



The survey specialists...

Property • Infrared • Asbestos • Snagging



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INFRARED **SURVEY**



Customer Details

Client Name: XXXXX XXXXXXXXXX
Address: WXXCROXX
PEXX FOXXXX
XXXX
SK17 8EG
Purpose of Report: BUILDING HEAT LOSS QUALITATIVE INFRARED ANALISYS
Report Reference: IAS/XXX/2022
Inspection Date: 28 Feb 2022
Surveyor Name: XXXXXX XXXXX BSc (Hons), ASSOC RICS, BCI, CII, BDMA
Thermographer Name: Xxxxxx xxxxx ISO 18436/7 & BINDT CM/GEN
Average Ambient Temperature: 37.40 Fahrenheit
Imager Used: FLIR ONE PRO

Property Image





Type of property: Detached

No of bedrooms: 2 Bedrooms

State of repair: PoorCondition

Services: Electricity-Oil-Mains Water Supply

Tenure: Freehold

Location: Exposed

Property Age: Circa 60 Years

Understanding Building & Roof IR Imagery

Infrared imagery is often a picture where scales (or shades/colours) represent the differences in temperature and emissivity of objects in the image. As a general rule, objects in the image that are lighter in colour are warmer, and darker objects are cooler. No object in the images is detected via Visible light wavelengths (400 700 NANO meter's) rather, only from infrared wavelengths in the 3000 5000 NANO meter's or 8000 14000 micrometre's range. Lights and other relatively hot objects are very evident, but as a result of their heat not light emissions. When an image is taken with our infrared camera, it is digitally saved to an on-board media card. The image may be then modified in a number of ways to enhance its value to the end user. In the case of this report, the building images were digitized, colorized, and then adjusted for colour, contrast and brightness before being scaled and placed in this file.

General Description of Property (External)

- The property inspected was a three bedroomed house spread over two stories with dual pitched roof with a modern style trussed rafter system supported on load bearing walls. The roof has a natural slate covering with an angled ridge tile to the ridge line and a central stone built chimney with fire flue and leaded abutments to the roof covering. The building had a number of projections including a front entrance porch with a pitched roof, slate covering and angled ridge tile, a pitched extension to the left side with a pitched roof slate roof covering and angled ridge tile, and a lean too extension with a slate roof covering and leaded abutment to the main building. Rainwater was discharged from the roof via a PVC rainwater gutter system leading to rainwater downpipes and into the underground drainage system. The windows and the doors were of a modern style PVCU system with sealed double glazed units throughout. The property was located on a rectangular shaped site with a large garden to the front and left side with access off the main road onto the driveway.



View Of The Main Building At The Front.



Thermal Image Of The Building At The Front.



Findings

- The thermal assessment of the external elements found there to be no excessive heat loss from the building. I have been advised the walls have been retrofitted with cavity insulation which appears to be working efficiently with an even distribution of thermal qualities across the surfaces.
- There is however slight heat loss to roof space due to missing insulation from the clipped eaves which has not been installed in this area. Heat is rising up through the clipped eaves level within the upper portion of the building and is escaping the loft space at the ridge line however the heat loss is minimal.
- The window units appear to be performing well again with an even distribution of thermal qualities.



General Description of Property (Internal)

Entrance Porch

- The front entrance porch was a small room with exposed stone to the side returns and a sand cement render to the front elevation. The windows and doors were of a PVCU type construction with sealed double glazed units and there was a modern composite PVCU front door granting access into the property and an internal wooden door with single pane glazing leading into the hallway.

Regular Image Of The Entrance Porch.



Thermal Image Of The Front Entrance Porch.



Findings

- The room was found to be colder than the rest of the property and the main cause for concern was to the window frames which had been sealed both externally and internally with a mortar pointing.
- There is a cold bridge around the window frames due to the mortar having a high level of temperature conductivity resulting in cold spots around the windows which would benefit from raising out and sealing with a putty externally and an internal sealant.



Hall

- The finishes to the hallway were found to comprise of a plasterboard lining to the ceilings and walls which had been skimmed to a smooth plaster finish and painted with an emulsion paint down to softwood timber skirtings which have been painted with a white gloss finish.

View Of Window To The Hallway



Thermal Image Of The Window To The Hallway.



Findings

- The inspection of the hallway found there to be no significant heat loss throughout the fabric of the building however there is a cold bridge around the window frames which is resulting in negative temperature variations within the space. The external inspection found that the render had been formed up to the frame which provided a clear pathway for cold bridging through the window frame.



