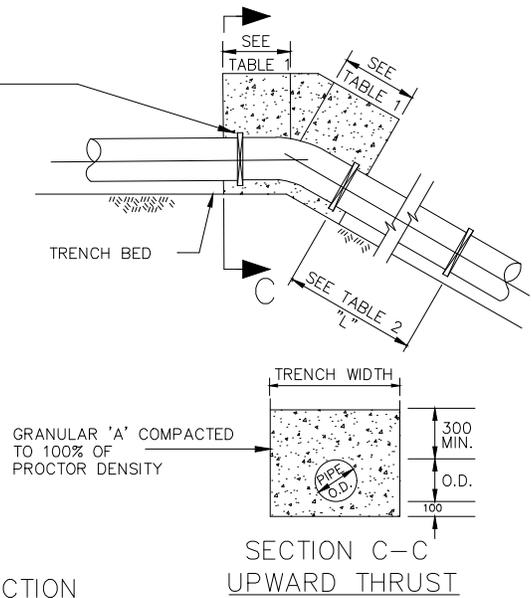
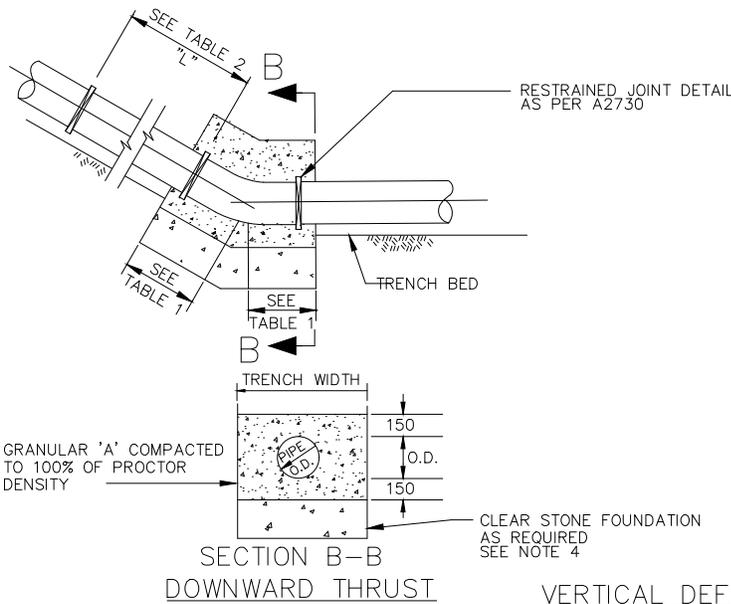


HORIZONTAL DEFLECTION



SECTION B-B
DOWNWARD THRUST

VERTICAL DEFLECTION

SECTION C-C
UPWARD THRUST

NOTES

- ALL JOINTS ENCOUNTERED WITHIN THE SPECIFIED RESTRAINING LENGTH "L" SHALL BE RESTRAINED ON EACH SIDE OF THE FITTING.
- GRANULAR 'A' THRUST BLOCKS SHALL BE FULLY EXTENDED AND COMPACTED AGAINST TRENCH WALLS.
- GRANULAR THRUST BLOCKS SHALL BE ENCLOSED WITH FILTER FABRIC IF GROUND WATER TABLE IS ABOVE THE TRENCH BED OR IF GROUND WATER IS SEEPING THROUGH TRENCH WALLS.
- IF THE BEARING CAPACITY OF TRENCH BED RESISTING DOWNWARD THRUST IS LESS THAN 100KN/m², CLEAR STONE FOUNDATION SHALL BE PROVIDED AS DIRECTED BY THE ENGINEER.
- WHEN FITTINGS ARE PARTIALLY OR FULLY EXPOSED UNDER PRESSURE, ALL JOINTS MUST BE RESTRAINED.
- ALL PIPE AND FITTING JOINTS SHALL BE RESTRAINED IN EARTH FILL APPLICATIONS.
- REFER TO DWG A2730 FOR JOINT RESTRAINING DETAIL.
- ALL METALLIC FITTINGS AND RESTRAINERS TO BE CATHODICALLY PROTECTED AS PER DWG A2732.

TABLE NO. 1

DEFL. ANGLE	MINIMUM DIMENSION FOR GRANULAR THRUST BLOCKS		
	PIPE DIAMETER (mm)		
	100&150	200	300
11.25176	400	500	600
22.5176	400	500	600
45176	450	550	650
90176	600	700	850

TABLE NO. 2

PIPE DIA. (mm)	"L" MINIMUM RESTRAINING LENGTH (m) * ON EACH SIDE OF FITTING									
	VERTICAL DEFLECTION									
	DOWNWARD THRUST	UPWARD THRUST								
	11.25	22.51	45176	11.25	22.51	45176	11.25	22.51	45176	90176
100&150	1.5	2.8	4.9	4.9	7.5	10.1	1.5	2.8	4.9	8.1
200	2.0	3.7	6.3	6.3	9.6	13.1	2.0	3.7	6.3	10.5
300	2.8	5.2	9.0	8.8	13.4	18.3	2.8	5.2	9.0	14.9

ALL DIMENSIONS IN MILLIMETRES EXCEPT WHERE NOTED

PETERBOROUGH UTILITIES COMMISSION
STANDARD WATERWORKS DRAWING



TITLE Joint Restraining Length for PVC Watermain In Combination with Granular Thrust Block

No.	REVISION	DATE
1.	UPDATED TITLE BLOCK	2023-11-03
2.	GRANULAR 'A' COMPACTION REQUIREMENTS	2023-11-03

DRAWN BY: S. BILLINGS	APPROVED: G. CRAIG
DESIGNED: P. DUNFORD	DATE: 07-23-2008

A2731