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Mrs Elizabeth Pleasant,
Principal Planning Officer,
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Glossop,
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Dear Mrs Pleasant,

PROPOSED EXTENSION AT 5 SPIRE HOLLIN, GLOSSOP. ref HPK/2012/0281

Further to your E mail of the 19 June 2012 I write to confirm that a specialist piled foundation will be provided for the extension, as apposed to the deep trench and mass fill concrete that would otherwise be required under Building Regulations. This will include a shallow reinforced concrete edge beam to carry the external walls (supported by the piles) and a suspended reinforced concrete floor.

The foundation will be designed to take into account the tree roots in the area and the shallow edge beam will ensure that no main roots on the trees are damaged.

The piling will be 114mm dia steel case mini-piles and these will be installed using a Grundamat piling machine, which works on compressed air.(A detail of driving the piles using a Grundomat is enclosed). No heavy plant, large equipment or rigs are required on site, all that is required is an air compressor, hoses the 114mm dia mini-piles and the Grundomat. All the necessary equipment can access the site through the existing double gates from the highway.

The sequence of operation will be as follows :-

The oversite will be excavated to a depth only as necessary to form the reinforced concrete floor slab and its base hardcore.

A trench for the shallow reinforced concrete edge beam will be excavated by hand. (the edge beam being approx 450mm deep).

The 114mm dia steel cased mini-piles will be driven, as shown in the enclosed detail.

The concrete edge beam will be cast.

The suspended reinforced concrete floor slab will be cast.

The extension walls will then proceed.

It is expected that no damage to the tree roots will take place during this construction work.

Your Sincerely

John F Lomas

Piling made easy with GRUNDOMAT

Customer:	Tube Lines Ltd
Place:	Mill Hill East Station, London UK
Machine:	Grundomat 95 mm
Job:	Installation of 14 mini sheet piles
Ø of sheet piles:	114 mm
length of sheet piles:	3 to 5 m each
Installation depth:	2,0 to 4,0 m
Special features:	7 of the piles were driven vertically and 7 at a 45° angle. The piles each had 300mm of fill material approx. 17 minutes per pile
Duration:	

TT UK recently received a telephone call from Tube Lines Ltd - the company responsible for modernising and maintaining the Jubilee, Northern and Piccadilly Lines in London/England.

On one particular section of a Northern Line embankment, just south of Mill Hill East Station, there is a problem with ground movement on the embankment. The line itself was constructed in the early 1900s and the ground is a mixture of clay and ash. Remedial works were deemed necessary to minimise the risk of the embankment slipping.

Mott MacDonald, the consultants for the above project, approached Tube Lines to drive 14 no 114mm diameter steel mini piles to allow them to carry out various load tests.

Tube Lines then contacted TT UK to ascertain whether they could provide the special equipment to drive these mini piles.

After a site meeting between Mott MacDonald, Tube Lines and TT UK staff, it was decided that a 95mm GRUNDOMAT would be ideally suited for the job.

Mott MacDonald then produced the specification to which the piles had to be driven. This varied from anything between 2.0 to 4 Metres in depth. Seven of the piles were driven vertically and seven at a 45 degree angle. The 114mm piles each had 300mm of fill material at the base of the pile as they were designed to support concrete beams which will retain the embankment.

TT UKs engineers positioned the 95mm GRUNDOMAT into the 114mm pile. The pile was placed in the vertical position and with the air supply turned on the GRUNDOMAT then locked itself into the plug material and



The Operators ensuring the pile is driven plumb by using a spirit level

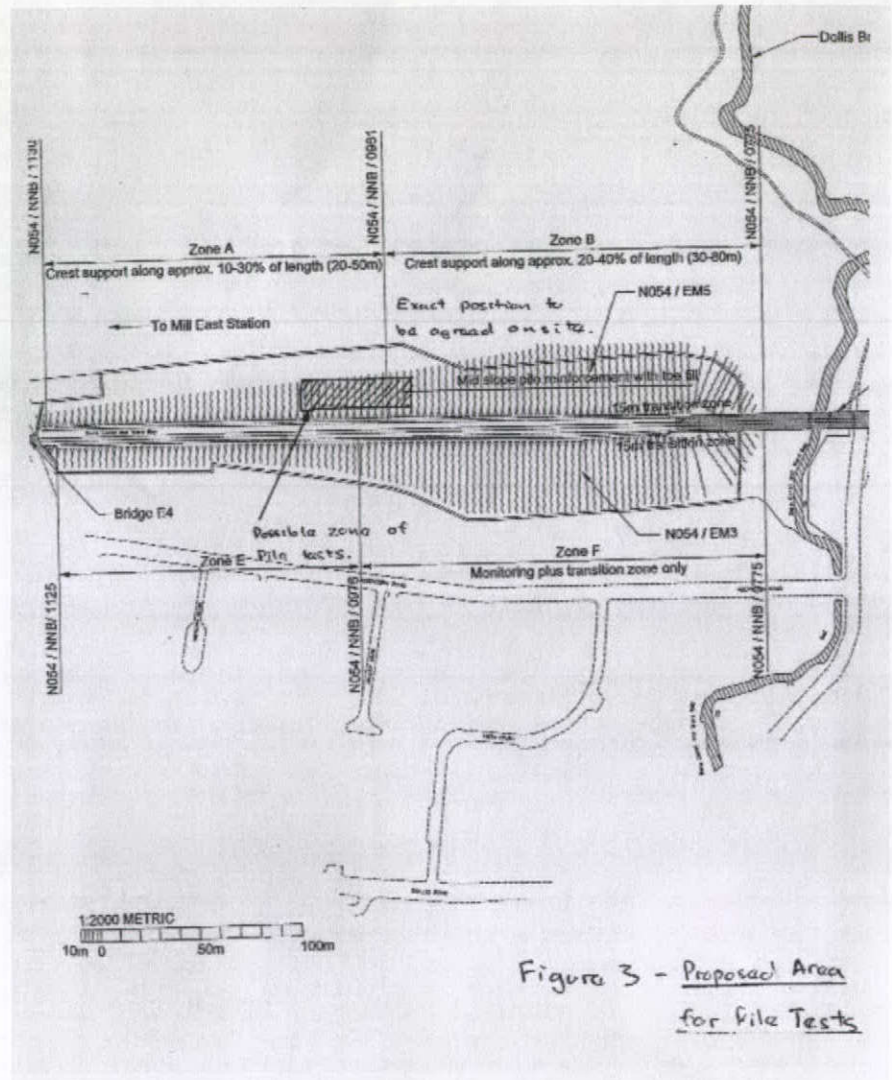
started to drive the pile down into the embankment. On average it was taking 17 minutes to drive a 3 - 5 Metre pile including the welding time. The piles were driven to approximately 1 Metre centres.

On reaching the required depth the GRUNDOMAT was put into reverse by simply turning the airline a quarter turn to the left. Once the machine had broken away from the plug material at the base of the pile it was simply lifted out.

As can be seen by the photograph the pile were then filled with concrete in readiness for the vertical/lateral and tension capacity tests which were to be conducted by a specialist company. ●



GRUNDOMAT being removed from the pile



The jobsite sketch shows the embankment and the position of the 14 mini sheet piles to be installed (top view).



Reinforced concrete piles now firmly in place