

Fact Sheet

Slinky Installation

Facts at a glance:

Horizontal Slinky Trenches

Horizontally installed slinkies should be placed in a 1.2m wide by 1.2m deep trench.

Vertical Slinky Trenches

Vertically installed slinkies should be placed in a 300-400mm wide by 2m deep trench.

Separation Distances

Each trench should be separated by a minimum of 5m between centres.

Backfilling

Trenches should be backfilled with sand over the slinky if the excavated earth contains sharp flints or large clods of earth.

Energy Absorption

For every 10m of slinky 1kW of energy can be absorbed from the ground.

Trench Layout

Trenches do not have to be straight, they can twist and turn as long as the 5m separation distance is maintained.

Slinkies versus Straight Pipe

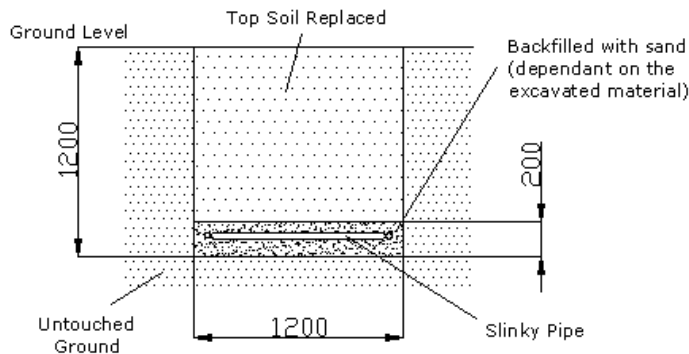
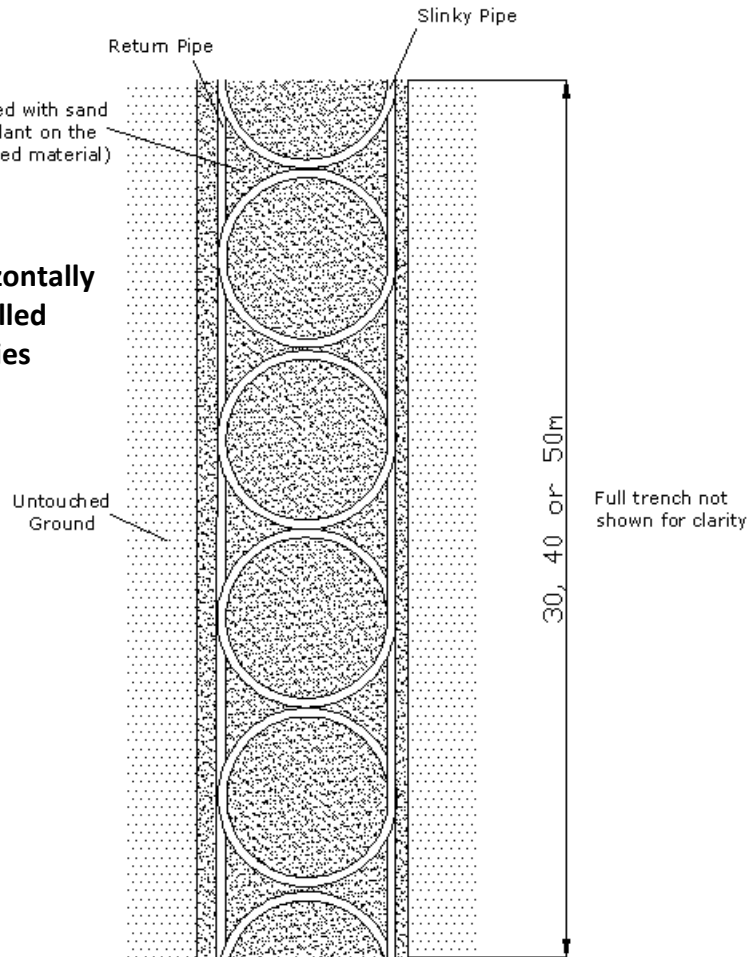
Slinkies and straight pipe have broadly the same performance and need the same area of land, however slinkies are a fifth of the amount of digging of straight pipe.

Ground source heat pumps absorb energy from the ground via buried heat exchangers.

Kensa recommend the use of slinky ground arrays as they are the most cost effective way of installing ground arrays due to the fact that they reduce the amount of digging required.