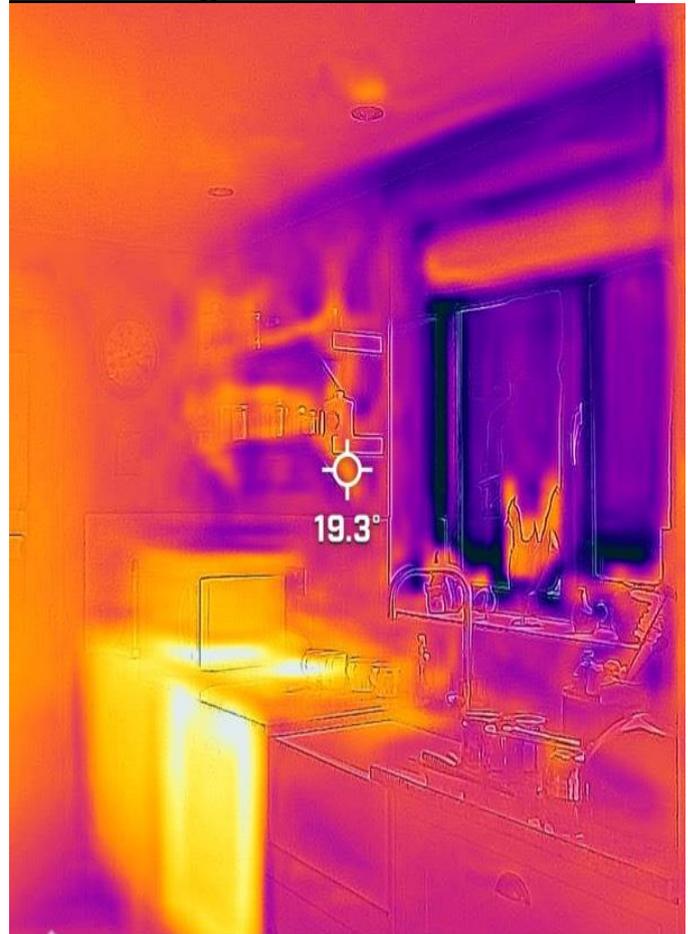
Kitchen

- The kitchen within the property was found to comprise of plasterboard linings to the walls and ceilings which have been skimmed to a smooth plaster finish down to softwood timber skirtings.

Image From Within The Kitchen.



Thermal Image From Within The Kitchen.



Findings

- The inspection of the hallway found there to be moderate heat loss throughout the fabric of the building which is indicated from the darker spots of the thermal image and there is a cold bridge around the window frames which is resulting in negative temperature variations within the space. The external inspection found that the render had been formed up to the frame which provided a clear pathway for cold bridging through the window frame.



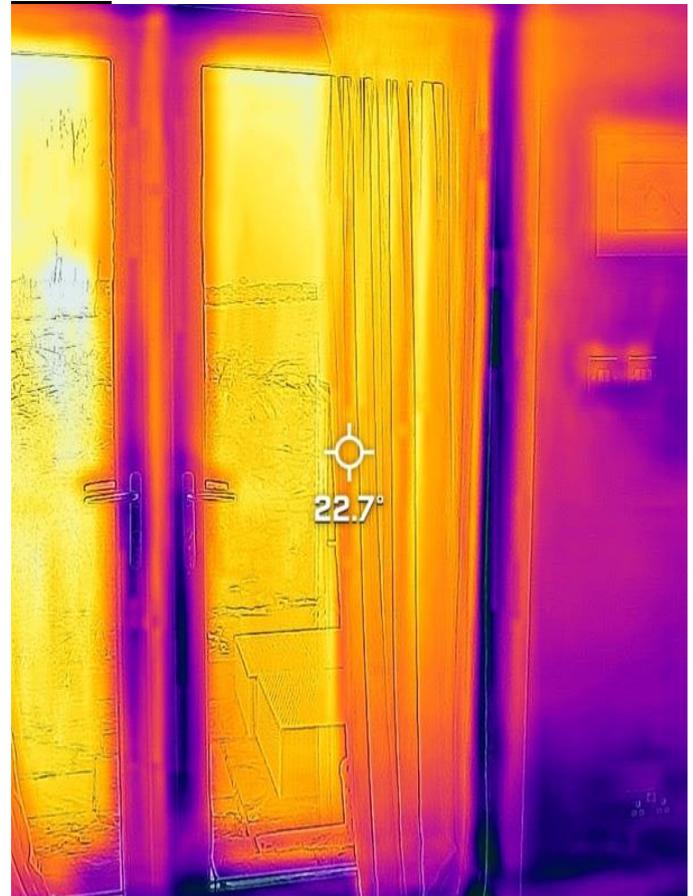
Rear Sitting Room

- The rear sitting room within the property was found to comprise of plasterboard linings to the walls and ceilings which have been skimmed to a smooth plaster finish down to softwood timber skirtings.

