

Strathbungo—The Lanes, Mining Consolidation Works.

Project Profile

Client: Glasgow City Council

Value: £850k

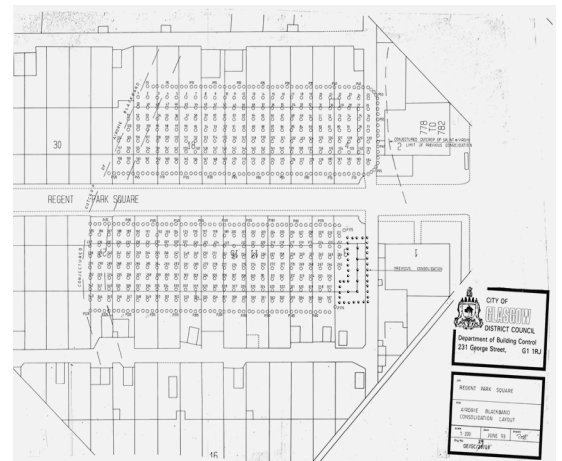


This scheme was carried out for Glasgow City Council and involved treatment of shallow coal workings beneath 3 large residential housing terraces in the Strathbungo Conservation Area. The scheme was secured on a combined Quality/Price tender submission with specific emphasis on proposed methods of work, programme, public relations and management of environmental risks.

Previous site investigations had identified two shallow coal seams, the 'Blackband' and the 'Virtuewell' underlying the site. The Blackband outcropped across the middle of Site 1 with the Virtuewell Coal present beneath the whole of blocks 2 and 3, outcropping at its western extent.

Treatment design involved completing a 3m grouting grid beneath the footprint of each housing block. Narrow one way roads and lanes in conjunction with small mature gardens, required that the majority of the boreholes to be drilled at angles of up to 50° to the vertical.

The difficulties presented by restricted access (the area follows a one way traffic system) and to limit disruption caused to resident parking, the work was programmed to ensure that only one of the two main roads would be closed at any time. Close liaison with GCC Roads Dept. ensured that traffic flow around the streets was maintained throughout. Queen Square was occupied first with boreholes being drilled from a series of service location pits. Once complete the reinstatement followed on closely behind. This allowed us to re-open the street before the Christmas break. It was decided to postpone the start of the treatment on Regent Park Square until after Christmas, thus returning all available parking and accesses to the residents over the holiday period. On return to site in the new year the process was repeated on Regent Park Square.



Drilling work was carried out from the streets surrounding the blocks using versatile Casagrande C6 rotary percussive drilling rigs with multi-angling kinematics and smaller Halco 450 rigs which were used in the more restricted back gardens areas.

The principal quantities involved were;

- 1142 No rotary percussive boreholes up to 30m deep - 23,000m of drilling
- Up to 12m of 88.9mm dia rotary percussive steel casing was used in all drill holes to case off overburden
- 2965 Tonnes of pfa/cement infill grout injected to the workings
- A number of grout acceptance test holes were completed to validate treatment effectiveness

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The housing blocks were surrounded by narrow roads and lanes and it was agreed with Glasgow City Council Roads Department to establish our site compound and accommodation in Nithsdale Road which is remote from the actual treatment area. This street provided the space for materials storage, grout mixing plant, water tanks and general plant which would otherwise have had to have been set up on the narrow streets adjacent to the housing blocks. The bulk PFA storage and grout mixing areas were container surrounded to provide pfa bunkering, worksite screening and control of dust and noise nuisance. This compound location ensured that close management and cleanliness of the grouting operation could be achieved. Mixed grout and flushing water for the drill rigs were pumped from the compound through a bank of unobtrusively placed HDPE pipelines which were extended to each treatment area. Collected flush returns were also pumped back to settlement tanks located discreetly around the site.

Prior to drilling, CAT scanning and trial pits were carried out to locate or prove the absence of services and utilities. A number of drill holes at varying angles were completed from each trial pit. Reinstatement of these pits was carried out as soon as the grouting was complete.

Drilling from the back gardens posed a particular challenge. Our strategy was to only utilise gardens for working areas which would require the least reinstatement balanced against ease of access and the presence of services. Each garden that was used was mapped out and photographed to ensure they could be reinstated to original condition.

As with previous contracts undertaken in this type of environment, customer care and community liaison were given the highest priority. Prior to the works a residents meeting was held to explain the proposed working methods and to discuss our intentions, as well as to take cognisance of any resident requests. This policy of close liaison and continuous dialogue was maintained throughout with regular letter drops updating everyone on progress as well as highlighting any impending restrictions on access, road closures etc. Each resident was consulted prior to and during the reinstatements to ensure their expectations were met and we ensured that continuous attention was given to site tidiness, cleanliness and high quality reinstatement.

Proactive communication and keeping the community informed and involved was a key to the success of the contract and an overwhelmingly positive response from local people was received both during and on completion of the contract.