They can be installed on their edge vertically or laid flat in the bottom of a trench, horizontally.

Horizontally installed slinkies



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Heat Pumps

Kensa Engineering Ltd
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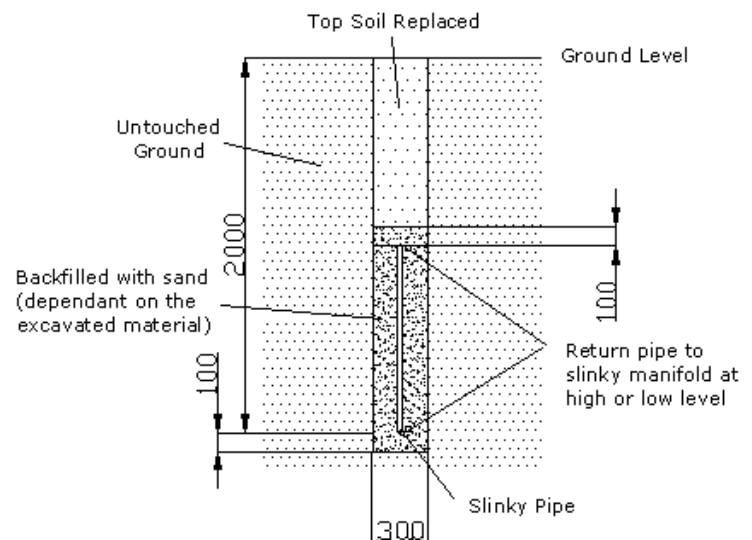
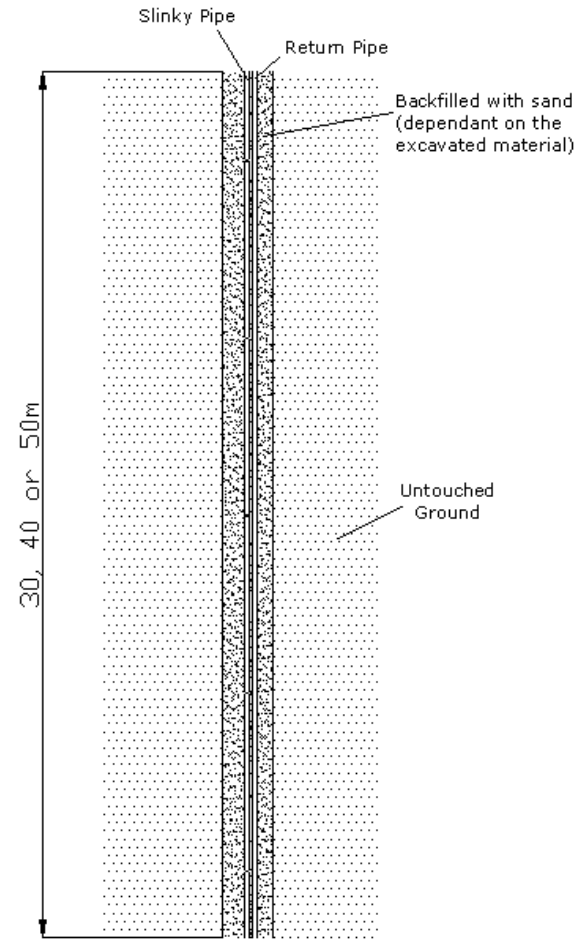
The slinky, and its return pipe, is placed in the trench and carefully backfilled with the excavated material, graded to remove any large or sharp stones. Where the excavated material consists of large clods (which might leave air gaps around the pipes resulting in poor heat conduction) or sharp flints (which could damage the slinky pipe) then sand should be used to backfill until the slinky is covered, after which the excavated material can be used.

Pea gravel should only be used in slinky trenches which are being used as soakaways and only after the slinky trench has been approximately half filled.



