Toowoomba Pipeline Alliance

38km Pipeline Built to Interrupt the Evolving Trends of Drought in Toowoomba

Project: Toowoomba Pipeline Alliance

Principal: LinkWater

Location: Toowoomba, Queensland

Completion: 2010

Supplied: 38km x 762OD Sintakote® Sintajoint® Rubber Ring Joint (RRJ) Mild Steel Cement Lined Pipe

Project Need

In 2008, Australia endured one of the worst droughts to ever come and faced water shortage problems that came with a growing population. At one stage, Toowoomba's dam level depleted just below 8%, exacerbating the community's fear of a water crisis. The water shortage placed the Toowoomba community in a dire situation.

In response to ease the pressures of the undesired drought and expanding population, the Queensland Government allocated $187 million dollars to construct a 38km pipeline in pursuit of a long-term water supply. The pipeline would pump raw water east to west from Wivenhoe Dam to Cressbrook Dam situated near Toowoomba in South East Queensland.

The pipeline would deliver 14,200 megalitres of water per year, however this can be ramped up to 18,000 megalitres to serve the anticipated population growth. During its first year of commissioning the pipeline was planned to deliver 10,000 megalitres of water. It is currently owned and operated by LinkWater.

Solution

The Toowoomba Pipeline Alliance is a joint venture of LinkWater Projects, Clough, Diversified and AECOM who were responsible for the design and construction of the transmission main project. Steel Mains was requested by LinkWater Projects to manufacture and supply the entire 38km pipeline project. The pipeline would convey raw water 38km passing through challenging terrain in rural and forest areas, including a hill positioned 265 metres above sea level.

The 38km x 762OD Sintakote® mild steel cement mortar lined pipes were manufactured with Sintajoint® Rubber Ring Joints which comprised of 3,325 individual pipes. Conventional steel welded Spherical Slip in Joints (SSJ) spigot and socket pipe joints were also manufactured for the relevant parts of the pipeline.

Achievements

The first pipe was laid in March 2009. The benefits of Sintajoint virtually phased out the need for on-site welding and corrosion protection reinstatement of the joint after assembly. These features accelerated the pipe laying process and as a result, all pipes were laid almost two months ahead of the completion timeframe.

Steel Mains significantly contributed to the desired pipeline solution for Toowoomba Council who on behalf of 120,000 residents demanded absolute water supply reliability and security.

The completion of this project provides peace-of-mind for the community of Toowoomba being able to receive reliable water supply permanently for at least the next 50 years.

"*This is financially the largest and most important single infrastructure project ever undertaken by Council. The significance of this project and its positive impact on the community in the Toowoomba Regional Council area can not be emphasised enough*," was noted by Mayor Peter Taylor, Toowoomba Reigional Council.