



Damp Investigation Survey Final Report

Valued Client

Another Address, Another Street, Another Town

02 March 2016

Alpine Water Management Ltd

Dorset House, Regent Park, Kingston Road, Leatherhead. KT22 7PL

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1 Introduction

Alpine Water were requested to undertake a damp survey in order to assess the extent and cause of any damp within the property.

Internally we undertook a Relative Damp (RD) and Moisture Content (MC) survey, in order to ascertain where damp was present and to what level. The RD levels stated indicate the following; 1 - 169 is Dry, 170 -200 is At Risk of Damp and 201 - 999 are varying levels of damp.

In order to assess the property with an alternative survey method, to confirm the RD and MC levels, to ascertain the spread of the damp and to locate potential source points. Thermal imaging was undertaken throughout the survey area and photos obtained of the areas of concern.

2 Property Details

Client	Valued Client	Survey Date	02 March 2016
Address	Another Address, Another Street, Another Town		
Consulting Engineer	Mark Dobson		
Instruction	Assess the whole property		

Property Details

Use of Property	Domestic	Property Style	End of Terrace
Occupants	1	Number of Floors	2
Listed Building	No	Conservation Area	No
Approximate Year of Construction	1896		
Wall Construction and Covering	Solid Stone		
Roof Construction inc Visual Condition	Tiled (Good Condition)		
Historical Information			
There was storm damage 3 years prior to the survey. There is a return of the issue in the front bedroom.			
Plans Provided	No	Full Access Provided	Yes
Comments			

External Details

Wall Condition and Details			
Pointing deteriorated. Render painted and deteriorated. Defective cladding. Deteriorated window frame. Adjoined boundary walls. High ground levels			
DPC in Place	Yes	DPC Type and Cond.	DPC Assumed but unable to see
Vent Brick Details	Various Air Bricks	Guttering Condition	Acceptable Condition
External Fixtures Fittings			
N/A			
Windows & Doors	uPVC	Pathways & Gardens	Conc Gravel Slabs
Chimney Stacks	Yes	Condition	Good Condition
Water Supply Checked	N/A	Drainage	N/A

Internal Details

Ground Floor Construction and Coverings Part solid and part suspended floors

Room Details

2 Bedrooms, bathroom, kitchen, lounge dining room, sun room

Heating Type Combi (No Pressure Loss) Air Con No Blocked Fireplaces Yes

Internal room changes construction mods

Extension to the rear which is the summer room

Kitchen/Utility Room

Oven Extractor Details

Filter only.

Equipment Details

Oven

Bathroom(s)

