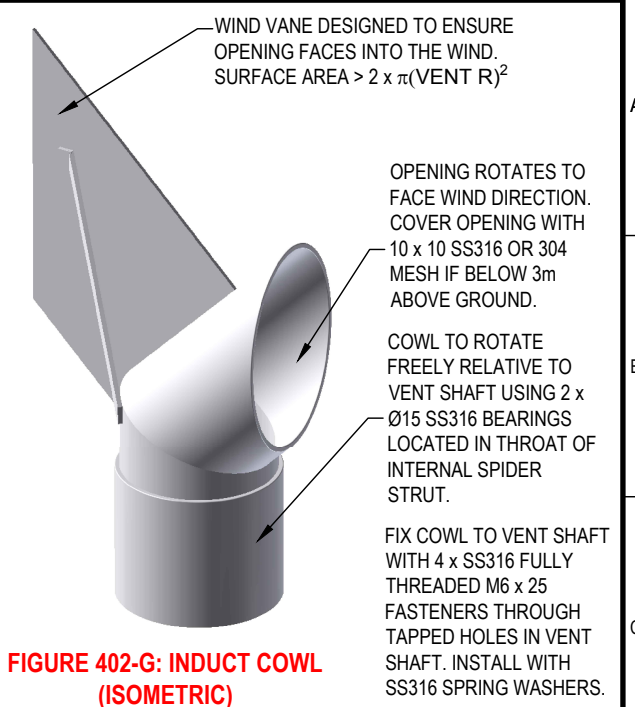


FIGURE 402-G: INDUCT COWL (ISOMETRIC)

NOTES Regarding Pile Construction:

- Concrete and reinforcement as per MRWA-S-309.
- Place concrete in a single pour.
- Piles in sloping ground (> 1 in 7) or in ground water require specialist design advice.
- Piles to be located to avoid existing infrastructure.
- Determine ground bearing resistance (Cu) in consultation with geotechnical specialist.
- Pour concrete within 24 hours of excavation.
- Remove all loose material from excavation prior to placement of concrete.
- Reinforcement chairs must be sufficiently robust and installed in sufficient number to resist the weight of the reinforcement without depressing into the excavation floor.

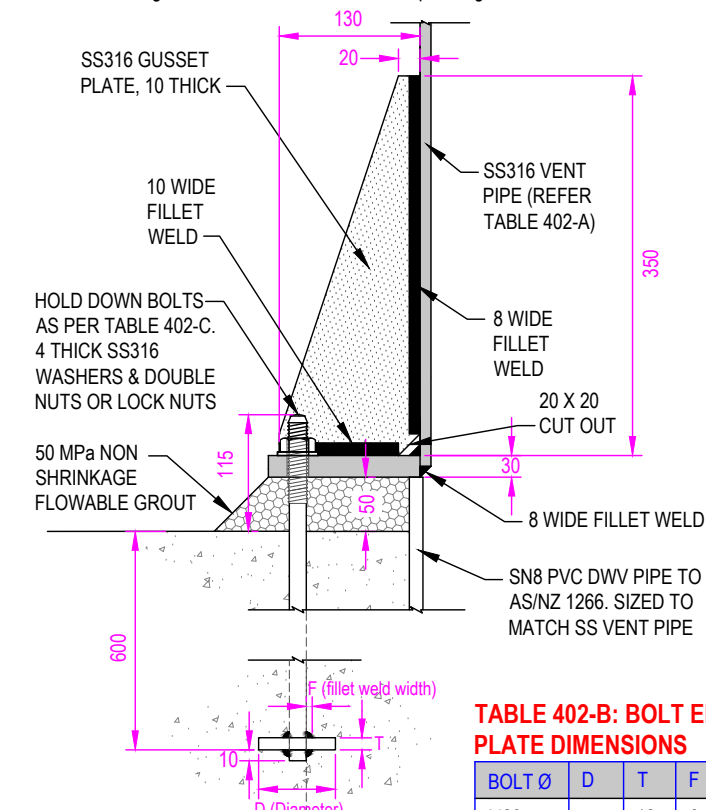


FIGURE 402-E: FLANGE MOUNTING ARRANGEMENT (ELEVATION)

