

6. Modular pumping to create resilience at Carmoney



Situation

To provide resilience to Carmoney WTP in the event of a long-term outage thereby protecting the potable water supply to the city of Londonderry circ. 62,000 Customers.

Action

The optimum solution was to utilise the surplus water available at Ballinrees Water Treatment Works (WTW) and pump it through the existing trunk main network to provide full resilience to the Carmoney WTP supply area. This required a Water Pumping Station (WPS) at Ballinrees and Moys Service Reservoirs (SR), Limavady.

A major consideration in the design of the WPS at Ballinrees was for it to be portable so that it could be relocated to another location which in turn would provide resilience for Ballinrees WTW by reversing the flows and use Carmoney and Caugh Hill WTWs to supplement Ballinrees WTW. This innovative thinking also required an innovative modular construction solution to deliver a portable pumping system. The units were built entirely off site and delivered to pre-constructed plinths.

In an earlier phase of this project network modifications were undertaken with key valves being automated so that the WPSs can be brought on line remotely without the need to send personnel out to various locations to simultaneously operate valves. This efficiency also reduces the operational pressure on water networks staff numbers during a major incident who may need to implement this system.



Results

The modular approach reduced on site time to construct by eliminating any issues and delays often associated with adverse weather, noise, and dust

The units were fully assembled and tested in factory conditions and signed off before leaving the factory as complete units. This eliminated snags and ensured a quality product was delivered to site.

The units are currently being connected to the existing infrastructure with full commissioning expected early January 2022.