!4 Cattell's Lane
Waterbeach
Cambridge
CB25 9NH

28 October 2015

Liz Jones
Clerk to the Parish Council
The Old Pavilion
Cambridge Road
Waterbeach
CAMBRIDGE CB25 9NJ

Dear Liz

I write on behalf of the Trustees of Tillage Hall.

You may recollect from my earlier visit to the Parish Council offices that we have been having some difficulty with the heating system for Tillage Hall. In fact these problems have existed since the building was handed over to us but have not been fully diagnosed until recently.

The main problem is leakage from the ground loop that results in pressure loss within the system and automatic close-down to protect the equipment from harm. It is easy to top-up the ground loop by adding more water but currently this is required every 24 hours and has a very undesirable side-effect of reducing the proportion of antifreeze in the ground loop. As the system extracts heat from the ground by cooling the water re-circulating into the ground loop close to zero so that it is warmed by the soil the liquid is supposed to have a freezing point of -15° but this has already increased to -10°. The level of antifreeze needs to be increased urgently.

The cause of the leak has been found to be the connectors to the manifolds in the manifold pit on the recreation ground. Several of the connectors are leaking and we have been advised that replacement of the connectors is not possible as they are no longer manufactured. Consequently the manifolds and connectors need to be replaced completely.

The defect was not apparent but clearly existed at the time of handover of the building and consequently the Trustees of Tillage Hall are asking the Parish Council to pay for this repair. As the matter is urgent we further request that you authorise the repair immediately.

However we believe that the Council should seek compensation from the builder of Tillage Hall or the sub-contractor. We will support the Council fully in preparing the case and in any ensuing discussions.

One of the reasons that we have found it difficult to resolve this earlier is that the sub-contractor has not been as supportive as we would have hoped. Their base is a significant distance from Waterbeach which has made scheduling visits difficult and ultimately we lost confidence in their ability and willingness to help us. Following very helpful conversations with the heat pump manufacturer we have identified an alternative supplier who was able to visit and inspect the installation at short notice, diagnose the underlying problems, and has subsequently given us a quotation for the work involved. I have attached this quotation and the initial estimate for the inspection visit. You will note that there is some variability in the quotation that cannot be predetermined. Consequently the total cost of the inspection and remedial visit is in the range £1948.19 to £2385.69 + VAT. We are not able to provide additional quotes as the companies that undertake this work are few and far between; the

work that is required is not a commodity and would require significant inspection visits before a supplier could quote. In addition we would have to pay for those initial inspection visits; getting three quotes for example would increase the total cost by twenty to twenty-five percent

I hope that this is sufficient information for you to be able to reach a decision but if not please let me know as soon as possible.

Yours sincerely

Alan Ball
Trustee
Tillage Hall

Quotations from GCore (by email)

Alan,

Thank you for your call earlier.

We propose to complete an inspection of the system initially to determine the cause of the ground side pressure loss. If we are able to fix the problem there and then, we will.

If not, we will provide you with a proposal to repair the fault and re-commission the GSHP system.

To attend site to complete the inspection, the charge will be £205.00 plus VAT.

We are able to attend site at 14:00 tomorrow. If this is too early, the next available time/date is Friday 16th October from 08:30hrs.

If you would like us to proceed, please let me know (and please confirm the preferred time/date).

Thank you, Rob.

Rob Gardiner, G-Core Limited

Alan,

We have had a response from the manufacturer. They no longer supply the manifolds as per the one you have installed on the basis that their design is poor and prone to leaks. On this basis, they suggest that the remaining manifold couplers should be replaced as they are likely to become defective in the future.

In addition to this, the pipework and manifolds themselves are not properly secured to the chamber wall and so through circulation of the thermal fluid through operation, this will/is causing damage to the joints and couplers.

Therefore, our recommendation is to replace both manifolds, securing them and both the incoming and outgoing pipework with Olympic rings (our standard approach).

Therefore, our proposal and costs are as follows:

1. Supply replacement manifolds: £650.69

2. Supply replacement concentrate thermal fluid (pressurise and fill to 2Bar & -15% frost protection): £2.50/L (allow 250L) (allow up to £625.00)

3. Flush and sterilise ground energy collector (sample test and sign off by independent chemist): £30.00

4. Labour, tools and equipment (2 days): £875.00

5. Complete annual service on heat pump system: £included FOC

6. Total: £2,180.69

NOTES:

a. Item 2 – only the fluid used will be recharged.

b. Item 4 – it is possible that the works will take a single day. If this is the case, only a single day will be charged.

c. Whilst we are undertaking the works, we will complete and annual service. This would normally cost £437.50.

d. All prices are excluding VAT

e. Terms are 14 days from invoice.

Attached are the photographs of the defective couplers and general pipework arrangement.

I trust the above contains all the information you need. If you do need anything further, please let me know.

Thank you, Rob.

Rob Gardiner, G-Core Limited

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