

A80 Auchenkilns Roundabout

Client :
Scottish Executive

Designer :
Jacobs

Location :
Cumbernauld

Date :
2003



This was a major investigation on one of the busiest routes in Scotland. Its purpose was to provide information for the design of a new grade separated diamond junction with associated slip roads and structures, including a new bridge and two new roundabouts.

Work included the advancement of 59 cable percussive boreholes, 23 rotary boreholes, 17 continuous percussive boreholes, 34 road pavement cores, 32 trial pits and 13 static cone penetration tests.

Soils boring was undertaken using four cable percussive drilling rigs. Peat was found to extend to depths of up to 7 metres generally overlying silt, clay and granular deposits extending to depths of up to 18 metres. Glacial deposits were found to depths of 25 metres overlying sedimentary bedrock.

The rotary boreholes, typically six metres into rock (though two went to approximately 30 metres depth), were undertaken in order to prove the depth to bedrock, establish the geological succession, ascertain its condition and prove the mineral stability of the site.

A geophysical survey was undertaken to detect and map the lateral extent of a layer of peat/soft material and the variability of the subsurface geology.

Much of the work in the carriageway was undertaken at night within traffic management, phased in order to minimise disruption, the number of lane possessions required and subsequently the cost of traffic management operations.

Soft ground conditions alongside the road dictated the use of low ground pressure plant and equipment.