Air Extraction Details

No extractor fitted

Other Details

Other Specific Room Details

None

Property Insulation Details

Solid construction therefore no cavity insulation

Specific Mould and Fungi Details

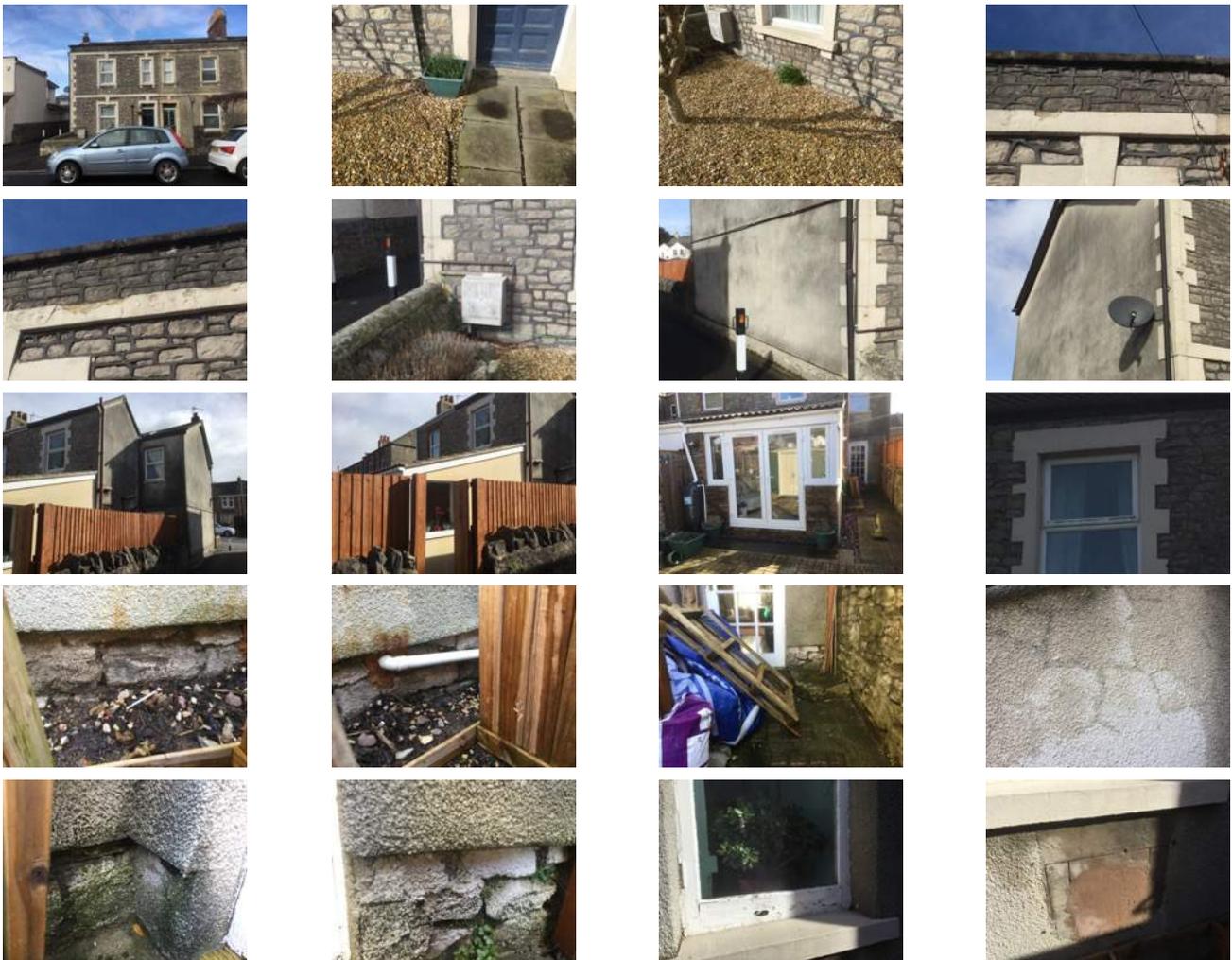
Mould is not generally an issue

Specific Condensation Details

Condensation is an issue on the single glazing, and minimal elsewhere

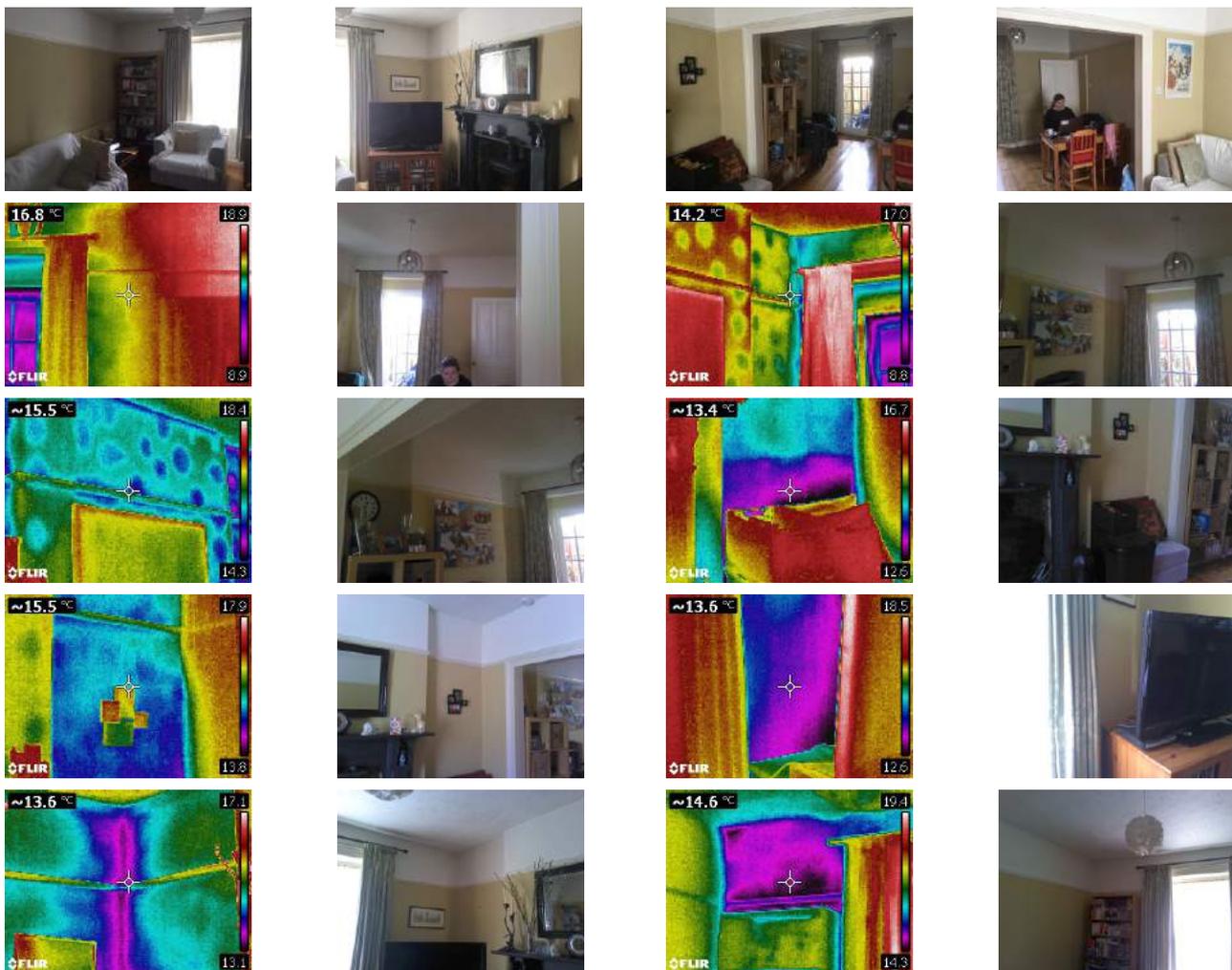
Exterior Details

Initially we assessed the exterior of the property, and found that the painted rendered stone was deteriorated to the front, and damaged. The pointing and stone appeared porous, and we believe will absorb moisture. The the front and rear, the stone boundary walls are built up to the property elevations, and therefore any absorbed moisture will penetrate the front and rear elevations. To the side and rear there has been a render cladding, which is cracked in numerous places, and is allowing moisture to penetrate. We believe that the cladding is a cement based material, which