Blackpool Airport Runway Extension

Project Description Sheet
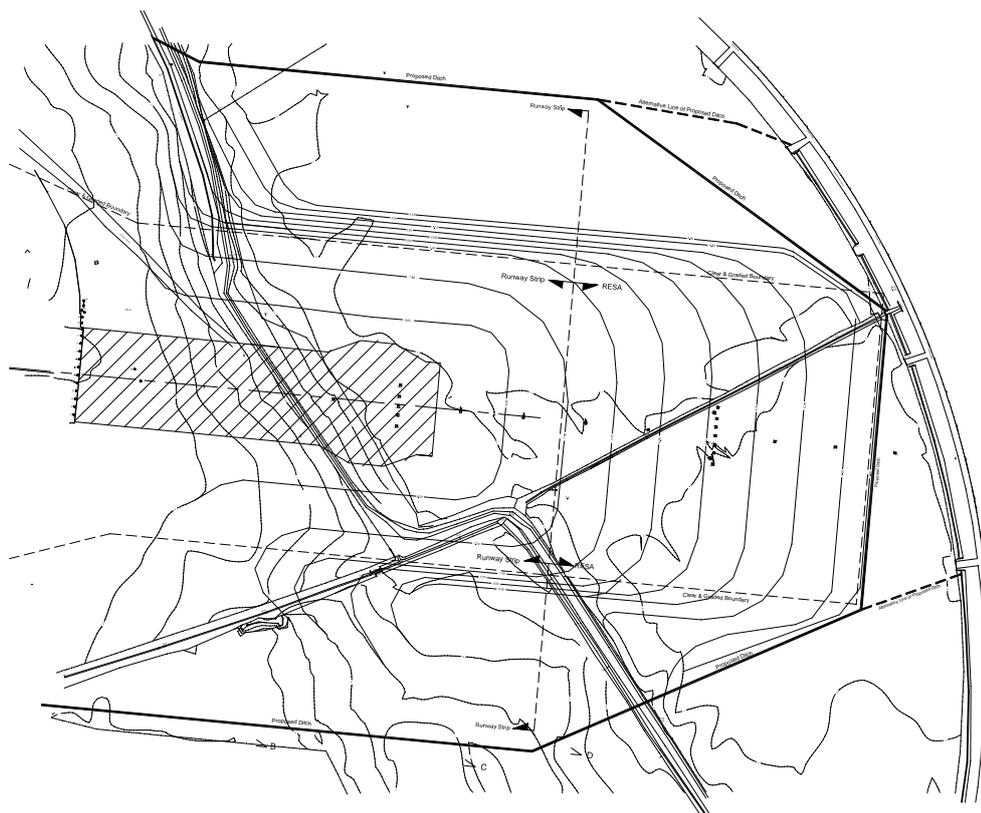
Location

Blackpool

Client

Blackpool Borough Council

Completed

February 2004

Key Project Elements

Airfield Design
Ground Investigation
Pavement Engineering
Geotechnical Design
Ground Improvement
Settlement Analysis
Pile Design
Foundation Design
Sheet Piling
Environmental Statement
Ground Improvement Solutions
Volumetric Modelling
Drainage Design
Ecology

Blackpool Borough Council (BBC) propose to develop an extension to the current Runway 10-28 at Blackpool Airport. The working area is located at the eastern end of Runway 10-28 within Blackpool Airport boundary and extends eastwards to the edge of the B5261 highway, Queensway.

The proposed development involves the construction of an embankment to carry the runway at grade over a distance of approximately 171m. In addition the embankment will incorporate a runway end safety zone (RESA) which will extend the embankment eastwards 379m up to the edge of Queensway. The width of the embankment is approximately 160m. The ground level at the eastern area of the site is a minimum of 5m below the existing runway level.

PSA Design were commissioned to carry out the design works for all elements of the runway extension.

The ground conditions were poor, which include highly compressible peat and very soft alluvial silts and clays, with a high water table, which will lead to excessive total and differential settlement if standard construction methods are used. The tolerance of the airfield runway to ground movement was very low.

The works included the design of a 5m embankment, using various ground improvement solutions to fit in with both the difficult ground conditions but also reducing the affect on airfield movements to best suit the client. A reassessment of the existing pavement condtions was carried out with recommendations for both new build and overlay construction of the existing runway given.