

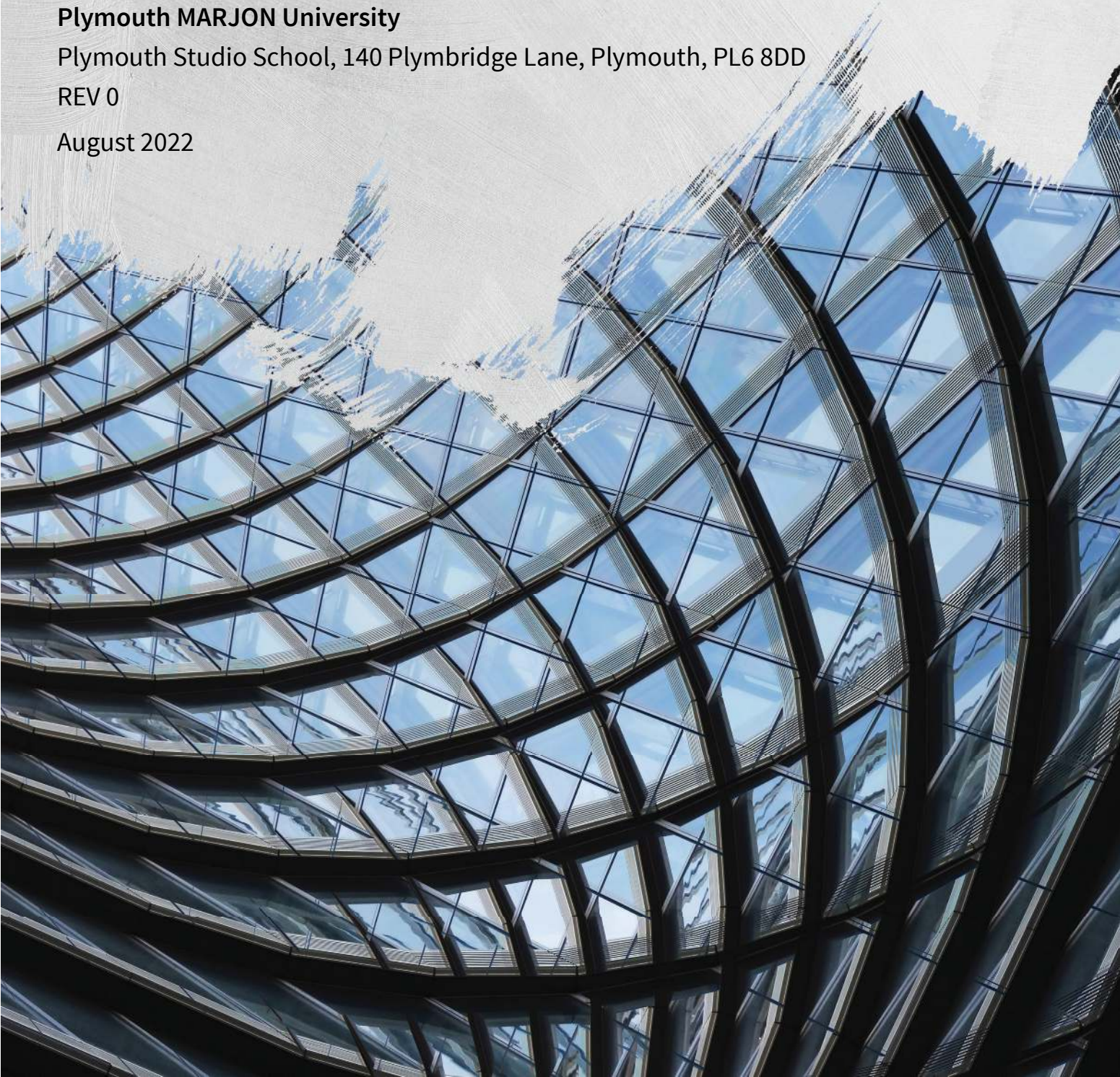
Building Survey Report

Plymouth MARJON University

Plymouth Studio School, 140 Plymbridge Lane, Plymouth, PL6 8DD

REV 0

August 2022





South West Elevation

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1. Executive Summary

The following are the principal observations and comments arising from the inspection of the property. It should be noted that the text of the full report might contain information on other, more minor issues, which should, nevertheless, be referred to and considered.

The property comprises a 2015 detached purpose built Academy School laid out over ground and first floor levels. We have been advised that the property extends to approximately 20,000 sq ft (1,858 sq m). We have not specifically measured the property to verify this.

		Action By	Priority
1.1	Structure and Fabric		
(i)	From our visual inspection we did not observe any indications of any significant structural problems that might suggest inadequacies with the substructure.	Purchaser	●
(ii)	From our visual inspection we did not observe any significant problems that might suggest defects in the structural frame.	Purchaser	●
(iii)	Although almost entirely concealed by existing floor coverings, during the course of our inspection we did not note any inadequacies with the existing ground and first floor structures under foot.	Purchaser	●
(iv)	Historic patch repairs have been undertaken in isolated areas to the gutters and these seem to have been successful.	Purchaser	●
(v)	During the course of our inspection we noted a duct tape repair to an existing gutter and we recommend that long term repairs with an appropriate single ply membrane are provided.	Purchaser	●
(vi)	Internally, the rainwater are boxed-in. The noise from rainwater discharging through the internal rainwater downpipes was noticeable and consideration should be given to the introduction of thermal insulation wrapping to the rainwater downpipes where practical in order to minimise any noise.	Purchaser	●
(vii)	The existing cladding was generally found to be in a satisfactory condition with no significant defects noted.	Purchaser	●
(viii)	The composite cladding panels to the roofs and wall comprise a pre-fabricated insulated system which has an insulated core bonded to two metal outer skins. Each type of insulated core reacts differently in a fire situation, with the panel face heating up when there is a fire in close proximity to it. This causes the insulation to draw away from the heated surface and depending upon the inner core, allows the insulation material	Purchaser	●

1. Executive Summary

to burn when it reaches its auto-ignition temperature. It is our understanding that the Loss Prevention Certification Board for roof cladding normally requires a fire resistance standard to Grade B and this issue should be discussed in detail with your insurers as the premiums may be excessive or more importantly make it difficult to obtain insurance.