TABLE 402-B: BOLT END PLATE DIMENSIONS

BOLT Ø	D	T	F
M20	75	12	6
M24	125	16	6

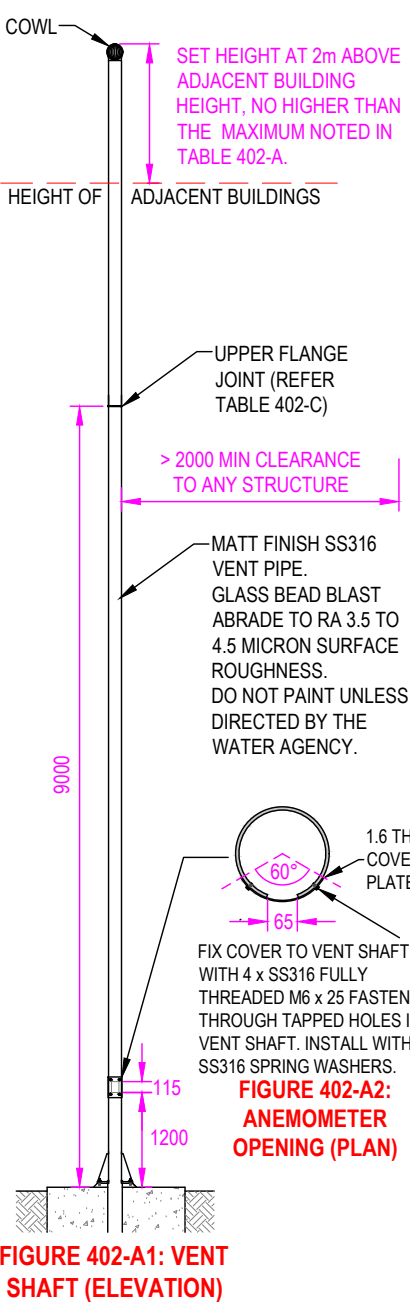


FIGURE 402-A1: VENT SHAFT (ELEVATION)

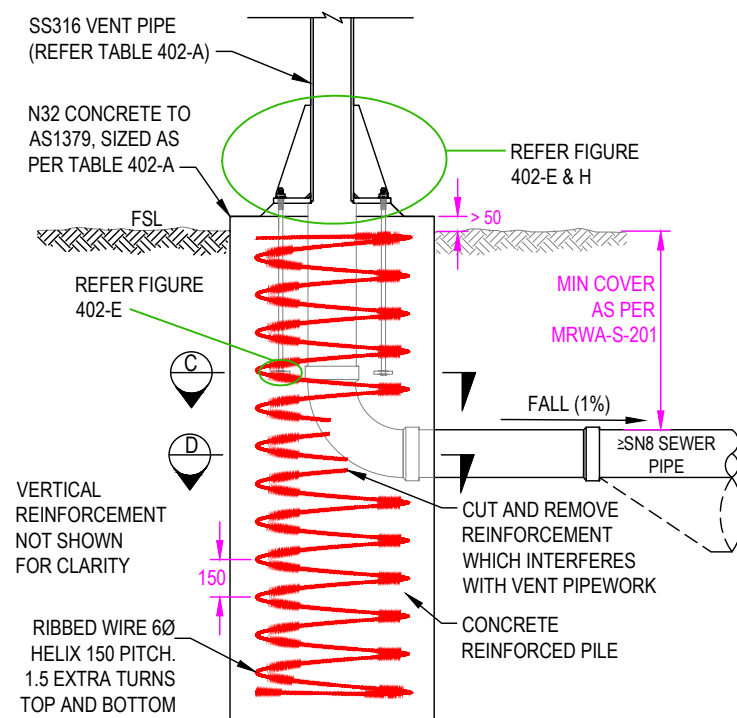


FIGURE 402-B: VENT SHAFT BASE DETAIL (ELEVATION)