is non breathable. Non breathable materials will trap moisture within the elevations. The wooden window to the rear is deteriorated, which will allow moisture to penetrate into the wall beneath. To the front and rear we found that the ground level was high, and was at internal floor level. To the side of the property the Tarmac drive has been raised, and appears to be above internal floor level. The recommendation is a drop of 150mm from the internal floor level down to external ground level. Therefore the risk of moisture penetration into the base of the wall and internal floor structure is much increased by the raised levels.



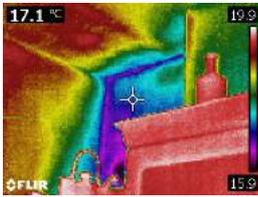
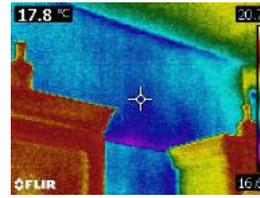
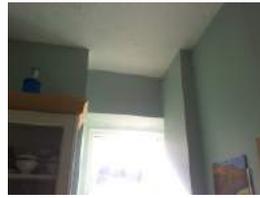
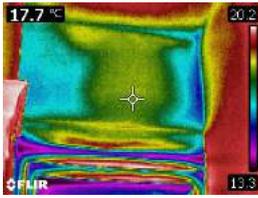
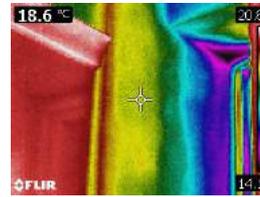
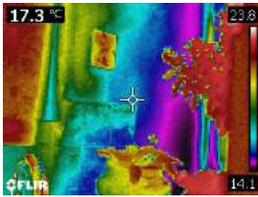
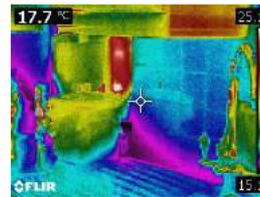
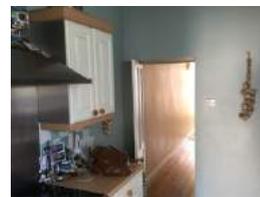
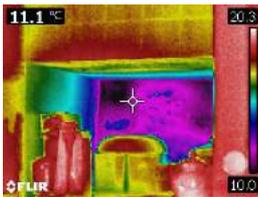
Lounge Diner

