

MINIMUM BLOCK VOLUME FOR ANCHORAGE

VERTICAL BENDS			
FOR TEST PRESSURE OF 1000 kPa (SEE NOTE 2)			
PIPE DN	CONCRETE VOLUME M ³		
	11.25° BEND	22.5° BEND	45° BEND
100	N	N	0.3
150	N	0.3	0.6
200	0.2	0.5	1.1
225	0.3	0.6	1.4
250	0.3	0.7	2.5
300	0.4	1.1	3.8
375	0.7	1.8	5.8
450	DETAILED DESIGN REQUIRED		
500			
600	(ALTERNATIVE METHODS TO BE CONSIDERED)		
750			

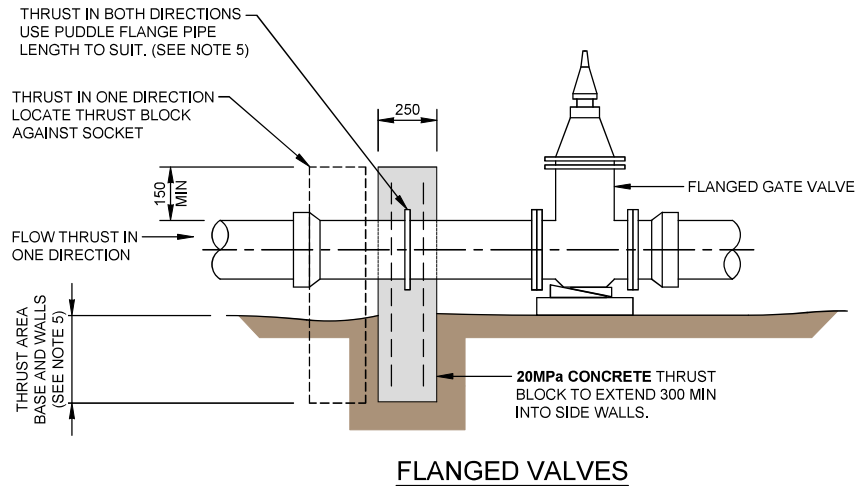
'N' - NO ADDITIONAL RESTRAINT REQUIRED (COMPACTED TRENCHFILL SUFFICIENT)

ANCHOR BLOCK CONSTRUCTION NOTES:

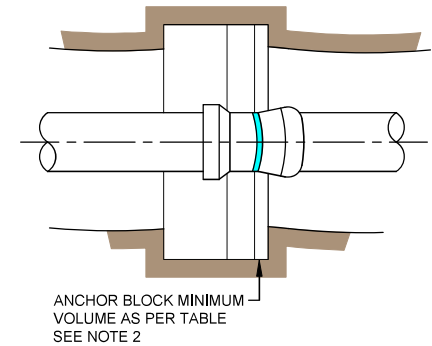
- LOCATE ANCHOR BLOCK CENTRALLY AROUND BEND.
- KEY ANCHOR BLOCK INTO BASE OF TRENCH A MINIMUM DEPTH OF 250.
- POUR CONCRETE AGAINST A SOLID EXCAVATION FACE.
- USE GRADE 20 MPa CONCRETE.
- KEEP CONCRETE CLEAR OF ALL BOLTS, NUTS, AND PIPE JOINTS.

NOTE:

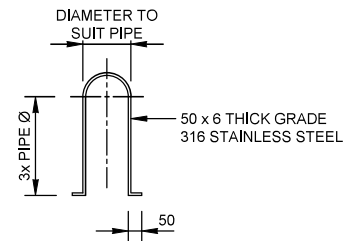
- ALL DIMENSIONS IN MILLIMETRES, UNLESS SHOWN OTHERWISE.
- ANCHOR BLOCKS IN THE TABLE ARE DESIGNED FOR A TEST PRESSURE OF 1000 kPa (100 m HEAD) ADJUST CONCRETE VOLUME TO SUIT ACTUAL TEST PRESSURE.
- THRUST BLOCK REINFORCEMENT AS SPECIFIED IN DESIGN DRAWINGS.
- WHERE SPECIFIED PROVIDE CONCRETE THRUST BLOCKS FOR **FL-FL** VALVES. THRUST AREA TO BE AS FOR DEAD ENDS AS SHOWN IN WS-004.
- INSTALL PUDDLE FLANGES ON CLASS **PN25** DICL PIPE.



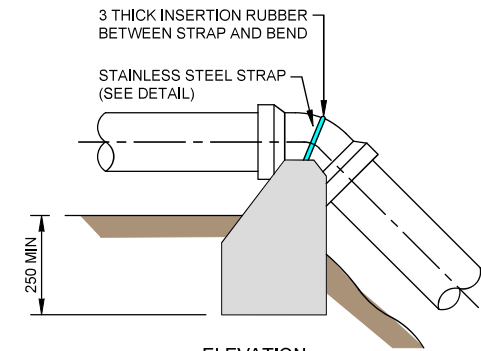
FLANGED VALVES



PLAN



TYPICAL SS STRAP



ELEVATION VERTICAL BENDS

© Copyright Standards New Zealand 2011. Drawings from NZS 4404:2010 have been reproduced with permission from Standards New Zealand under Copyright Licence 000904. Refer to the complete Standard available for purchase from Standards New Zealand. HDC AMENDMENTS TO NZS 4404:2010 SHOWN IN **BOLD**.



STANDARD DETAILS

THRUST AND ANCHOR BLOCKS GATE VALVES AND VERTICAL BENDS

Drawn	J. GOODMAN	Designed	KCDC
Approved	B. MAGUIRE	Revision Date	OCTOBER 2020
Scale	NOT TO SCALE	Drawing No.	HDC-WS-005
		Revision	R0