1.2.7 Pipe Works

1.2.7.1 General

A. This section includes pipeline systems for the entire plant including all works, supply of material, specials, testing etc. required for connecting pipe systems to pipelines executed by others, all as specified, shown on drawings and/or as instructed by the Engineer.

B. The pipe line system shall be designed for a nominal pressure rating PN as listed below, whereby the actual operating pressure by closed valve operation or surge pressure, whichever is greater, shall be minimum 1.5 times the nominal pressure PN in order to allow for sufficient up grading of the flow in case of future expansion of the plant capacity.

C. The Contractor, when preparing the plant layout, shall consider the necessity for providing flexibility in the pipe work at joints in order to allow for different settlement or thermal stresses. Flexible joints are to be foreseen in order to allow for minor discrepancies in the civil works. Unless otherwise specified, joints shall be flange to flange connection type.

D. The material of pipe works for various services shall be in general as listed below, whereby deviations may be accepted for factory built-in machinery pipes and tubes.

E. In general, allowance is given to use of metallic pipe works with durable and resistive coating protection systems suitable for installation inside the storm water pump stations.

F. Design pressure rating (PN) of pipe system shall be the next standard pressure rating above the highest possible working pressure, but not less than PN 10 at 25 OC for pressurised metallic pipes.

1.2.7.2 Ductile Iron Pipes (DI)

A. Ductile iron pipes, fittings and appurtenances could be used for pressurized pipelines and for installations inside pumping stations.

B. Pipe work and fitting materials and coatings shall be suitable for their intended use, shall be internally chemically resistant to the conveyed fluid and any gasses produced by the fluid and shall externally be chemically resistant to the surrounding environment.