Image From Within The Rear Sitting Room.



Thermal Image Front Within The Rear Sitting Room.



Findings

- The inspection of the rear sitting room found there to be moderate heat loss through the fabric of the building which is indicated from the darker spots of the thermal image and there is a cold bridge around the window frames which is resulting in negative temperature variations within the space. The external inspection found that the render had been formed up to the frame which provided a clear pathway for cold bridging through the window frame.



Lounge

- The rear sitting room within the property was found to comprise of plasterboard linings to the walls and ceilings which have been skimmed to a smooth plaster finish down to softwood timber skirtings.

Image From Within The Lounge.



Thermal Image From Within The Lounge.



Findings

- The inspection of the lounge found there to be moderate heat loss through the fabric of the building which is indicated from the darker spots of the thermal image and there is a cold bridge around the window frames which is resulting in negative temperature variations within the space. The external inspection found that the render had been formed up to the frame which provided a clear pathway for cold bridging through the window frame.



Studio

- The studio within the property was found to comprise of plasterboard linings to the walls and ceilings which have been skimmed to a smooth plaster finish down to softwood timber skirtings.

View From Within The Studio.



Thermal Image Of The Studio.



Findings

- The inspection of studio found there to be moderate heat loss through the fabric of the building which is indicated from the darker spots of the thermal image and there is a cold bridge around the window frames which is resulting in negative temperature variations within the space. The external inspection found that the render had been formed up to the frame which provided a clear pathway for cold bridging through the window frame.



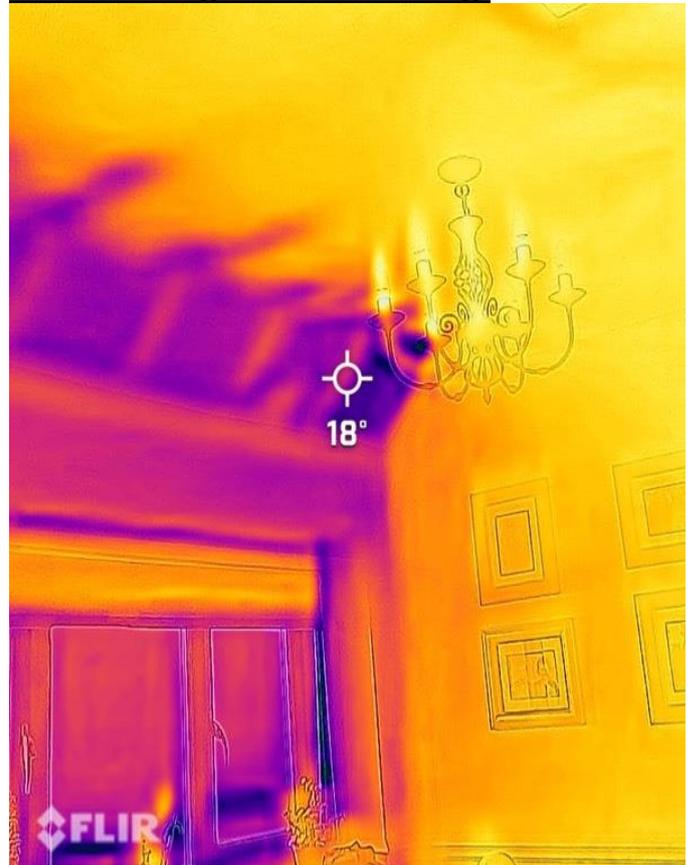
Landing

- The landing within the property was found to comprise of plasterboard linings to the walls and ceilings which have been skimmed to a smooth plaster finish down to softwood timber skirtings.

View From Within The Landing.



Thermal Image Of The Landing.