(ix)	Generally, the windows were found to be in a satisfactory and serviceable condition with no significant defects noted.	Purchaser	
(x)	Generally, existing doors were found to be in a satisfactory condition throughout with no significant defects noted.	Purchaser	
(xi)	The existing external areas were found to be in a generally satisfactory condition with no significant defects noted. That said, the existing kitchen discharges over a galvanised metal grate to an adjoining footpath and we could not determine from our visual inspection the ownership of this footpath and whether any easements or rights of way exist to traverse the footpath in order to gain access and egress from the escape point.	Purchaser	
(xii)	The existing internal partitions were generally found to be in a serviceable condition, that said, there were general inadequacies with the overall quality/fit and finish from the general time of construction due to a lack of detailed snagging. In addition, isolated scuffing and marking and isolated damage was noted due to the day to day use of the building since its completion.	Purchaser	
(xiii)	From our visual inspection, within the classrooms, there were isolated inadequacies with fire stopping due to service penetrations above the suspended ceiling and we recommend that the ceiling voids are reviewed and any service penetrations that are not provided with fire stopping are provided with an intumescent foam seal or similar.	Purchaser	
(xiv)	The vision panel to the fire door to the ground floor office was missing and the lock had been removed. We anticipate that for some reason this door has had to be broken into in order to access the office.	Purchaser	
(xv)	Generally, the floor finishes were found to be in a soiled but serviceable condition and would benefit from comprehensive deep cleaning and rejuvenation. We do not anticipate that wholesale renewal is required.	Purchaser	
(xvi)	The existing suspended ceilings were generally found to be in a satisfactory condition although isolated ceiling tiles have been moved or displaced and isolated ceiling tiles were damaged. We recommend that tiles are positioned or replaced as required.	Purchaser	

1.2 Building Services

Generally

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(i)	In general, the mechanical and electrical building services are deemed to be of a good standard although it is deemed that the installations have been designed and installed within strict financial constraints.	Purchaser	●
(ii)	The information provided for the H&S Safety File is good although certain system information is lacking. Some of the testing and commissioning information is lacking for a number of systems or is incomplete and require additional support information.	Purchaser	●
(iii)	Design calculations for the services have not been provided <u>Electrical Engineering Services</u>	Purchaser	●
(iv)	The main electrical supply is derived from the local LV Network operated by WPD. The supply is deemed to be adequate for the anticipated demand.	Purchaser	●
(v)	The installed services have not been in use for about four years. The access control system and Accessible Toilet alarms are not functioning, possibly due to them being switched off. There are areas where additional Emergency Lighting is required. System testing and preventative maintenance has not been carried out. There are no records of any regular testing of the fire alarm and emergency lighting installations. These are life safety systems and require regular preventative maintenance.	Purchaser	●
(vi)	All systems will need to be re-commissioned and the relevant certification issued.	Purchaser	●
(vii)	The small PV system requires a G59/G99 agreement. This has to be issued by a specialist contractor who has the appropriate certification to do so. This may require the system to be re-commissioned.	Purchaser	●
(viii)	The main switch room is untidy and needs to be cleaned. Cobwebs develop within the switch gear and result in a fire risk. A rubber mat and a framed LV Schematic should be provided and installed.	Purchaser	●
(ix)	The general lighting installation is deemed to be acceptable, incorporate automatic controls and in good working order. Some minor repairs and luminaire replacement are required. It is also noted that only T5 fluorescent lamps will be available after September 2023.	Purchaser	●
(x)	Additional Emergency Lighting is required in all Teaching Spaces, Sixth Form Common Room, Staff Room and Performance Space. The emergency lighting in circulation areas may need to be supplemented after a three-hour test is carried out. There is no evidence of emergency lighting to a Place of Safety.	Purchaser	●

1. Executive Summary

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|--------|--|-----------|---|
| (xi) | The provision of power outlets supplies is deemed to be adequate. The damaged lids to the floor outlet boxes will need to be replaced. | Purchaser | ● |
| (xii) | Technical information for the CCTV Installation, Data and Telephones, Access Controls and Accessible Alarm is limited. Such systems will need to be recommissioned to confirm compliance. | Purchaser | ● |
| (xiii) | A comprehensive analogue addressable fire alarm system has been provided and this is deemed to be functioning correctly. However, the system will need to be re-commissioned due to the length of time the building has been vacant. | Purchaser | ● |

Mechanical Engineering Services

- | | | | |
|-------|--|-----------|---|
| (xiv) | Overall the systems look like they have been reasonably installed and systems drained down in order for the building to be shut down. There was no visible evidence was seen that any maintenance had taken place over the last 2 years. | Purchaser | ● |
| (xv) | The systems are only a few years old so there should be minimum general wear on a system. Re starting the systems would be a sensible move before winter time to prevent any further deterioration to the fabric of the building as well as to prevent further damage to any seals on the mechanical systems. Therefore, the remedial works required to get the system up and running mainly involves refilling, pressure testing, water treating, sampling and recommissioning – the costs have allowed for this but not for replacement of any valves, pumps, fans etc. that may have seized due to the lack of operation in the 2 years or so of lack of operation. This will only be discovered when the systems are restarted and recommissioning occurs. | Purchaser | ● |
| (xvi) | The other major concern is that the amount of mould seen around the building has probably penetrated the ductwork in places so it has been recommended that all ductwork and air handling units etc. are all professionally cleaned, filters replaced etc. | Purchaser | ● |

Vertical Transportation Systems

- | | | | |
|---------|---|-----------|---|
| (xvii) | Confirmation is required that Building Control have approved the installation of a platform hoist in a new development. Approved Document Part M indicates that this is only to be considered “in exceptional circumstances.” | Purchaser | ● |
| (xviii) | The commissioning information and service records are not available for this platform hoist. A service will be required prior to putting the unit in operation. | Purchaser | ● |

Budget Costs for Remedial Works

1. Executive Summary

- (xix) The assessed costs for the works required to the building services are based on current rates and do not include costs for associated builder's works, Main Contractor OH&P, professional fees and VAT. Purchaser
- The assessed budget costs are as follows:

Item	Budget
Electrical Engineering Services	£41,450.00
Mechanical Engineering Services	£35,665.00
Vertical Transportation	£1,500.00
TOTAL	£78,615.00

1.3 Regulatory Compliance

- (i) Copies of occupier based regulatory registers and certificates should be sought such as Fire Risk Assessments and Disabled Access Audits should be requested by your Solicitor. Purchaser
- (ii) In view of the age of construction of the property it is unlikely that any deleterious materials have been used during construction. Confirmation should be obtained from the vendor. Purchaser
- (iii) We have not had sight of an EPC and could not identify clearly an EPC on the EPC Register for this property and recommend that you obtain a copy of this document from the vendor prior to completing your acquisition of the freehold interest. Purchaser