Within the lounge diner we found that the RD levels across the front facing wall were between 197 at high level, and 486 at skirting level. The plaster on the front wall has blown in places as a result of moisture within th wall. Across the side external wall within the lounge the RD levels were between 211 at high level, and 999 at skirting level. Across the chimney breast which has been dry lined the RD levels were between 177 and 289. This indicates that the chimney breast is damp behind the lining. Within the dining area the RD levels in the left alcove were 167 at high level. Across the chimney breast the RD levels were generally 999. Within the right alcove the paper is peeling, and the plaster is blown due to RD levels of 999, and MC levels up to 100%. Across the rear facing wall the RD levels were between 239 a high level, and 384 at skirting level. The RD levels on the internal party wall were high adjacent to the front and rear elevations, but reduced into the room. The moisture levels obtained are a result of moisture penetration through the front stone and pointing, and through the render cladding. The cladding is thereafter trapping moisture within the walls. The RD levels on the floor to the front of the property were acceptable, however to the rear they increased to 211, indicating that moisture is penetrating the floor structure as as result of the saturated wall base, and the high ground level.



Kitchen

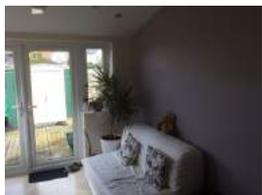
Within the kitchen we noted cracks within the window recess. We were unable to obtain RD levels in the left alcove. Across the chimney breast the RD levels were between 217 and 999 with an MC level where taken of 71%. Based on this, we believe that the RD levels in the left alcove will be damp. Within the window recess the RD levels were between 486 and 999, with an MC level of 100% in the side of the chimney stack. The external stack has been removed. The RD levels across the original rear elevation were between 210 at high level and 713 at skirting level. Across the neighbouring party wall the RD levels were acceptable at high level, yet up to 298 at skirting level. This is a result of moisture penetration from the rear elevation which is resting on the DPC, and spreading along the DPC. The MC levels obtained on the floor were found to be acceptable. The reason for the high moisture levels in the walls, is because moisture is penetrating the render cladding, and has become trapped.



3 Property Survey Details

Sun Room

Within the sun room we found that the RD levels indicated a risk of damp on all walls, however the MC levels obtained were acceptable, indicating that the internal block wall skin was absorbing moisture, possibly created by cooking, and is a result of poor moisture extraction. This is a normal characteristic for some block materials.

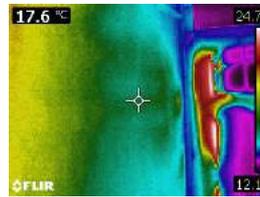
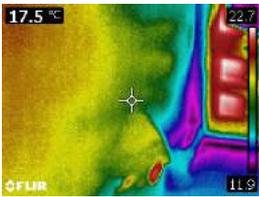
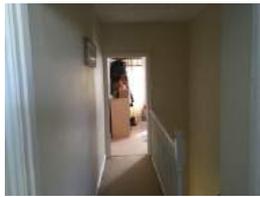
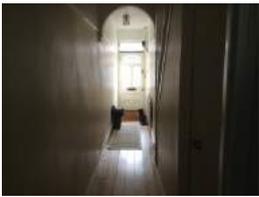


3 Property Survey Details

Entrance Hall & Landing

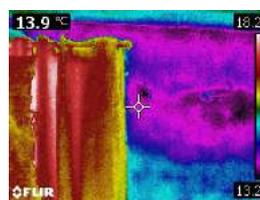
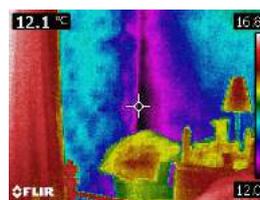
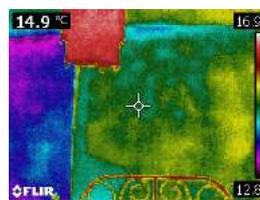
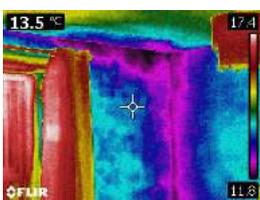
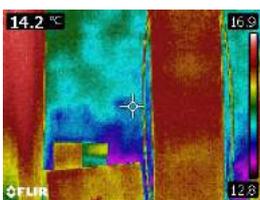
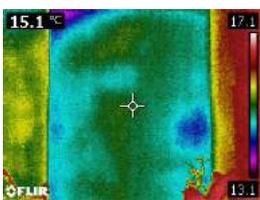
The RD levels on the walls adjacent to the front door were 197 at high level, and 485 at skirting level, with an MC level of 23%. The levels reduced into the property. The moisture is a result of penetration from the front elevation.