Findings

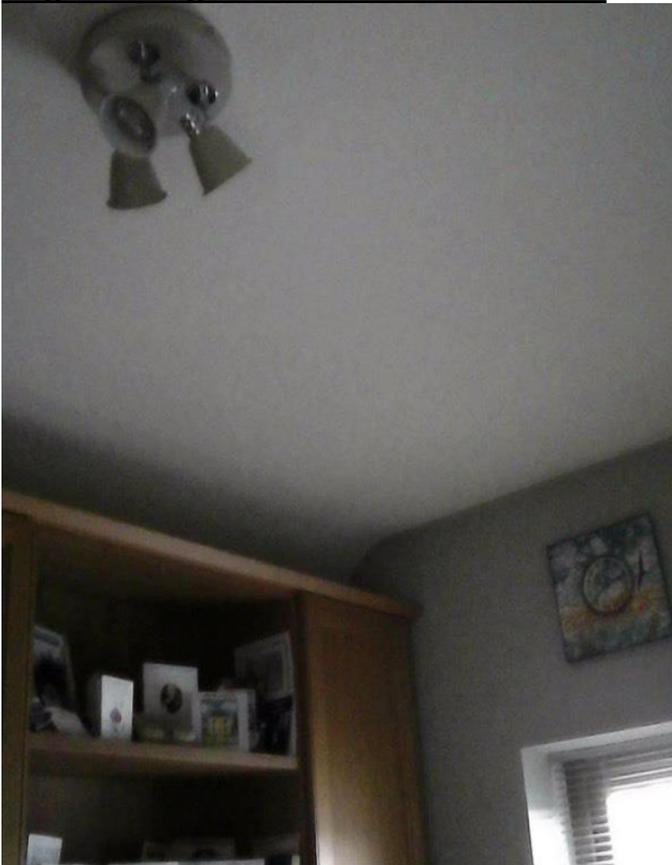
- The inspection of landing found there to be moderate heat loss through the fabric of the building, and into the loft space which is indicated from the darker spots of the thermal image. There is also a cold bridge around the window frames which is resulting in negative temperature variations within the space. The external inspection found that the render had been formed up to the frame which provided a clear pathway for cold bridging through the window frame. Inspection from within the loft space found that the insulation has not been installed to the clipped eaves which is resulting in excessive heat loss into the loft space.



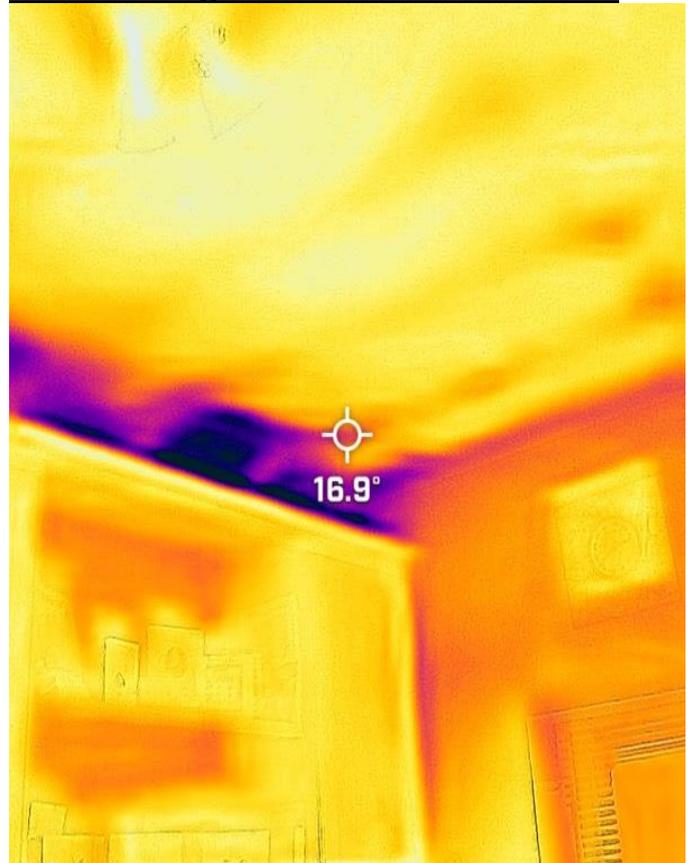
Bedroom 1

- Bedroom 1 within the property was found to comprise of plasterboard linings to the walls and ceilings which have been skimmed to a smooth plaster finish down to softwood timber skirtings.

Regular Image From Within Bedroom 1.



Thermal Image From Within Bedroom 1.



Findings

- The inspection of bedroom 1 found there to be moderate heat loss through the fabric of the building, and into the loft space which is indicated from the darker spots of the thermal image. There is also a cold bridge around the window frames which is resulting in negative temperature variations within the space. The external inspection found that the render had been formed up to the frame which provided a clear pathway for cold bridging through the window frame. Inspection from within the loft space found that the insulation has not been installed to the clipped eaves which is resulting in excessive heat loss into the loft space.