1.4 Matters For Your Solicitor

- (i) Your solicitor should advise as to the site/property boundaries and confirm ownership of the boundary structures as this could not be determined by site inspection. Solicitor
- (ii) We recommend that your solicitor confirms with the vendor what is and is not included within the sale/purchase and that a Schedule of Fixtures and Fittings is agreed between the parties. Solicitor
- (iii) Your solicitor should obtain confirmation that there are no contraventions or outstanding notices in respect of both Building Regulations and Planning Consent and that all conditions have been discharged. This relates to both the base build and tenants' fit-out to all units. Solicitor
- (iv) Your solicitor should obtain confirmation that there are no disputes or outstanding monies owed under the original Building Contract. Solicitor

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(v)	Your solicitor should seek to confirm the existence of any guarantees or warranties that can be assigned to the benefit of the purchaser.	Solicitor	●
(vi)	Your solicitor should obtain copies of all guarantees and warranties to include and without prejudice the following:- 1. Main contractor; 2. Design team; 3. M&E services installations; 4. Cladding & Curtain walling; 5. External windows and doors; 6. Roof coverings; 7. Steel frame; 8. Lifts; 9. Damp proofing/water protection to slab and retaining walls; 10. Piling/substructure; 11. Ground works. Your solicitors should ensure that all warranties and guarantees are assigned to Plymouth MARJON University.	Solicitor	●
(vii)	Your solicitor should confirm how many times the warranties and guarantees can be assigned.	Solicitor	●
(viii)	The property is located within the wider Plymouth MARJON University campus. Your solicitor should confirm that rights of access to the property exist over the Plymouth MARJON University campus.	Solicitor	●
(ix)	Your solicitor should seek disclosure of whether or not there are any disputes between the current owners, the tenants, adjoining owners and adjoining occupiers.	Solicitor	●
(x)	Your solicitor should confirm if the property is located within the historical boundary of a tithe district within a parish which continues to have a potential chancel repair liability based upon historical parish boundary data and the relevant Inland Revenue Indices held by The National Archives.	Solicitor	●

1.5 Further investigations, information or inspections required

- (i) None.

- Critical issue that requires urgent resolution
- Important issue for on-going information only, likely to require management action

1. Executive Summary

- Routine maintenance or repair

1. Executive Summary

1.6 Conclusions and Recommendations

Overview of Condition	Overall, the building is in a fair condition externally given its age, use and construction, however, internally the property is in a fair condition with evidence of general wear and tear noted to the internal finishes and a general lack of quality to the fit and finish from the original time of construction to various areas internally.
Overview of Condition of M&E Services	The development was completed in 2016 and operated as a teaching facility until closure in 2018. In general, the mechanical and electrical building services are deemed to be of a good standard although it is deemed that the installations have been designed and installed within strict financial constraints. The information provided for the H&S Safety File is good although certain system information is lacking. Some of the testing and commissioning information is lacking for a number of systems or is incomplete and require additional support information. Design calculations for the services have not been provided.
Recommendations	We see no reason, from a building surveyor's perspective, why you should not proceed with your acquisition negotiations, subject to taking the comments in this report into account and a satisfactory report from your lawyers.

2. Introduction

Client Name	Plymouth MARJON University	
Client Address	Derriford Road, Plymouth, PL6 8BH	
Property Address	Plymouth Studio School, 140 Plymbridge Lane, Plymouth, PL6 8DD	
Date of Inspection	The property was originally inspected on 10 March 2020 and reinspected on 2 August 2022.	
Surveyor involved	R J Flatt, Director	JLL
Other Consultants involved	John Borg	Amber Management & Engineering Services Ltd
	Bill McConnel	Amber Management & Engineering Services Ltd
Weather Conditions	Weather conditions at the time of the 2020 survey were overcast with continuous light rain. Weather conditions during the 2022 inspection were dry and bright. .	
Interest to be Acquired	Our report has been prepared on the basis that you intend to acquire the freehold interest for your own occupation in the subject property.	
Purpose of Survey	We are instructed to undertake a Building Survey and report on major items of concern on behalf of our client, as identified above. Please also refer to Section 3 below, which outlines our understanding of the tenure of the property. Amber Management & Engineering Services Ltd have been separately engaged by JLL on your behalf to inspect and advise on the condition of the mechanical, electrical and lift installations and a copy of their report is attached at Appendix Three.	
Extent of Survey	Our inspection has covered all internal and external parts of the property that could be safely accessed at the time of our visit. Please also refer to Section 8 below. We have inspected the roof areas and the upper levels with a mechanical hoist as well as accessing the roof from an existing access hatch. The underground drainage installations are outside the scope of our inspection and we have not commissioned a CCTV survey of the drainage installations on your behalf.	
Terms and Conditions	Our report has been prepared in accordance with our proposal email dated 18 June 2022 and our General Terms and Conditions copies of which is attached at Appendix One of this report.	

3. Property Description and Site

Brief Description of Property

Approximate age:

We understand the property was constructed in approximately 2016 and operated as a teaching facility until closure in 2018. We understand that it has been unoccupied since its closure.

Approximate size:

We have been advised that the property extends to approximately 20,000 sq ft (1,858 sq m). We have not specifically measured the property to verify this.

Description:

The property comprises a detached purpose built Academy School laid out over ground and first floor levels.

The property is provided with a structural steel frame and is provided with a series of shallow pitched flat roofs which drain to perimeter parapet and integral valley gutters. An elevated section of roof is provided in order to accommodate the double height first floor gymnasium.

The roofs are provided with a plastisol coated profiled metal sheet, metal valley and perimeter gutters which are lined with a combination of a textured coating and single ply membrane. The existing rainwater gutters drain to a combination of internal rainwater downpipes that run through the property and through the external adjoining walls into hoppers which drain externally to round powder coated rainwater downpipes that discharge to the below ground drainage installation.

The main elevations of the property are provided with composite panel micro-cladding with features to the elevations and the upper double height elements with plastisol coated profiled metal composite panel sheeting. A low level brickwork plinth is provided to the perimeter of the building.

Perimeter elevations are interspersed with powder coated double glazed casement windows and areas of powder coated double glazed curtain walling.

The main perimeter entrance door comprises a sliding powder coated double glazed door with other perimeter doors comprising painted metal and painted louvred doors depending on location.

Internally, the property is fitted out to a reasonable school specification incorporating a combination of painted ceiling soffits, suspended ceilings, painted plaster walls and a combination of unfinished concrete carpet floor tiles and vinyl floor tile finishes.

From our visual inspection, the property is provided with mains water, gas, electricity and drainage connections.

Occupiers / Use of Building

During the course of our inspection the building was unoccupied, however, we previously understand that it has been constructed and operated as an Academy School.

