

A58 Liverpool Road Junction, St. Helens

client	Iberdrola
project	Electric Cable Reinforcement
date	June 2012
pipe	200m (4 x 180mm) Electric Ducts
location	A58 Liverpool Road, St. Helens, Lancashire
geology	Sandstone
drill	American Augers DD-10



McCormack Drilling successfully completed the installation of 200m of 4 x 180mm electric ducts in one continuous bore through the busy A58 Liverpool Road/Eccleston Street junction as part of Iberdrola's infrastructure upgrade in the Saint Helens area.

Design | This project required meticulous planning and design given its urban location and the concentration of existing utilities both contemporary and historical. An extensive survey was undertaken to locate all known infrastructure along the proposed route. McCormack Drilling's design team examined the survey data and established a route that the HDD could pass safely. The drill route itself was challenging, requiring a substantial right hand turn in a relatively short space, as-well-as descending to avoid existing utilities. The bore reached depths of 14m to avoid exceptionally deep sewers and storm drainage intersecting the route.

Geology | Projected ground conditions consisted of an underlying layer of sandstone with a 2-3m superficial clay band. McCormack Drilling decided to utilise their Mincon HDD60 Hard Rock Directional Drilling System, which is a pneumatic rock drilling hammer. It requires a minimal set-up area as opposed to a fluid intensive mud motoring rock drilling operation which would have been unsuitable for the St. Helens site.

Sandstone Drilling | The Mincon HDD 60 air hammer took 18 hours to negotiate the 200m of the pilot bore, 80% of which was in the sandstone strata. It was used in conjunction with a Digitrak Eclipse walk over system and McCormack Drilling's own bore profile designed on AutoCAD 3D Civils software. Taking into account the drilled length of 200m and the geological conditions, it was decided that the hole opening should be done in four stages, ranging from 305mm (12"), 400mm (16"), 500mm (20") and a final swab.

Summary | This project took just 12 days to complete from mobilisation on site to pullback which was a considerable achievement taking into account the difficult conditions both geological and logistical. It also demonstrates McCormack Drilling's ability to design and execute projects that require a high degree of innovation when faced with engineering difficulty.