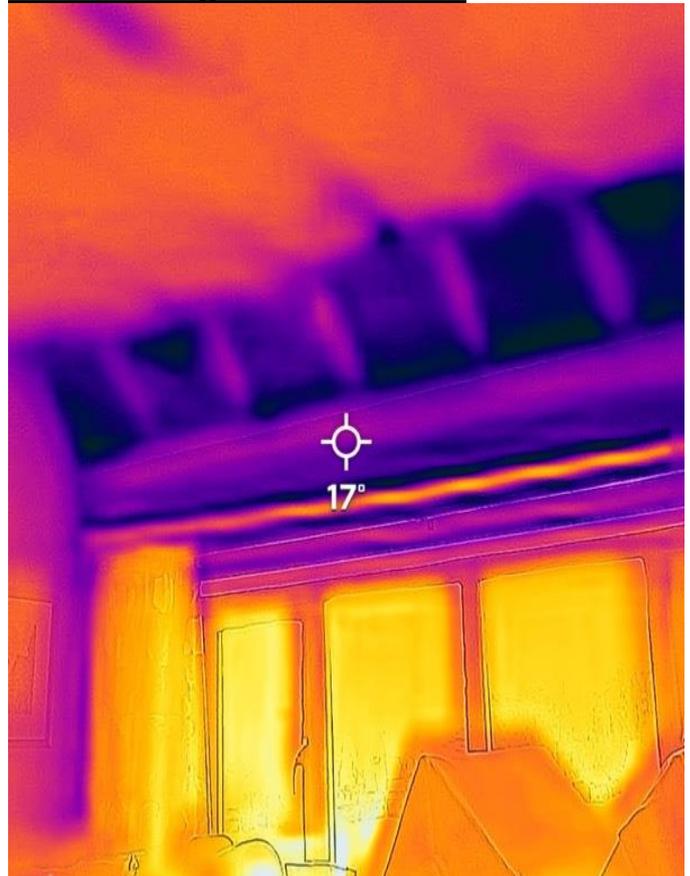
Bedroom 2

- Bedroom 2 within the property was found to comprise of plasterboard linings to the walls and ceilings which have been skimmed to a smooth plaster finish down to softwood timber skirtings.

View From Within Bedroom 2.



Thermal Image Of Bedroom 2.



Findings

- The inspection of bedroom 2 found there to be moderate heat loss through the fabric of the building, and into the loft space which is indicated from the darker spots of the thermal image. There is also a cold bridge around the window frames which is resulting in negative temperature variations within the space. The external inspection found that the render had been formed up to the frame which provided a clear pathway for cold bridging through the window frame. Inspection from within the loft space found that the insulation has not been installed to the clipped eaves which is resulting in excessive heat loss into the loft space.



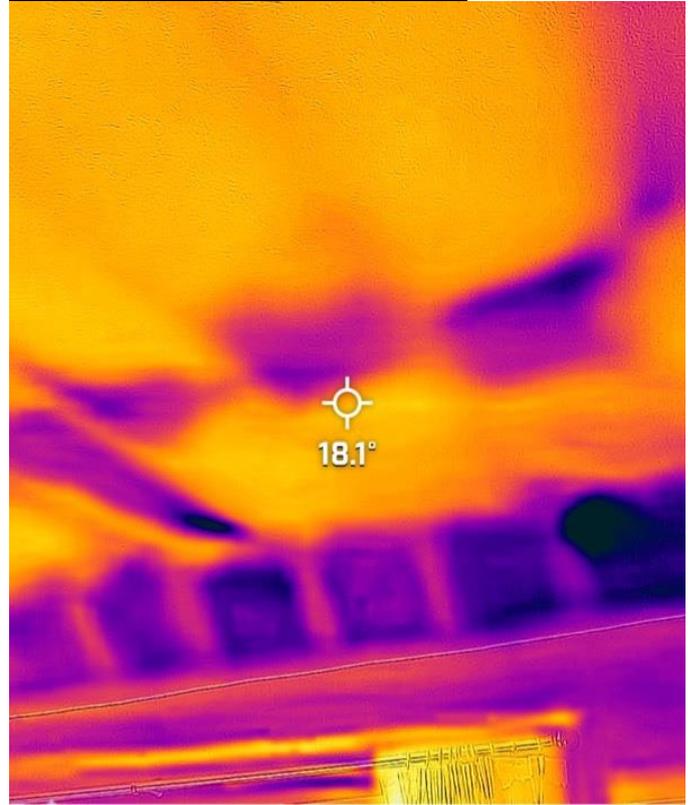
Bedroom 3

- Bedroom 3 within the property was found to comprise of plasterboard linings to the walls and ceilings which have been skimmed to a smooth plaster finish down to softwood timber skirtings.