Repairing Obligation

We understand that you intend to acquire the freehold interest of the property for your own occupational requirements and that going forward you will be responsible for the upkeep and maintenance of the property. That said, given the age of the property there is the possibility that you will be able to obtain the benefit of any warranties or guarantees associated with products within the building and we refer you to Section 6.13 of our report.

3. Property Description and Site

Site and Location Description	The property is located at the end of Plymbridge Lane which is accessed off the A368 Tavistock Road via Derriford Road. The property is located on the northern edge of the Plymouth MARJON University campus. The site has a slight slope running north to south.
Contaminated Land Risk	We have not instructed specialist consultants to prepare a Phase 1 Environmental Assessment Report of the property. That said, during a review of the O&M Manuals on site, we noted that the property is fitted with Radon protection including a membrane within the ground floor and a ventilated radon sump.
Flood Risk	We have not carried out a flood risk assessment, however, we have reviewed the Environment Agency website which shows the property is located in a flood plain with a 1 in 1,000 year risk of flooding. The maps also indicate that the property is at a very low risk from surface water flooding.

4. Element and Condition

4.1. External and Structural Elements

4.1.1 Substructure

During the course of our inspection, we did not carry out any intrusive investigations to determine the form of the foundations or the nature of any sub-surface ground bearing strata. That said, after review of the O&M Manuals on site, we understand that the building is provided with mass concrete strip foundations to the main structural frame and perimeter walls. We have been unable to verify the condition of the substructure.

- (i) From our visual inspection we did not observe any indications of any significant structural problems that might suggest inadequacies with the substructure.

4.1.2 Structure

From our visual inspection, the property is provided with a structural steel frame incorporating intermediate structural columns within the footprint of the building. The first floor comprises pre-cast concrete hollow planks that bear on the structural columns with the ground floor construction comprising an insulated in-situ cast reinforced concrete ground bearing floor slab. Where visible the floor screed are provided with a power float finish.

- (i) From our visual inspection we did not observe any significant problems that might suggest defects in the structural frame.

4.1.3 Floors

After a review of the O&M Manuals held on site, we understand that the floors comprise, at ground floor level, an in-situ cast reinforced concrete ground bearing floor slab incorporating thermal insulation within its make-up and a radon check barrier with associated ventilated sump in order to inhibit the leaching of radon into the building.

The first floor comprises a series of hollow precast concrete planks that span between the existing structural beams.

During the course of our inspection we noted the following:-

- (i) Saw joints, day joints and construction joints were noted within the existing ground floor in accordance with good design practice. No significant defects were noted to the existing floor structure at ground floor level to indicate that there are any inadequacies with the existing floor slabs.
- (ii) Although almost entirely concealed by existing floor coverings, during the course of our inspection we did not note any inadequacies with the existing first floor structure under foot.

4.1.4 Roofs and Rainwater Goods

The main roof above the first floor accommodation and the main sports hall comprises built-up insulated shallow pitched roofs which drain to a combination of integral valley and perimeter parapet rainwater gutters. From our review of the existing O&M Manuals on site, the roof comprises a Euroclad SF500 0.75mm thick outer sheet, 260mm thick rockwool thermal insulation and a Euroclad MWSL 0.7mm thick internal lining sheet. The existing roof coverings bear on galvanised purlins which in turn are connected to the structural steel frame. The gutters are lined with a combination of textured painted finishes and single ply membranes.

4. Element and Condition

Valley gutters discharge to internal rainwater downpipes connected to the below ground drainage installation with the perimeter gutters where provided draining through the existing external parapet walls to perimeter powder coated hoppers and downpipes that again discharge to the below ground drainage installations.

From our visual inspection, a galvanised cat ladder is provided between the main roof and the roof above the sports hall with a mansafe lanyard system being provided to both the upper and lower roof.

The main roof is interspersed with a series of smoke vents and a roof access hatch from an internal store room. Photovoltaic panels are provided to the roof in isolated areas.

A felt covering is provided to the roof over the main entrance.

During the course of our inspection we noted the following:-

- (i) The existing roof coverings were generally found to be in a satisfactory condition.
- (ii) We recommend that you seek confirmation from the vendors and the terms and conditions of any manufacturer's guarantees in respect of the roof covering have been observed and that these are still valid.
- (iii) A roof leak was noted above the main sports hall and this should be investigated and remedied.
- (iv) Damp affected ceiling tiles were noted in Room 05 possible due to a roof leak, we recommend that the source of the water is identified and repairs undertaken.
- (v) Internally rodding points to rainwater outlets are located behind panels in strategic locations.
- (vi) Damp affected finishes were noted to the external walls within Room 12 at ground floor levels, in our opinion this could be due to a defect in a concealed rainwater downpipe and we recommend that the investigation and repair works are carried out.
- (vii) Existing gutters were generally found to be clear and free flowing although standing water was noted.
- (viii) Historic patch repairs have been undertaken in isolated areas to the gutters and these seem to have been successful.
- (ix) During the course of our inspection we noted a duct tape repair to an existing gutter and we recommend that long term repairs with an appropriate single ply membrane are provided.
- (x) From our visual inspection we could not determine the last date that the existing lanyard mansafe system was inspected and we recommend that your solicitor seeks copies of the current test certification. If no test certification is available, we recommend that the existing installation is retested.
- (xi) No balloon guards were noted to the existing rainwater outlets and we recommend that balloon guards are provided in order to avoid the possibility of obstruction of the existing outlets.
- (xii) Internally, the rainwater downpipes are boxed-in. The noise from rainwater discharging through the internal rainwater downpipes was noticeable and consideration should be given to the introduction of thermal insulation wrapping to the rainwater downpipes where practical in order to minimise any noise.
- (xiii) External rainwater downpipes and hoppers were found to be in a generally satisfactory condition with no significant defects noted.
- (xiv) No cut edge corrosion or deterioration was noted to the existing plastisol coatings to the existing roof coverings.
- (xv) The existing rooflights were found to be in a satisfactory condition with no defects noted.

4. Element and Condition

- (xvi) The existing roof access hatch does not close correctly, the catch does not engage the keep correctly. We recommend that the locking mechanism is adjusted to ensure proper closing.
- (xvii) We could not determine whether the mansafe lanyard system had been tested recently and we recommend that it is tested to ensure that it is safe to use.
- (xviii) A sealed double glazed unit to a smoke vent has failed, although not detrimental to the performance of the rooflight we recommend that it is replaced to maintain the thermal integrity of the building.
- (xix) The shallow trough gutter to the canopy roof is choked and should be cleared.

