

MAIN DRAIN PIPING

INCLUDE ALL PIPE, FITTINGS, AND VALVES FROM THE MAIN DRAIN TO THE PUMP MANIFOLD

	EQUIV. LIN. FT.	FT. OF HEAD
_____ lineal feet of _____ inch diameter pipe.....		
_____ ell(s) 45 _____ inch, each equivalent to _____ feet of straight pipe – total.....		
_____ ell(s) 90 _____ inch, each equivalent to _____ feet of straight pipe – total.....		
_____ tee(s) _____ inch, each equivalent to _____ feet of straight pipe – total.....		
_____ adapter(s) _____ inch, each equivalent to _____ feet of straight pipe – total.....		
_____ reduction(s) _____ inch to _____ inch-loss in feet of head.....		
_____ enlargement(s) _____ inch to _____ inch-loss in feet of head.....		
_____ valve(s) _____ inch, each equivalent to _____ feet of straight pipe – total.....		
_____ _____ inch, each equivalent to _____ feet of straight pipe – total.....		
_____ main drain(s) _____ inch outlet—loss in feet of head.....		
Equivalent length of main drain piping—total (add all equivalent lineal feet for this section).....		
Loss in feet of head due to friction in _____ feet of _____ inch pipe at _____ gpm.....		
Velocity through main drain piping _____ feet/sec.		
Main drain grate/cover open area _____ sq. in.		
Velocity through main drain grate or antivortex cover _____ feet/sec.		

NOTES:

1. Use the flow from step 12 as the gpm for this section.
2. Feet of head = $\frac{\text{total equivalent lineal feet} \times \text{loss in feet (from charts in HYDRAULICS CALCULATION GUIDE)}}{100}$.
3. Obtain velocity from charts in **HYDRAULICS CALCULATION GUIDE**.
4. Grate or antivortex velocity = $\frac{.321 \times \text{flow in gpm}}{\text{Open area in sq. inches}}$.
5. Velocity through suction piping and antivortex cover shall not exceed 6 feet per second.
6. Velocity through grate shall not exceed 1.5 feet per second.