The MC level adjacent to the front door was 33%, indicating that moisture is penetrating the floor structure as a result of the high ground level, and the saturated adjacent wall base. Further into the hall we found that the MC levels were acceptable.



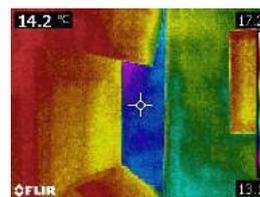
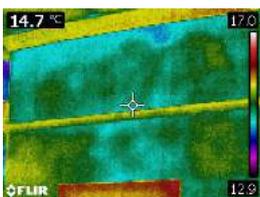
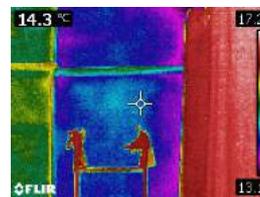
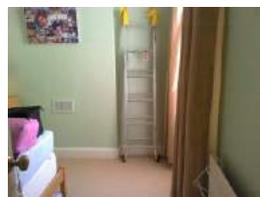
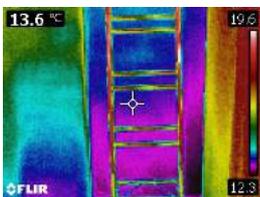
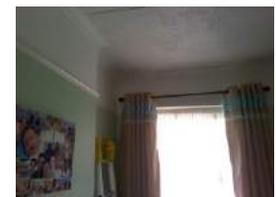
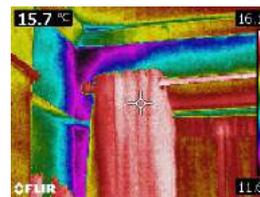
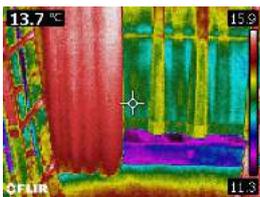
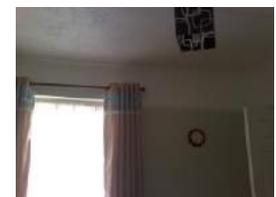
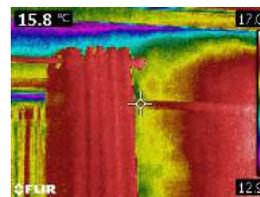
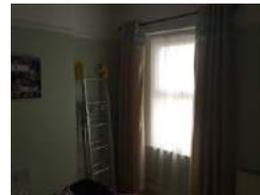
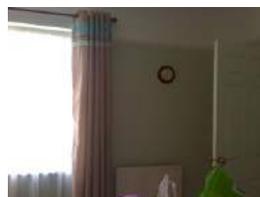
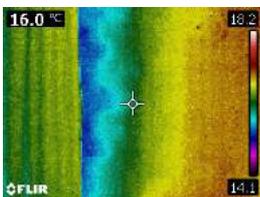
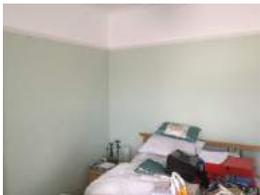
Master Bedroom

Within the master bedroom we found that the paint was peeling from the front external wall. We understand that previous repairs have been undertaken, which was in order to rectify moisture ingress cause by storm damage. We noted that a Gypsum type plaster has been used on the solid wall, which will restrict the breathing process. On such a wall, a breathable lime plaster should be used. The RD levels across the front facing wall were generally between 197 and 236, however across the line of the peeling paint, the RD levels increased to 999. The moisture levels obtained were a result of general moisture penetration, however the increased levels were a result of moisture penetration through the deteriorated rendered stone above the window level, moisture penetration into the parapet, and possibly from water in the valley behind the parapet wall. The RD levels across the side external wall were between 197 and 216. This is a result of moisture penetration through the render cladding, and trapped moisture as a result of the cladding. The RD levels on the neighbouring party wall were between 177 at high level, and 189 at skirting level. This is a result of moisture penetration from the front elevation.