4.1.5 External Walls

Generally, the external walls comprise micro-rib Kingspan KS900M insulated composite panels with detailing to the sports hall being provided with Kingspan insulated panels referenced KS1000/2000RW and further Kingspan insulated panels referenced KS1000-LV adjacent to the main entrance giving a slatted effect. In addition, a low level brickwork plinth is provided to the perimeter building and this varies in height depending on the adjoining ground levels.

From our review of the O&M Manuals, the existing insulation panels are supported by internal galvanised sheeting rails which in turn are connected to the structural steel frame. Internally, generally painted plasterboard finishes are provided throughout.

During the course of our inspection we noted the following:-

- (i) The existing cladding was generally found to be in a satisfactory condition with no significant defects noted. Fading was noted on the red cladding to the rear of the rear of the property due to UV exposure.
- (ii) The cladding along the north-west elevation would benefit from cleaning due to algae growth from the adjoining trees although this is not detrimental to the overall performance of the cladding.
- (iii) Hairline cracking was noted to the brick plinth adjoining the carpark and localized repointing has been previously undertaken. We do not anticipate that this is structurally significant however the areas should be monitored periodically to determine whether or not any movement is progressive.
- (iv) The expansion joints to the brickwork plinths have been finished with compressible fillers and we recommend that mastic sealant is provided to finish the detail.
- (v) Adjacent to the south-east elevation louvered door, minor spot corrosion was noted to a cladding panel and this appears to be due to residual swarf contamination and we recommend that localised repairs and respraying are undertaken.
- (vi) Composite cladding panels comprise a pre-fabricated insulated system which has an insulated core bonded to two metal outer skins. Each type of insulated core reacts differently in a fire situation, with the panel face heating up when there is a fire in close proximity to it. This causes the insulation to draw away from the heated surface and depending upon the inner core, allows the insulation material to burn when it reaches its auto-ignition temperature. It is our understanding that the Loss Prevention Certification Board for roof cladding normally requires a fire resistance standard to Grade B and this issue should be discussed in detail with your insurers as the premiums may be excessive or more importantly make it difficult to obtain insurance.

4.1.6 Windows and Glazing

The perimeter elevations are interspersed with double glazed powder coated aluminium windows incorporating thermal breaks and top hung casements. At ground floor level, windows run from finished floor level to ceiling

4. Element and Condition

level. In addition, isolated sections of curtain walling are provided at high level to the sports hall at first floor level and above the main entrance door.

During our inspection we noted the following:-

- (i) Generally, the windows were found to be in a satisfactory and serviceable condition with no significant defects noted.
- (ii) At roof level, the original contractor has failed to remove the protective plastic wrapping and film from the windows and we recommend that this is removed.
- (iii) Going forward, we recommend that existing mechanisms are oiled and greased as part of a cyclical proactive maintenance regime.
- (iv) The glazing would benefit from cleansing.
- (v) Isolated areas of manifestation film are peeling and this should be addressed.
- (vi) Horizontal surface to the windows are curtain walling are faded due to UV exposure and we recommend that these areas are rejuvenated during the next cyclical round of redecoration.
- (vii) No failed double glazed units were noted.

4.1.7 External Doors

The main entrance door comprises a powder coated double glazed automated sliding door providing access to an internal wind lobby.

The secondary escape doors to the property comprise a painted metal arrangement with painted metal louvred doors provided to externally accessed plant and ancillary areas.

During the course of our inspection we noted the following:-

- (i) The pair and half door leaf discharging from the ground floor refectory were noted to be a means of escape and are provided with an emergency diagrammatic light fitting. That said, a mortice lock is provided and we recommend that either a simple thumb turn or push bar arrangement is provided in order to facilitate means of escape from the building.
- (ii) Generally, existing doors were found to be in a satisfactory condition throughout with no significant defects noted.
- (iii) The existing automated door was not operational at the time of our inspection and we could not determine from our visual inspection whether this is due to isolation of the power supply or a mechanical fault and enquiries should be made.
- (iv) Glazing to the external doors would benefit from cleaning.
- (v) The automated closer/actuator to the external door adjacent to Room 03 has been removed and set aside and we recommend that this is reinstated and left in good working order.
- (vi) Various final exits are not provided with simple fastenings and these should be provided.

4. Element and Condition

- (vii) We recommend that the condition of the existing external metal doors is monitored on a periodic basis to identify the early presence of any corrosion and remedial works should be put in place as part of a planned maintenance regime.

4.1.8 External Areas and Boundaries

Generally, limited external areas are provided to the property. Adjacent to the north-east elevation, a small open paved amenity area is provided and this is accessed from the internal corridors within the building and through a gate within a powder coated perimeter metal fence. To the perimeter of the amenity area a macadam strip is provided with the south-east edge supported by a low level brickwork retaining wall with steps providing access to the previously mentioned gate.

Along the south-east and south-west elevations, a macadam finished ramp is provided and this is retained by a brick wall which is topped with painted key clamp or similar demountable metal handrailing.

Adjacent to the south-west main entrance, a paved area is provided and this is enclosed by low level soft landscaping.

Adjacent to the north-west elevation a macadam walkway is provided and this provides access to the kitchen exit doors, we assume for the purpose of loading.

During the course of our inspection we noted the following:-

- (i) The existing external areas were found to be in a generally satisfactory condition with no significant defects noted. That said, the existing kitchen discharges over a galvanised metal grate to an adjoining footpath and we could not determine from our visual inspection the ownership of this footpath and whether any easements or rights of way exist to traverse the footpath in order to gain access and egress from the escape point.
- (ii) Weed growth was noted to the building perimeter and this should be sprayed with biocide.
- (iii) A cracked coping was noted to the access ramp and this should be replaced.
- (iv) We recommend that the vendor removes the previous occupier's trade signage to the building perimeter and totum prior to your acquisition.
- (v) Soft landscaping was generally found to be overgrown and will require tending as part of a proactive maintenance regime.

4.2. Internal Elements and Areas

4.2.1 Internal Accommodation

From our visual inspection the property is provided with teaching accommodation at ground and first floor level.

At ground floor level, a combination of meeting rooms, laboratories, classrooms, refectory, atrium and office accommodation are provided. At first floor level, teaching rooms, seminar rooms, an open plan balcony area, common room, staff room and gymnasium are provided.

- (i) We refer to our comments elsewhere in this section.

4. Element and Condition

4.2.2 Staircases

The property is provided with three staircases.

The main staircase between the ground floor atrium and the first floor communal area comprises a pre-cast concrete staircase provided with polyester powder coated balustrade and a stained timber handrail. The staircase is provided with a rubberised textured paint finish with metal nosing strips with contrasting inserts.

