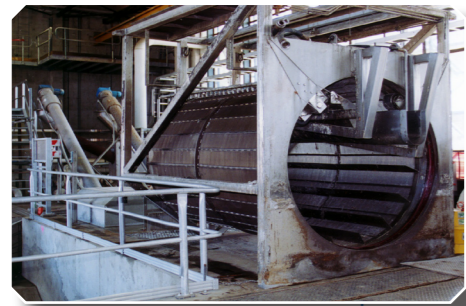


Wastewater – how the treatment plant works

Mangere Wastewater Treatment Plant

1 Primary Treatment

Raw wastewater first passes through screens which extract larger waste materials. The grit tanks remove grit and sand. Primary tanks separate the bulk of the solids from the liquid waste.



A stainless steel fine screen prior to installation



Primary sedimentation tanks

2 Secondary Treatment

As well as further separating solids and liquid, reactor/clarifiers remove nutrients - in particular nitrogen - which can be harmful to the environment.



One of the nine reactor clarifiers

3 Tertiary Treatment

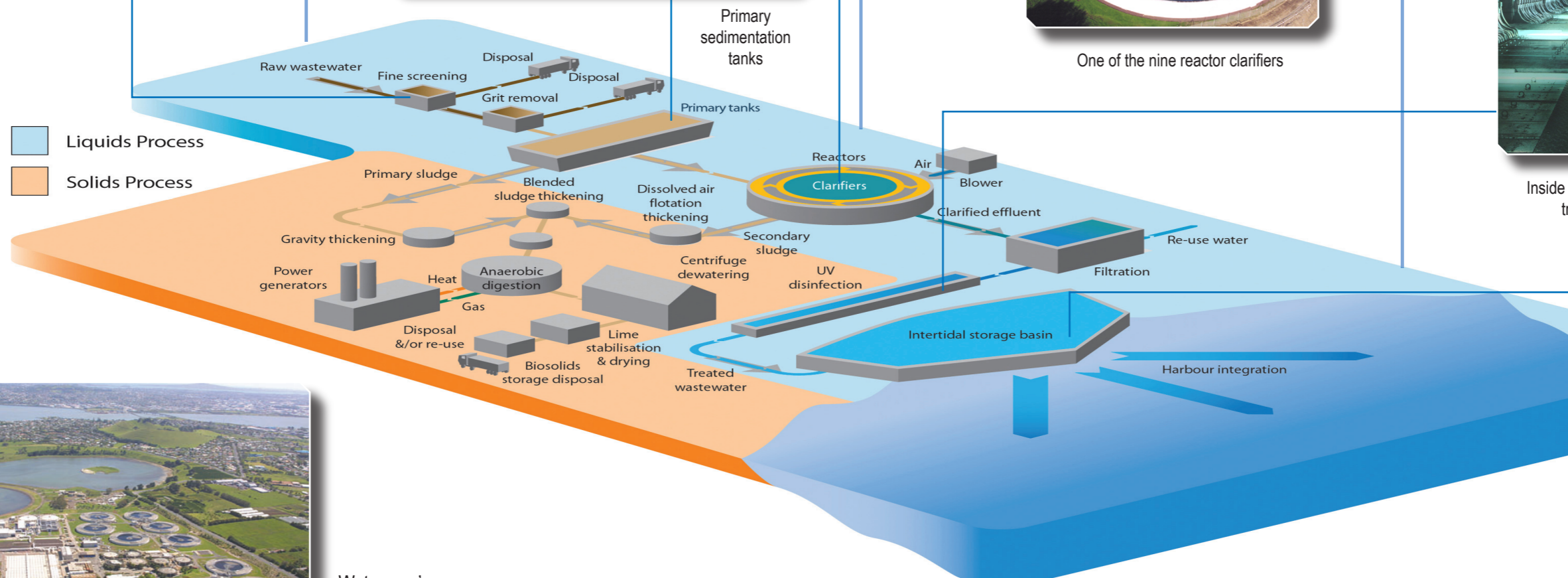
The wastewater is filtered and disinfected using ultraviolet (UV) light, which destroys bacteria and viruses, before it is conveyed to the intertidal storage basin.



