



**Proposed Development  
Hampstead Police Station  
Rosslyn Hill  
Camden  
NW3 1PA**

**Review of Energy, BREEAM & ME Reports**

**S16-296  
June 2019**

R2

***Prepared by :***

**Southwest Environmental Limited**

***On behalf of :***

**HCRD**

## 1.0 Introduction

Acting on instruction from HCRD, Southwest Environmental Limited are to make review of the Energy, BREEAM & ME Issues relating to the proposed Primary School at Hampstead Police Station.

On the 1<sup>st</sup> of May 2019 MPs have approved a motion to declare an environment and climate emergency. Following the IPCCs 2018 report the world's leading climate scientists have warned there is only a dozen years for global warming to be kept to a maximum of 1.5C, beyond which even half a degree will significantly worsen the risks of drought, floods, extreme heat and poverty for hundreds of millions of people.

In light of these projections we would consider the energy efficacy measures, and lack of renewables offered by the project team very poor.

Zero effort has been put in to designed fabric energy efficiency measures. There is no consideration of insulation what so ever, no renewable energy systems, no provision for cyclist changing, no assessment of adequate daylight . . . . a near complete lack of sustainable design.

### 1.1 The Site

The site is occupied by a former metropolitan police station. It is intended that this building be repurposed as a school.

<b>Address</b>	Rosslyn Hill Camden London
<b>Postcode</b>	NW3 1PA
<b>Grid Reference</b>	526870, 185560

### 1.2 Proposed Development

The proposed development (2019-2375-P) is for a Primary School, comprising 1906m<sup>2</sup> gross space. There will be 36 staff members at the school.

## 2.0 Aims of this Report

The aims of this report are to examine the conclusions and workings of:

- Ridge - Energy Statement - Job: 5004713
- Ridge BREAMM Pre-Assessment - Job: 5004713
- Ridge Mechanical and Electrical Services Specification - Job: 5004713

## 3.0 Energy Statement

We have identified the following discrepancies. It is clear that the assessment relies heavily on the buildings listed status to avoid many easily implemented carbon reduction measures. SWEL have delivered BREEAM refurbishment report which achieved an A rating for energy

efficiency, there is no reason other than financial why the same could not apply on this project.

A newly built energy efficient building is modelled as having a 17 kgCO /m<sup>2</sup>.annum. The proposed refurbishment will have an emission rate of 34.2 kgCO /m<sup>2</sup>.annum. Over a given year this will create surplus emissions of 2730 kgCO<sup>2</sup>. This is equivalent to the footprint expected from 1200 beef steaks, or 5200 paperback novels.

According to figures taken from UN reporting, and adapted for use in this instance. The direct human cost for this quantity of CO<sup>2</sup> released to atmosphere over the building 50 year life cycle equates to 2.3 climate change related deaths.

### **3.1 Inappropriate Baseline**

The assessment uses a baseline taken from a pre-existing EPC. Although the proposed building was modelled with SBEM, and it is likely that this is the case for the EPC also, it is unclear what the input parameters for the original EPC were. This undermines the validity of the baseline value.

### **3.2 CHP**

Combined heat and power is excluded as an option based on "*small heating demand*". Typically a CHP engine is sized to match lowest heating demand, if this is the case then a micro CHP plant should be used for base demand with cascading boilers for top up heat. There is no good reason given behind this exclusion of CHP.

### **3.3 Cooling**

Energy for cooling will be required but is given a null value in SBEM model. Considered in combination of overheating potential of the Sick Bay and Therapy Room, this is an oversight that results in underrepresented emissions.

### **3.4 Lack of Renewables**

There are no renewable energy systems.

No doubt there is a case to be made that solar panels cannot be included owing to listed building status. But it is unclear whether listed building controls have been approached regarding this.

### **3.4 Fabric Energy Efficiency**

This perhaps the weakest section of the report. There are no FEE improvements detailed in the report. There are numerous solutions that could be applied internally that would not affect listed status.

- Internally Applied Wall Insulation
- Passive House Air Permeability Standards
- Loft Insulation

In addition single pane glazed units could be replaced with thin profile Argon Filled DG Units such as CN Heritage Slim Double Glazed Units.

There is little detail with regards to window opening and sealing of windows post development. If these are not specifically designed then any HVAC system could draw inside air in to the room through poor sealed closures, which would reduce efficiency of heat recovery unit and also degrade indoor air quality.