Two secondary stairwells are provided, the south-east elevation stairwell provides general circulatory access between the ground and first floor level and comprises a pre-cast concrete structure with carpet tile floor finishes and contrasting noses with a stained timber handrail. The staircase is located within an open stairwell and is provided with a combination of painted plaster walls, carpet floor tiles and suspended ceilings. The underside of the stairs is provided with a painted plaster finish.

The third stairwell is for the sole purpose of means of escape from first floor level and discharges from the north-west elevation corridor to the external areas at ground floor level. The staircase is finished in the same manner as the previously mentioned secondary stairwell with the exception of a painted concrete floor. These stairs are provided with a fire protective stairwell enclosure incorporating factory finished laminated fire doors at first floor level and a painted metal escape door at ground floor level with a push bar arrangement. Internally there is no access to this stairwell from the ground floor areas.

During the course of our inspection we noted the following:-

- (i) The rubberised coating to the main staircase is deteriorated and will require redecoration in the short term.
- (ii) Isolated cracking was noted between the individual segments to the means of escape staircase and although superficial in nature should be infilled during the next cyclical round of redecoration.
- (iii) No other defects were noted to the existing staircases.

4.2.3 Internal Walls and Partitions

From our visual inspection, the property is provided with a variety of painted plaster finished stud partitions with construction varying depending on location and use. Painted timber joinery is provided throughout.

During the course of our inspection we noted the following:-

- (i) The existing internal partitions were generally found to be in a serviceable condition, that said, there were general inadequacies with the overall quality/fit and finish from the general time of construction due to a lack of detailed snagging. In addition, isolated scuffing and marking and isolated damage was noted due to the day to day use of the building since its completion.
- (ii) You may wish to consider undertaking a re-snap of the building in order to identify and address any minor qualitative issues with the general original building construction and we recommend that consideration is given to the redecoration of isolated areas of the internal partition walls.
- (iii) The vertical timber panelling adjance to the stairs would benefit from re-oiling/staining.
- (iv) We recommend that you confirm with the vendor the extent to which surface mounted fixture and fitting such as notice boards are being removed. If wholesale removal is planned that extensive repair and redecoration throughout the property will be required.
- (v) From our visual inspection, within the classrooms, there were isolated inadequacies with fire stopping due to service penetrations above the suspended ceiling and we recommend that the ceiling voids are reviewed and any

4. Element and Condition

service penetrations that are not provided with fire stopping are provided with an intumescent foam seal or similar.

- (vi) Surface black mould growth due to condensation is evident within the entrance foyer we recommend that this is cleaned and the area redecorated. We anticipate that the mould growth is due to a lack of heating within the areas combined with a lack of air movement in the areas because of the extended void period.

4.2.4 Internal Doors and Joinery

The base build internal doors comprise factory laminated solid core doors with varnished edging strips. In addition, various doors are provided with glazed vision panels with varnished timber beading. All doors are provided with brushed stainless steel ironmongery.

During the course of our inspection we noted the following:-

- (i) The vision panel to the fire door to the ground floor office was missing and the lock had been removed. We anticipate that for some reason this door has had to be broken into in order to access the office. Repairs should be undertaken.
- (ii) Isolated grubbiness, marks, scuffs and knicks to the existing doors throughout the premises due to general wear and tear were noted although these appear to be superficial in nature.
- (iii) Isolated loose or poorly fitted ironmongery was noted and we recommend that the existing ironmongery is reviewed throughout the property and localised repairs undertaken.
- (iv) Fire doors are provided in strategic locations. Intumescent smoke seals, fire signage and self-closer are provided to these doors.
- (v) Isolated doors bind and should be adjusted.

4.2.5 Internal Ceilings and Finishes

At first floor level, the property is generally provided with a suspended ceiling throughout with exposed grid suspended ceilings being provided to the occupied areas and concealed grid insulated ceiling tiles provided to the main open plan central atrium. The ceiling to the main gymnasium comprises a painted plaster finish throughout.

Isolated suspended ceilings in the classrooms are sloping due to the pitched nature of the roofs above.

At ground floor level, a combination of suspended ceilings together with the painted underside of the first floor concrete slabs are provided throughout the property.

During the course of our inspection we noted the following:-

- (i) The existing decorative finishes to the ceilings were found to be in a satisfactory condition with no defects noted.
- (ii) Within the ground floor teaching areas where the underside of the first floor structure is evident, rockwool slabs have been surface fixed to the underside of the floor and we assume this is to improve the acoustic qualities of the individual rooms.
- (iii) Water stained is evident to the reveal of the smoke vent above the stair and we recommend that repairs are undertaken.
- (iv) We refer to our previous comments in respect of water damaged ceiling finishes due to isolated roof leaks.

4. Element and Condition

- (v) Existing suspended ceilings were generally found to be in a satisfactory condition although isolated ceiling tiles have been moved or displaced and isolated ceiling tiles were damaged. We recommend that tiles are positioned or replaced as required.

4.2.6 Floors

The ground and first floors are provided with a cementitious screed which in turn is provided with a combination of vinyl and carpet floor tile finishes depending on location.

- (i) Generally, the floor finishes were found to be in a soiled but serviceable condition and would benefit from comprehensive deep cleaning and rejuvenation. We do not anticipate that wholesale renewal is required.
- (ii) The non-slip flooring to the first floor landing adjacent to the curtain walling is matted and should be cleaned.
- (iii) Where visible, the existing exposed concrete floor at ground floor level is provided with the powerfloated finish which was found to be in a satisfactory condition with no defects noted.
- (iv) To the first floor circulation area adjacent to the comms room, it appears that the existing fixtures and fittings have been removed leading to areas of heavy soiling and again deep cleaning should be undertaken in these areas.

4. Element and Condition

4.3. Building Services

4.3.1 Mechanical, Electrical and Public Health Services – Generally

- (i) We have engaged Amber Management & Engineering Services Ltd on your behalf to undertake an inspection and prepare a report on the Services Installations and Public Health systems, which is included in Appendix Three to the rear of this report.

