

## **ENFIELD GREEN PARTY**

### **Comments on the proposed New Chase Farm Hospital**

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EGP is not aware of the considerations that have led the Royal Free to propose a completely new hospital on the Chase Farm site. However, it's obvious that many of the current structures are poor.

We are a political party, not architects, and we are not proposing a specific design. However, we urge you to consider the points we make below concerning energy use, fresh air and contact with nature.

#### **ENERGY USE**

The existing Chase Farm buildings are very inefficient in their use of energy; the hospital is the biggest energy user in Enfield! (Aecom, 2011; p 23).

Given the increasing cost of energy and the increasing concern about greenhouse gas emissions it's obviously vital that the new hospital uses as little energy as possible and that it sources the energy it does use from low-carbon sources.

#### **Energy efficiency**

Buildings of all kinds can be designed to use very little energy for space heating. The key design factors are orientation, building shape and choice of materials. Good choices allow buildings to benefit from the heating effect of natural sunlight and to maintain the desired temperature with little energy input.

The building system that reliably gives the highest energy performance is undoubtedly passivhaus. The key elements of passivhaus are orientation, compact shape and lots of insulation plus mechanical ventilation with heat recovery. And one thing more: great attention to detail during construction. Without this the best design will inevitably be compromised and performance will fall far short of the potential (Tofield, 2012). A recent study by Oliver Kah (2014) found that a passivhaus hospital would need 40-50% less heating than a conventional design.

However, the original inspiration for passivhaus was comfort rather than energy efficiency. Passivhaus buildings are pleasanter and people who work

in them are more 'productive' (Tofield, 2012). It is a reasonable speculation that what is good for staff will also be good for patients, both directly and by reason of the better treatment they will receive. These are powerful reasons for favouring passivhaus for the new Chase Farm hospital.

We believe that no-one has yet built a complete passivhaus hospital – though one is under development in Frankfurt (<http://passivehouseplus.ie/news/projects/world-s-first-passive-house-hospital-planned.html>). This is therefore an opportunity for the Royal Free to enhance its reputation as an innovator by commissioning the first passivhaus hospital in the UK.

If this proves impossible, and we understand that the short timescale makes it difficult, we strongly recommend that the Royal Free investigates the Frankfurt project and the various studies that have been done (eg Braumlich, 2014, and Kah, 2014). The Passivhaus Trust (<http://www.passivhaustrust.org.uk/>) can offer advice on these matters.

To the degree that artificial heating is needed, and even passivhaus buildings need some heating, we hope that the design team will consider heat pumps rather than boilers for their superior efficiency. There may also be scope for a heat network that also supplies the housing to be built on the other parts of the current Chase Farm site.

### **Low-carbon sources**

The hospital will be able to generate some of its own low-carbon energy and we trust that the building design will include solar panels. There may also be scope for wind turbines and these should certainly be considered.

## **AIR AND NATURE**

Finally we'd like to draw attention to the value of two free resources, fresh air and nature.

### **Fresh air**

Many people from Nightingale onwards have believed in the value of fresh air in healing. Recent studies (summarised in Swain, 2013) have shown that they are right to do so. We note that the WHO recommended the use of natural ventilation in hospitals in 2009 (Atkinson, et al; 2009).

We urge that the Royal Free takes full account of the value of this free resource in planning the new hospital. (However, we recognise that it may be difficult to reconcile this point with passivhaus design.)

### **Contact with nature**

It is not just Greens who recognise the therapeutic value of the natural world. A number of studies have shown that patients recover faster when they have contact with, or even just a view of, the natural world. An early study (Ulrich, 1984) showed that surgical patients in rooms with natural views had shorter postoperative hospital stays, received fewer negative evaluative comments in nurses' notes and took fewer potent analgesics than matched patients with windows facing a brick building wall. This study has been widely cited since. A more recent study (Park and Mattson, 2009) showed some therapeutic benefits from the presence of plants.

This is consistent with studies such as de Vries et al, 2003, which show that Living in a green environment is positively related to various health indicators.

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