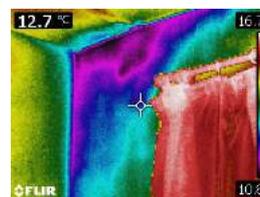
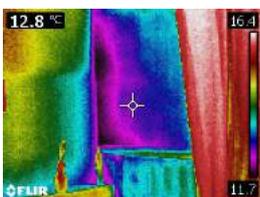
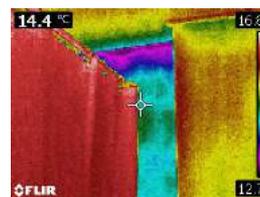
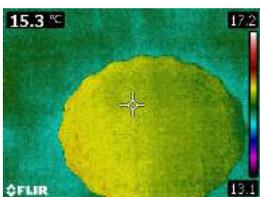
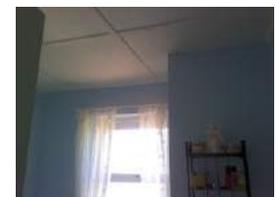
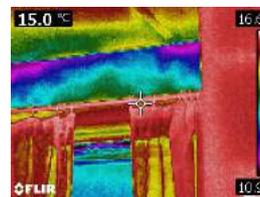
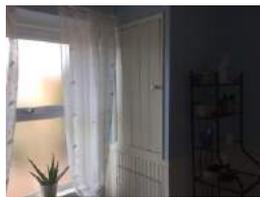
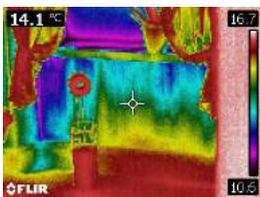
Second Bedroom

Within the second bedroom we found that the RD levels across the side external wall alcoves were between 246 at high level, and 394 at skirting level. Across the chimney breast the RD levels were between 197 at high level, and 209 at low level. Across the rear facing wall where we found light mould in the external corner, the RD levels were 328 at high level, and 587 at skirting level. This again is the result of moisture penetration through the render cladding, and trapped moisture.



Bathroom

Within the bathroom we found that the RD levels on the side external wall were between 281 at high level and 364 at low level on the chimney breast. The alcoves were partly dry lined, however where solid, the RD levels were as high as 999. Across the rear facing wall the RD levels were up to 238 at high level, and 313 at a lower level. The RD levels on the party wall were on average 197 adjacent to the rear elevation, reducing slightly into the property. The reason for the high moisture levels is moisture penetration through the render cladding, and trapped moisture within the walls, along with moisture penetration through the rear elevation.



In order to rectify the current issues, we recommend that the following works and rectifications are undertaken.

1. We recommend that the pointing on the parapet is raked out, and repointed using a cement based mortar. The valley behind the parapet should be assessed, and the lead flashing assessed in order to ensure that moisture can not penetrate through the valley.
 2. We recommend that the deteriorated render cladding is removed with care, so not to cause unnecessary damage to the structure beneath.
 3. We recommend that the deteriorated pointing is raked out, and repointed using a breathable lime based mortar. Any bricks/stone found to be cracked, damaged, eroded by 10% or more, porous or blown due to moisture absorption, should be replaced. At this time the deteriorated stone to the front at first floor level should be corrected.
 4. We recommend that thereafter the elevations are rendered using a breathable lime based render, and for decor a lime wash should be used.
 5. The boundary walls should have an air break installed between the elevation and the boundary, in order to stop further moisture penetration.
 6. The ground levels should be lowered in order to create a 150mm drop from internal floor level down to external ground level.
 7. The deteriorated window frame should be replaced or repaired and decorated to stop moisture penetration.
 8. Any Gypsum type plaster, or deteriorated plaster should be removed internally from external walls, as should any dry lining. The walls should then receive breathable lime based plaster.
 9. An extractor fan should be installed within the kitchen and bathroom, and used during and after cooking and bathing.
- On completion we recommend that dehumidification is undertaken in order to accelerate the drying process of the structure.

The results of the survey were based on the information and data obtained whilst on site and we believe that these are a true and accurate assessment of the property and the damp within it.

The recommendations are based on the damp located, the source points of the damp and the defects as found during the survey. We believe the recommendations will resolve the issues if completed in full.



Signed

Mark Dobson

Date: 02 March 2016