5. Asbestos and Deleterious Materials Risk

		Risk
5.1.	Asbestos or asbestos containing products	
(i)	Blue and brown asbestos (Crocidolite and Amosite) were banned in the UK in 1985 with a complete ban including white asbestos (chrysotile) in 1999, however, asbestos has been found in buildings completed in as late as 2005..	●
(ii)	In view of the age of construction of the property it is unlikely that any deleterious materials have been used during construction. Confirmation should be obtained from the vendor.	
5.2.	Concrete additives (HAC or calcium chloride; sea-dredged aggregate)	
(i)	We have not carried out any diagnostic tests, however, we saw no indication during our inspection of concrete defects that would suggest the presence of deleterious concrete additives or HAC.	●
(ii)	Because of the assumed date of construction the risk of presence is considered to be low.	●
5.3.	Other: E.g. calcium silicate bricks; wood wool slab formwork; brick slips; lead pipework; materials containing fibers of less than 3 microns diameter.	
(i)	We have not carried out any tests, however, we saw no indication during our inspection that any of the materials described in our Engagement Agreement as deleterious have been used	●
(ii)	Due to the assumed date of construction the risk of presence is considered to be low.	●
● High risk of presence ● Medium risk of presence by virtue of the age of property ● Low or non-quantifiable risk of presence		

6. Legal and Regulatory Compliance

	Risk
6.1. Fire Risk Assessment	
(i) We have not carried out a Fire Risk Assessment as part of our survey.	
(ii) We have not had sight of an FRA Report. Copies of occupier based Fire Risk Assessments should be requested by your legal advisers. That said it may be superseded by your own occupation and use of the property in which case new a RFA will be required.	●
6.2. Asbestos Management Plan	
(i) We have not carried out an Asbestos Survey as part of our inspection.	
(ii) In view of the age of construction of the property it is unlikely that any deleterious materials have been used during construction. Confirmation should be obtained from the vendor.	●
6.3. Planning and Building Regulations	
(i) We recommend that your solicitor obtains a copy of the Planning and Building Regulations History and reports on any matters arising.	
(ii) Your solicitor should obtain confirmation that there are no contraventions or outstanding notices in respect of both Building Regulations and Planning Consent for the base build development and that all conditions have been discharged.	●
(iii) The property is not Listed and is not located in a Conservation Area.	
6.4. Energy Performance Certificate and Minimum Energy Efficiency Standards	
An Energy Performance Certificate (EPC) is required when a building is constructed, sold or rented out. The Seller or Landlord must provide an EPC free of charge to a prospective buyer or Tenant at the earliest opportunity. For the purposes of the legislation, buildings are defined as “a roofed construction with walls, for which energy is used to condition the indoor climate.” The EPC rates how efficient a building is, using grades from A to G (with ‘A’ being the most efficient). EPCs promote the energy performance of buildings and are intended to identify ways in which the energy consumption of buildings and associated costs can be reduced. In England and Wales, the Minimum Energy Efficiency Standard (MEES) was introduced through the Energy Efficiency (Private Rented Property) (England and Wales) 2015 which means that, subject to certain requirements and exemptions: - From 1 April 2018, landlords of commercial and residential buildings within the scope of these regulations must not renew existing tenancies or grant new tenancies if the building has less than the minimum EPC rating of E. - From 1 April 2023, landlords must not continue letting a non-domestic property which is already let if that property has an EPC rating of band F or G. Consequently, any property with an EPC rating of F or G is deemed under these regulations to be ‘sub-standard’ and will require cost effective energy performance improvements before it can be let. Fines can be applied for non-compliance.	

6. Legal and Regulatory Compliance

It should be noted that earlier EPC's have not been calculated on the latest assessment system and may come up with a different score if recalculated using the latest software. In certain situations this may potentially change the rating to an F or G. If this is the case then further improvements will be required when the EPC expires. EPCs are valid for 10 years although for accuracy, JLL recommend that EPCs should not be more than 5 years old.

In certain, limited circumstances, Landlord's may be able to claim an exemption. This will apply where all improvements have been made but the rating still remains below an E. Where an exemption applies this must be registered on the Private Rented Sector (PRS) exemptions register. The exemptions last for 5 years and are not transferable on a sale.

- i) We have not had sight of an EPC and could not identify clearly an EPC on the EPC Register for this property and recommend that you obtain a copy of this document from the Vendor prior to completing your acquisition.
- ii) The subject property has been fitted with low or zero carbon technology installations in the form of Photovoltaic panels.
- iii) The subject property has been fitted with any other low or zero carbon technology installations (such as biomass boilers, GSHPs (Ground Source Heat Pumps), CHP (Combined Heat and Power) units etc.

EPC Uprating Service

Although unlikely in this instance, for buildings that fall within the category where improvement works will be necessary, JLL offer an EPC Uprating Service to advise on how to upgrade the EPC rating to meet the Minimum Energy Efficiency Standards together with advice on likely costs and implementation of these works.

6.5. Air Conditioning Inspection Report

Under the Energy Performance of Buildings Regulations 2007, the owner or occupant of a building with an air conditioning system of over 12 kW output is required to have the installation inspected by an accredited energy assessor:

- Initially by January 2011 and thereafter at least every 5 years
- If the system was put into service on or after 1 January 2008, the first inspection must be undertaken should have been undertaken by January 2013) and then every 5 years thereafter.
- (i) We refer to Amber Management Services Limited's comments within their report which is included in Appendix Three to the rear of this report.

6.6. Green Building Certification

- (i) Green Building Certifications schemes, BREEAM (BRE Environmental Assessment Method), LEED (Leadership in Energy and Environmental Design, developed by the US Green Building Council) and Ska (for fit-outs, an RICS operated scheme) are the most widely used environmental certification systems for commercial properties in the UK. They are used as a standard for best practice in sustainable building and are a measure used to describe a property's environmental performance, each based on a rating that is, by definition, equal or higher than the requirements imposed by regulation.

6. Legal and Regulatory Compliance

- (ii) Generally, these environmental design and rating schemes are applied at the time of initial design and construction or in the course of a major refurbishment or fit-out.
- (iii) The subject property has no BREEAM / LEED / Ska score that we are aware of. However your Solicitor should confirm whether or not any BREEAM / LEED / Ska scores are available.

6.7. Accessibility (Equality Act)

- (i) We have not carried out an Access Audit as part of our survey.
- (ii) We have not had sight of an Access Audit report.
- (iii) Since the introduction of the Disability Discrimination Act 1995 as amended and now under the Equality Act 2010 (DDA), Service Providers and Employers must take steps to ensure that they do not discriminate against disabled people. In the context of your proposed acquisition and future occupation, Plymouth MARJON University be considered a Service Provider and an Employer and it would be incumbent upon you, in respect of the demised premises, to take reasonable steps to remove, alter or provide reasonable means of avoiding physical features that make it impossible or unreasonably difficult for disabled people to use the building's services and facilities.
- (iv) The vendor's DDA audits were not viewed as part of this survey, however, the scheme has been constructed to recent or current Building Regulations requirements and we would anticipate that there are no major issues.

