

CASE STUDY

Ferniegair enabling works
Avant Homes



Main Contractor	Ground Developments Ltd
Client	Avant Homes
Contract Completion	June 2016
Works Complete	Earthworks, Soil Stabilisation and Deep Soil Mixing

PROJECT DESCRIPTION

Avant Homes required a significant earthworks operation to achieve their design level. The site suffered from soft formation soils ranging from 3-8m deep. Traditional earthworks methods would have required this material to be removed off-site and replaced with suitable fill material to eliminate the risk of settlement to roads, sewers and services. GDL was approached to deliver an alternative solution.

Key operational and environmental issues successfully managed included:

REDUCED VEHICLE MOVEMENTS

Working with the clients' engineer, GDL developed a solution to provide deep soil mix columns of in-situ material to a competent bearing and re-engineer the site-won materials to achieve design levels.

The total amount of material which was re-engineered and therefore avoided being taken off-site through existing residential developments was 51,594m³ - the equivalent to saving over 5,500 truck movements.

The reduction in truck movements protected the local community and infrastructure from the associated noise, vibration and traffic disruption which would have been caused.

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RESTRICTED MATERIAL DELIVERIES

The site access for this project was residential and therefore the access hours for materials was restricted and no vehicles were permitted to park out-with the site boundary.

We also worked closely with our supply chain and ensured that all deliveries were co-ordinated between our site team and other suppliers to avoid clashes whilst maintaining access for local residents.

EXISTING UTILITIES

There is a Scottish Water waste water pumping station adjacent to the site which includes pipes running through the site. In order to achieve our programme of works we created exclusion zones around these, and we developed a working plan to maintain the programme of the project until the works were diverted to allow our works to progress in this area.

DUST AND VIBRATION

Mixing platforms which posed the potential to generate dust where placed away from the site boundary to ensure that no neighbouring properties were affected. During dry periods the site was damped down using our own tractor bowser to stop material becoming airborne.

We had vibration monitoring stations set up by the clients' engineer to ensure that no damage could be caused to neighbouring buildings through the construction process.

PROTECTING OPEN WATER COURSES

There is an open water course that runs through the site, and we protected this by installing silt fencing along the length of the burn within the scope of the project to stop excess silt entering the water course.

We also designed, installed and maintained a series of cut-off trenches and settlement ponds to ensure that discharged water was clean before entering the burn. We also monitored the PH levels of the burn to ensure that they remained within tolerance.