Inside the ultra violet (UV) treatment plant



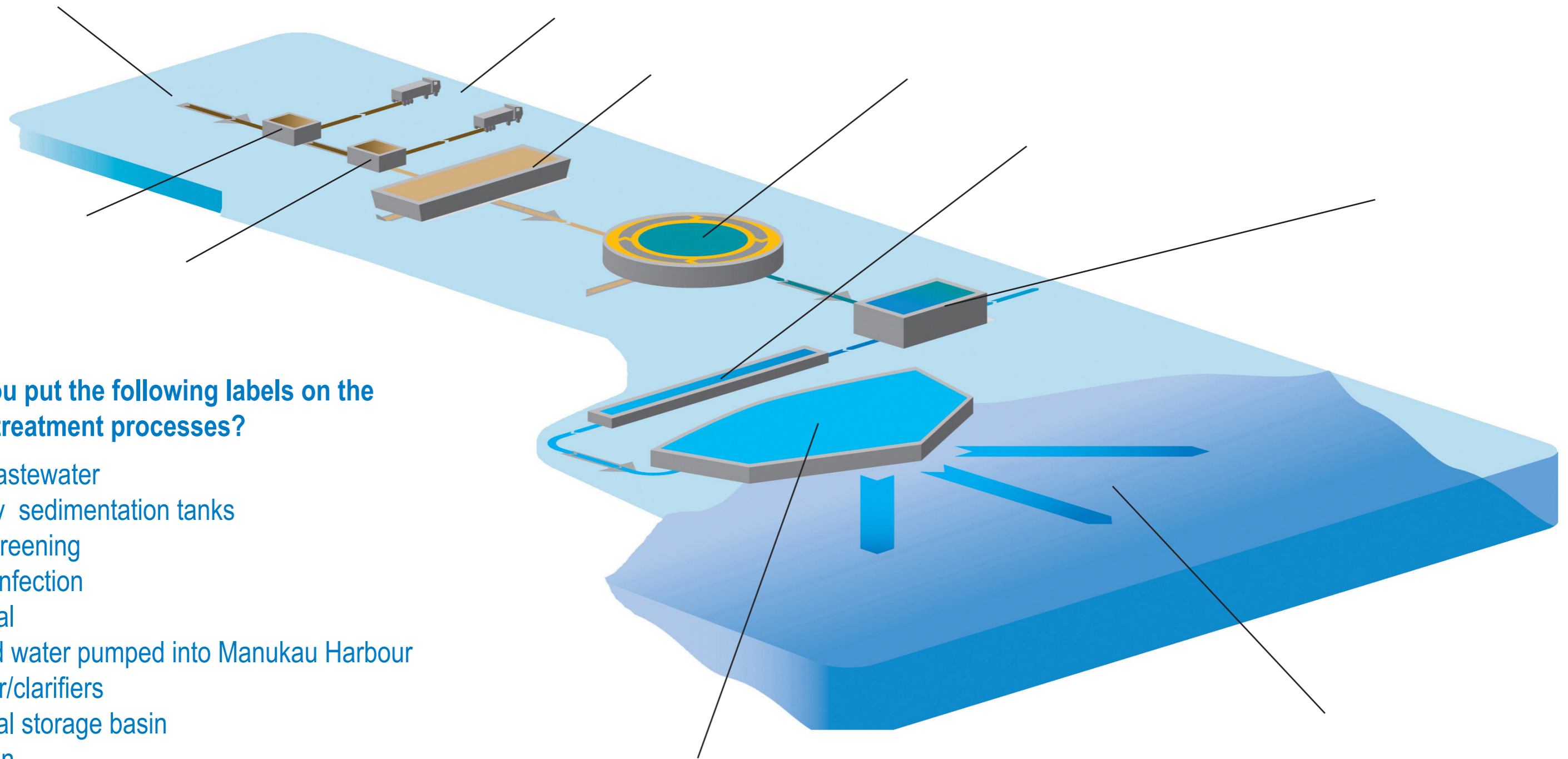
After filtration the treated water flows along a distribution channel to a storage basin. This water is pumped out twice daily at high tide into the Manukau Harbour.



Watercare's Mangere Wastewater Treatment Plant

Wastewater – liquid treatment processes

Mangere Wastewater Treatment Plant (shown in part)



Can you put the following labels on the liquid treatment processes?

- Raw wastewater
- Primary sedimentation tanks
- Fine screening
- UV disinfection
- Disposal
- Treated water pumped into Manukau Harbour
- Reactor/clarifiers
- Intertidal storage basin
- Filtration
- Grit removal