

# PROJECT: METHIL SEAWALL – GROUTING

VALUE: £180,000  
ROLE: MAIN CONTRACTOR  
START DATE: JANUARY 2014  
COMPLETION: MARCH 2014

CLIENT: SCOTTISH POWER GENERATION  
DALDOWIE FUEL FARM  
UDDINGSTON  
GLASGOW

- Grouting process along 275m revetment to accommodate voids within revetment body
- Restricted tidal working in some areas
- Total of 225 Boreholes had been drilled by specialist sub-contractor

- Average Borehole depth = 1m
- Grouting equipment (pump and hoses) acquired from UK Screed and Grout Pump
- Grout was supplied by concrete operator Skene
- 230m<sup>3</sup> of grout was pumped into revetment

Southbay Civil Engineering was awarded the Methil Seawall Refurbishment project by Scottish Power. Over the 40 years, the existing Seawall had been host to large environmental forces and had become severely damaged. The revetment had been made up loose fill behind its main structure. Therefore, it was Southbay Civil Engineering intention to grout the revetment to compact and fill potential voids in the revetment through boreholes. The holes were located by Southbay Civil Engineering using a grid system of 2 x 2m.

The grouting process started as soon as all boreholes were drilled to a suitable standard. Southbay Civil Engineering acquired a Grout Pump and Hoses from UK Screed and Grout Pump Ltd. A total of 226m<sup>3</sup> of grout material was delivered by Skene throughout the period of grouting. The grouting process was carried out by Southbay's own workforce and was achieved within three months.

The boreholes were injected with grout from the hose at a pressure of 0.5bar; this was to allow the grout to percolate through loose material and voids.

Once the boreholes were fully injected with the grout, the boreholes were then filled with marine mortar flush with the revetments horizontal surface.

Prior to the completion of the grouting process on the revetment top, Southbay Civil Engineering intended to remove blocks at the top of the revetment and inject grout into these areas to ensure that all voids behind the revetment had been replete.



Southbay Civil Engineering sought the specialist drilling contractor, Corecut, to carry out the task of drilling boreholes into the revetment to allow an access for the grout to flow into the revetment.

Using 110mm diameter diamond tip core drills, the 225 holes were drilled through large concrete blocks on the revetment horizontal surface to a depth of around 1m or until loose material is visible.

Due to the drilling activities being close to revetment edge, edge protection and lanyards were provided to reduce risk of falling from height.



## CHALLENGES

Harsh environmental marine conditions were experienced during the working period including Arctic Winds of up to 80mph at times. High swells from the marine environment made access to the revetment difficult.

## PROGRAMME

The programme was set over duration of the three months.