#### **4.0 BREEAM Pre-Assessment**

In summary the BREEAM Pre-Assessment follows the same defeatist narrative as the Energy Statement the phrase "difficult to do" is repeated 35 times in the document with scant justification for its use.

#### **4.1 HEA 01 VISUAL COMFORT**

To have made no attempt to quantify day lighting levels in classrooms, show a lack of apathy for the end user. If day lighting standards are not achievable, then this can only have a negative impact on the children and staff using the class rooms.

All teaching rooms, staff rooms and treatment rooms should have an ADF of 2% or more. Without this they fail basic lighting standards as set out in BRE 209.

#### **4.2 HEA 02 INDOOR AIR QUALITY**

An Indoor Air Quality Plan and monitoring scheme will be essential to safe guard pupils and staff in line with MDHS96, and to verify efficacy of the pollution removal system.

#### **4.3 ENE 01 -OPTION 1 A**

It is entirely possible to provide fabric improvements. Please see section 3.4 for details.

#### **4.4 ENE 04 LOW CARBON DESIGN**

Despite being a policy requirement and a BREEAM requirement this has been overlooked at design stage, with no justification given.

*"we have now gone past the design stage to incorporate this"*

It would appear in order to provide a policy compliant building that the design stage needs to be revisited.

#### **4.5 INN 01 APPROVED INNOVATIONS**

Where better to include innovative features than a school, where the pupils could benefit via applied learning.

#### **4.6 POL 03 FLOOD RISK AND REDUCING SURFACE WATER RUN-OFF**

There is no betterment provided. Low cost options such as permeable paving could be offered here.

#### **4.5 TRA**

The credibility of this section is undermined by the fact that the school is situated outside of its catchment area. This would indicate at best that walking and cycling will be less favourable than other school sites, and picking from a broad selection of Transport

Assessments we have prepared for schools across the UK, we have never seen better than 5% cycling and 20% walking.

In addition if you would like to encourage cycling then you will need facilities for changing and preferably showering. If staff are expected to cycle to work along congested roads, breathing unsafe air, then common decency might include a shower and somewhere comfortable to change on arrival.

The alternative might be a peeling off wet clothes in a stationary cupboard or whilst standing in the staff toilet.

## **5.0 Mechanical and Electrical Services Specification**

Page 80 and 81 cover main ventilation systems. There is no mention of any mitigative NO<sup>2</sup> removal system. The document is large at 118 pages a key word search for nitrogen, NO<sub>2</sub> and pollution returned no results.

The conclusion; that despite being recommended in the Air Quality Assessment the mitigative systems have not been specified, in the MES Report.

## **8.0 Conclusions**

**The design phase for this project has been bypassed or overlooked. As a result a myriad of fabric energy efficiency features that could be used to lower operational carbon emissions and score higher in the BREEAM Pre-Assessment are absent, and remain unconsidered.**

**Whilst the pre-assessment mentions the "*building has been designed to minimise the concentration and recirculation of pollutants*" this is not represented in the SBEM model, or the Mechanical and Electrical Services Specification.**

**Not only should this equipment be thoroughly specified but a specific maintenance plan with designated responsible parties should also be authored and signed prior to approval of planning. This ascribing of responsibility is required for documents as temporal as CEMPs and as such it should surely be vital for a system that protects children from dangerously polluted air.**

## **9.0 Certification**

*This report is produced for the sole use of the Client, and no responsibility of any kind, whether for negligence or otherwise, can be accepted for any Third Party who may rely upon it.*

*The conclusions and recommendations given in this report are based on our understanding of the future plans for the site. If, however, the site is developed for a more or less sensitive use, then a different interpretation might be appropriate. Information within this report should not be utilised in making of assumptions and judgements with regard to the financial value of land or property.*

*For the avoidance of doubt this report does not form a guarantee express or implied against negative impacts of pollutants or other emissions on persons, property or amenity value within the vicinity of the proposed site.*

*It necessarily relies on the co-operation of other organizations and the free availability of information and total access.*

*The scope of this Assessment was discussed and agreed with the Client. No responsibility is accepted for conditions not encountered, which are outside of the agreed scope of work.*

*This report may suggest an opinion regarding possible concentrations on site and in the vicinity of the site. However, this is for guidance only and no liability can be accepted for its accuracy.*