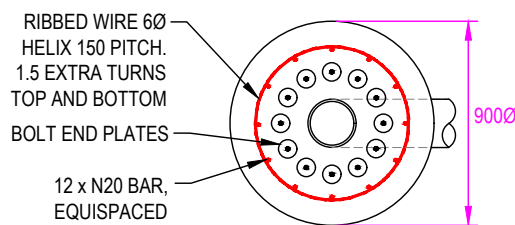


FIGURE 402-C: BASE PILE (PLAN SECTION C)

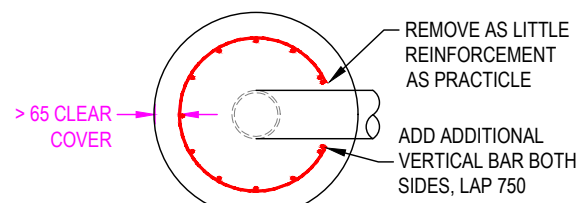


FIGURE 402-D: BASE PILE (PLAN SECTION D)

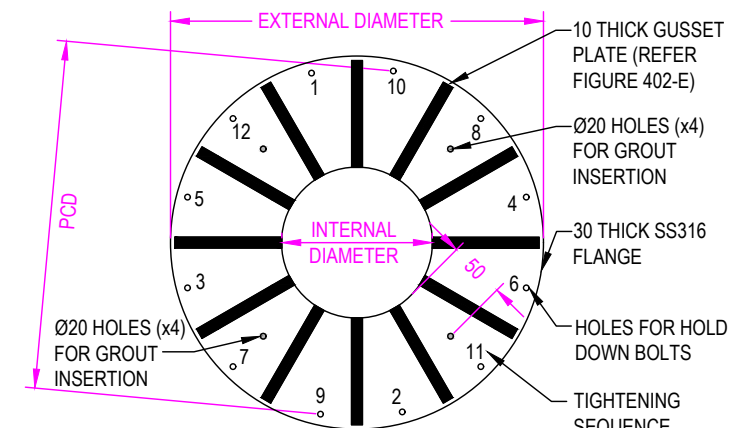


FIGURE 402-H: VENT SHAFT BASE FLANGED SUPPORT (12 HOLD DOWN BOLTS SHOWN)

TABLE 402-C: VENT FLANGE DETAILS

VENT DIAMETER	PIPE ID	BASE FLANGE				UPPER FLANGE					
		OD	PCD	NO. HOLES	HOLE SIZE	BOLT SIZE	OD	PCD	NO. HOLES	HOLE SIZE	BOLT SIZE
150	170.5	480	400	12	26	M20	280	235	8	18	M16
225	275	580	500	12	30	M24	405	356	8	22	M20
300	325	630	550	16	30	M24	455	406	12	22	M20

NOTES Regarding TABLE 402-C:

- Fasten lower flange to snug fit.
- All welds to be factory fabricated to AS1554.6.
- All bolts to be grade A4 to ISO3506.
- No stop-start positions of weld within 40 of end of gusset.
- Hammer peen and weld toe grind all welds after cessation of welding.
- Install 3 thick EPDM rubber gasket to WSA 109 between upper flange faces.
- Fasten upper flange as per part turn method or use load indicating washers.
- Weld upper flanges to vent pipe using 8 wide fillet welds at internal and external seams.

ALL DIMENSIONS IN mm UNLESS STATED OTHERWISE

DESIGNED: R. JAGGER DATE: 1 JULY 2015

DRAWN: R. JAGGER DATE: 1 JULY 2015

CHECKED: NAME DATE APPROVED: NAME DATE

☑ CWW D. MOORE 01/09/15 ☑ CWW R. CARRUTHERS 01/09/15

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ISSUED 2015 VERSION 1

MELBOURNE RETAIL WATER AGENCIES



MRWA SEWERAGE STANDARDS

VENTS

NOT TO SCALE

MRWA-S-402

Planning	Design	Construction
		✓✓✓