

6.19.7 Demineralized Water Treatment System

6.19.7.1 General

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A complete demineralized water treatment system to supply the Phase 3 plants requirement shall be provided and be generally as indicated on the appropriate Specification Drawings.

In terms of water purity, the processed water quality can be classified into raw water, filtered water, and demineralized water.

The raw water drawn from the existing **city water** mains shall be supplied to the raw water storage tanks provided by another Contractor. This Contract shall provide the raw water receiving pipe-line to the raw water storage tanks. The filtered water service terminate at the outlet valve from the raw water storage tanks, and the demineralized water treatment plant (the demineralizer) at the demineralized water storage tanks.

A typical analysis of raw water is as shown in Clause 4.4.4. However, the Contractor shall elaborate the following raw water quality parameters and design the demineralized water treatment system.

Calcium	33.8	mg CaCO ₃ /l
Magnesium	6.5	mg CaCO ₃ /l
Sodium	7.5	mg CaCO ₃ /l
Potassium	5.2	mg CaCO ₃ /l
Total Hardness	40.3	mg CaCO ₃ /l
Total Alkalinity	28.6	mg CaCO ₃ /l
Chloride	11.2	mg CaCO ₃ /l
Sulphate	9.1	mg CaCO ₃ /l
Nitrate	2.6	mg CaCO ₃ /l
Phosphate	0.5	mg CaCO ₃ /l
Total Cations	53.0	mg CaCO ₃ /l
Total Anions	52.0	mg CaCO ₃ /l
Reactive Silicia	12.2	mg SiO ₂ /l
Non-Reactive Silicia	0.4	mg SiO ₂ /l
Free chlorine (in an epidemic)	2.0	mg Cl ₂ /l Max
Suspended Solids	3.0	mg/l