Vertically installed slinkies

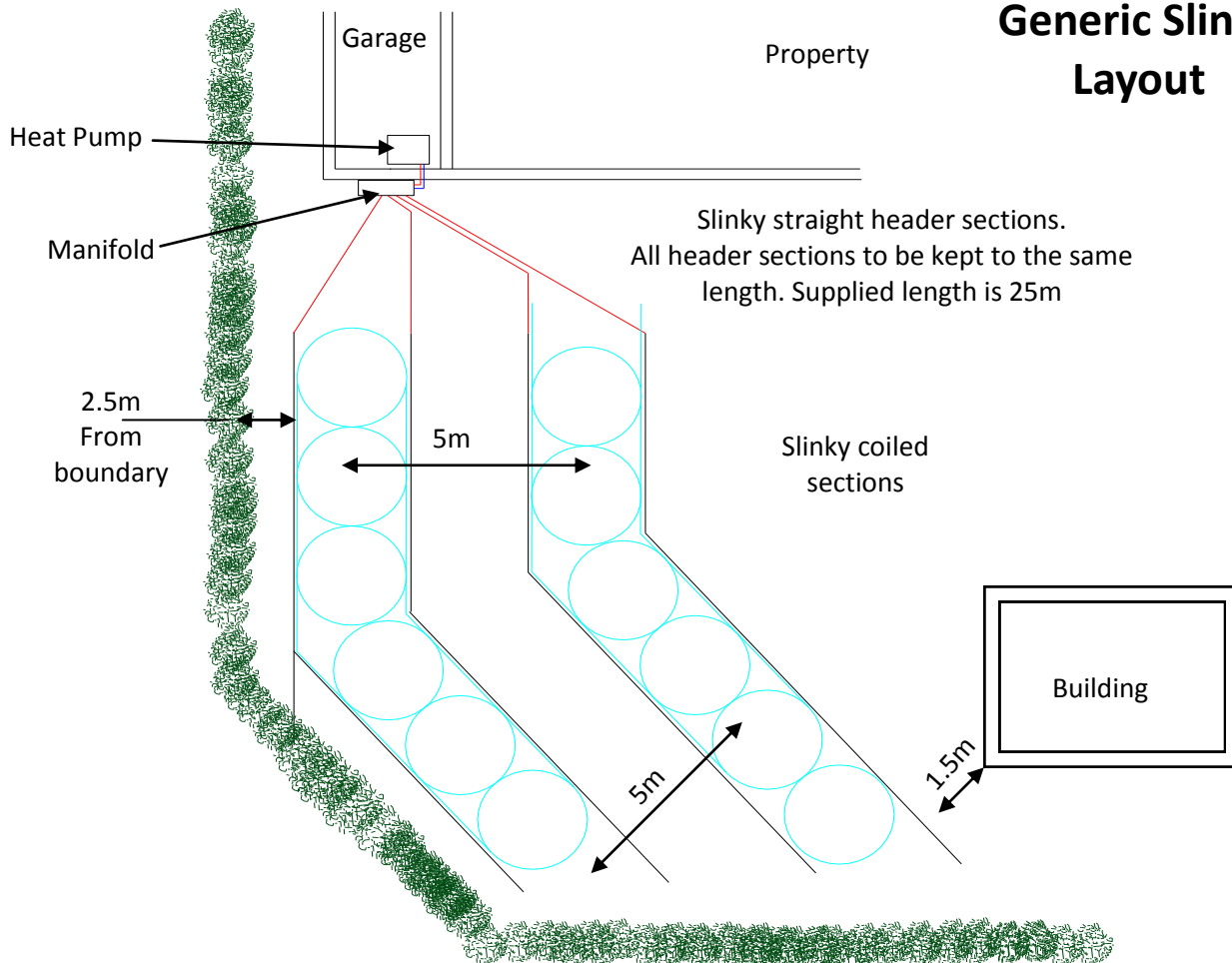
Full trench not shown for clarity



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Generic Slinky Layout



Slinky Layout

The coiled section of the slinkies should be installed with a minimum of 5 metres between each slinky trench centre. This separation distance should be maintained at all times, even if the slinkies bend or turn back on themselves.

The straight header sections of the slinky (in red on the drawing above) should be kept the same length to ensure equal flow through each slinky. This can be achieved by coiling any excess header pipe back into the header trench. It is possible to combine the header pipes into the same header trench. However it is advised that the flow and return pipes are run down either side of the trench.

Slinkies should be placed at a minimum of 2.5m from property boundaries and 1.5m from buildings.

Slinkies should be unrolled next to the trenches and it is advised that the return pipe is cabled tied to the coils to improve the rigidity and aid manual handling. (Please see the Slinky Installation Guide for further details).