View From Within Bedroom 3.



Thermal Image Of Bedroom 3.



Findings

- The inspection of bedroom 3 found there to be moderate heat loss through the fabric of the building, and into the loft space which is indicated from the darker spots of the thermal image. There is also a cold bridge around the window frames which is resulting in negative temperature variations within the space. The external inspection found that the render had been formed up to the frame which provided a clear pathway for cold bridging through the window frame. Inspection from within the loft space found that the insulation has not been installed to the clipped eaves which is resulting in excessive heat loss into the loft space. Water ingress from the roof has also been detected to the ceiling as seen in the thermal image and this is as a result of driving rain from the recent storms.



Analysis and Recommendations

- Full assessment of the thermal imagery has identified several defects which are causing undue heat loss resulting poor thermal qualities of the building fabric.
- The main cause for concern is the lack of insulation to the clipped eaves which correlates with the client comments that the upper rooms are colder than the rear two of the building and is uncomfortable.
- There is also concern to the window installation where the render externally has been formed with a bullnose detailing upto the window frame which is causing a cold bridge and causing negative temperature variations around the windows.
- The walls within the property were found to be relatively stable with a general even heat distribution with exception of isolated areas in multiple rooms where there was moderated negative temperature variations.
- The 2014 Building Regulations state that the U-values that building materials must meet, A U-value relates to how effective an insulator or material is. The required U-value for new or replacement flat roofs is 0.20W/m²- this refers to the rate of heat flow, in watts, through 1m² of roofing material. The U-value reflects the increased heat retention capabilities of insulation over the years, which has led to lower energy costs and reduced CO₂ emissions.

Limitations to Survey/Terms & Conditions

Our report on the services installations will be based on a cursory inspection only in order to include a general description. We will not test any installations. Unless otherwise instructed, we will not commission the inspection or testing of any installations by specialist contract engineers. If we find visual evidence to suggest that there may be problems with any installations in part or in whole, or if they are particularly sophisticated or complex, we will advise you accordingly, and make recommendations for further investigations or testing by specialists

This was a non-intrusive inspection and limited to commenting upon the location and reporting of anomalies and temperature differences noted and inspected during the visible inspection at that time.

Based on an inspection as defined below, the surveyor will advise the client by means of a written report as to his opinion of the visible condition and state of repair of the subject property.

The surveyor will inspect as much of the surface area of the structure as is possible but will not inspect those areas which are covered, unexposed or inaccessible.

There may be specific areas and items that were inaccessible during our survey. We can make no representations regarding conditions that may be present but were concealed or inaccessible during the survey. With access and an opportunity for inspection, reportable conditions may be discovered.

Inspection of the inaccessible areas will be performed upon arrangement and at an additional cost after access is provided. Also, our report is based on information obtained at the site at the given



date and time. Over time, conditions change and the information contained in this report may no longer be accurate. Should additional information become available at a later date, we reserve the right to determine the impact, if any, the new information may have on our discovery and recommendations and to revise our opinions and conclusions if necessary and warranted.

The surveyor will assume that the property is not subject to any unusual or especially onerous restrictions or covenants which apply to the structure or affect the reasonable enjoyment of the property.

The surveyor will assume that all bylaws, building regulations and other required consents have been obtained. The surveyor will not verify whether any such consents, have been obtained. The client and his/her legal advisors should make all necessary enquiries. Drawings-specifications will not be inspected by the surveyor.

The surveyor will assume is unaffected by any matters which would be revealed by a local search (or the equivalent) and reply's to the usual enquiries, or by a statutory notice and that neither the property, nor its condition, its use, or its intended use, is or will be unlawful.)

The client will pay the surveyor the agreed fee for the report and any expressly agreed disbursements in addition.

The report is for the sole use of the named client and is confidential to the client and his/her professional advisors. Any other parties rely on the report at their own risk. The report must not be reproduced, in whole or in part, without the prior written consent, of the surveyor.

Note: A building survey report does not automatically include advice upon value or a reinstatement cost assessment/replacement for insurance Purposes. However, the surveyor will be prepared to provide such opinions-assessments if these are agreed from the outset