The construction of a range of utility projects for the $9 Billion Bismayah New City project in Iraq has been supported by equipment and solutions from formwork and shoring specialist RMD Kwikform.

The new city, located 10km south east of Baghdad on the Iraqi-Kuwaiti Highway, is being built to eventually house 600,000 people. To support the new city infrastructure, contractor Hanwha Engineering and Construction is using RMD Kwikform equipment to simultaneously construct a Sewage Treatment Plant, Utility Tunnels and a Water Treatment Plant.

Using a range of standard and specialist formwork, including steel Superslim Soldiers and laminated timber GTX beams, each project required a different type of formwork and shoring design to support its swift construction. This ranged from specialist travelling and circular wall formwork, to standard wall formwork solutions, with each project supported by the RMD Kwikform design and site team.

Sewage Treatment Plant
Built to deal with a capacity of 205,000m³ per day, the new sewage treatment plant required wall formwork solutions for a number of concrete structures. The circular 28m diameter primary and 34m secondary setting tanks, along with a 19m diameter sludge thickening tank, were formed using a series of narrow straight panels made from Superslim Soldiers and GTX beams. In addition, standard wall formwork was used to construct a 5m high biological reactor tank.

Utility Tunnels
Aimed at housing a range of utilities for the new city, the utility tunnel network consists of 25 kilometres of tunnels and over 50 junction boxes. To pour the concrete for this tunnel network 15 separate sets of tunnel forms, each measuring 30.5 linear metres, were designed, fabricated and shipped to the project site. Built using a cut and cover technique, the tunnel formwork ran on a traveller system, allowing the monolithic casting of walls and top slab.

In order to achieve the swift programme time demanded by the contract, the RMD Kwikform engineering team designed components for the travelling formwork. Specialist steel corner units integrated with a built-in swift striking mechanism and wheel housing configuration were designed to give the onsite team the capability to raise, lower and move the travelling formwork on the slab and rails.

Water Treatment Plant
To support the construction of the 225,000m³ capacity water treatment plant, RMD Kwikform provided a range of wall formwork solutions incorporating standard equipment and specialist items. Two adjustable L and T shaped corner specials were designed and fabricated to allow for the solution to cater for different concrete wall thickness, ranging from 30cm to 50cm. In total, wall formwork was used to support the construction of three key structures, a 4m high flocculation tank, a 5m high reservoir and a 4.3m high sedimentation tank.

Commenting on the project, David Bruijntjes, export sales manager for RMD Kwikform, said: “Thanks to our range of equipment and engineering capabilities we were able to provide very different solutions for these three projects. As part of the package supplied to the project, we also supported the customer at the key stages of construction, sending two site technical engineers to train and supervise at the erection and casting phases of all three projects over a three month period. We were also able to provide three mobile cranes to support the handling of equipment.”