6.8. Health and Safety

- (i) We have not carried out a Health and Safety Audit as part of our survey.
- (ii) During the course of our inspection we did not note any significant Health and Safety concerns.
- (iii) The servery door is a designated fire exit, however, it is provided with a mortice lock. We recommend that the ironmongery is replaced with either a simple fastening or push bar arrangement.

6.9. Consequential Improvements

- (i) Part L of the Building Regulations 2010 (Conservation of Fuel and Power) introduced the concept of Consequential Improvements. These additional building works are intended to take the form of 'cost-effective improvements' to the energy performance of the building, but can result in expensive and onerous obligations in situations where a building owner is contemplating certain types of building works to an existing building. The requirements of Approved Document L2B currently apply to existing non-dwellings over 1000m² that are being extended or where fixed building services, such as cooling or heating, are provisioned or their installed capacity is increased.
- (ii) Whenever one carries out such works, for example when a boiler is replaced, the area served by this equipment should meet a certain minimum thermal efficiency. As a consequence, the upgrading of existing windows in order to meet a certain U-value could become necessary.

6. Legal and Regulatory Compliance

- (iii) The foregoing needs to be carefully considered at the feasibility stage of any future project works, as the potential financial impact can be significant.]

6.10. Access, Rights of Way and Easements

- (i) Your solicitor should confirm whether any Rights of Way or Wayleave agreements exist in respect of the site as a whole. ●
- (ii) The property is located within the wider Plymouth MARJON University campus. Your solicitor should confirm that rights of access to the property exist over the Plymouth MARJON University campus. ●

6.11. Site Boundaries – Definition and Ownership

- (i) Your solicitor should advise as to the site / property boundaries and confirm ownership of the boundary structures. ●

6.12. Party Walls

- (i) Given the location and nature of the property we anticipate that it unlikely that there are any party wall matters, however, your solicitor should confirm this. ●

6.13. Design Team

- (i) Your solicitor should obtain confirmation that there are no disputes or outstanding monies owed under the original Building Contract. ●
- (ii) Your solicitor should seek to confirm the existence of any guarantees or warranties that can be assigned to the benefit of the purchaser. ●
- (iii) Your solicitor should obtain copies of all guarantees and warranties to include and without prejudice the following:-
1. Main contractor;
 2. Design team;
 3. M&E services installations;
 4. Cladding & Curtain walling;
 5. External windows and doors;
 6. Roof coverings;
 7. Steel frame;
 8. Damp proofing/water protection to slabs;
 9. Substructure;
 10. Ground works including below ground drainage.
- Your solicitors should ensure that all warranties and guarantees are assigned to Plymouth MARJON University. ●
- (iv) Your solicitor should confirm how many times the warranties and guarantees can be assigned. ●

6.14. As Built Records

6. Legal and Regulatory Compliance

- (i) As built record were noted to be held on site. You should ensure that these are accurate and complete prior to your purchase. 

6.15. Service Charge and Maintenance Arrangements

- (i) Your solicitor should confirm whether there is any requirement to contribute to the upkeep and maintenance of the wider Plymouth MARJON University estate, that said as occupiers we anticipate that this requirement would either fall away or be managed internally. 

-  Critical issue that requires urgent resolution
-  Important issue for on-going information only, likely to require management action
-  Routine maintenance or repair

7. Inaccessible Areas

General

You will appreciate we could not inspect parts of the property and grounds which are covered, inaccessible or not exposed. We cannot therefore report that they are free of any defect, which may subsequently become apparent.

8. Third Party Clause and QA

In accordance with our standard practice we must state this report is confidential to the party to whom it is addressed and their professional advisors, and no responsibility is accepted to any third party whether under the Contracts (Rights of Third Parties) Act 1999 as amended or otherwise for the whole or any part of its contents.

Neither the whole, nor any part of this report, or any reference thereto, may be included in any document or statement, nor published or reproduced in any way, without our prior approval in writing as to the form or context in which it will appear.

Prepared by:		Approved by:	
Name	Robert Flatt	David Bassett	
Position	Director	Director	
Signature			
Date	25 March 2020	25 March 2020	

Revision	Date	Status (Draft / Final)	Principal Change(s)
0	4 August 2022	Final	Survey and M&E Reports updated.
1			
2			
3			

Appendix



Appendix One – Engagement Agreement and General Terms and Conditions

Appendix Two Photographs



1.



2.



3.



4.



5.



6.



7.



8.



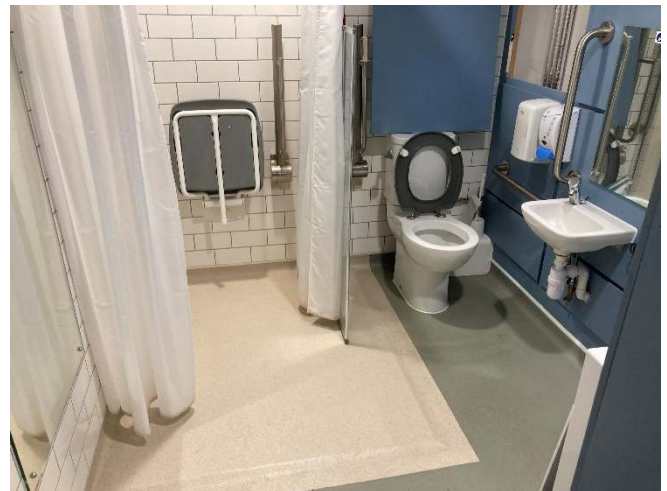
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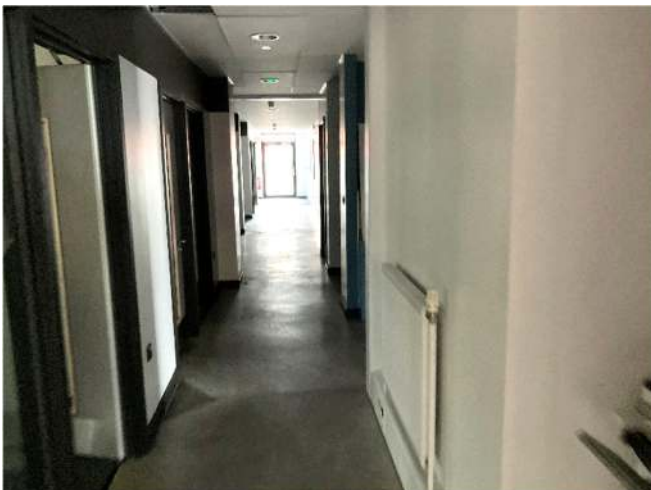
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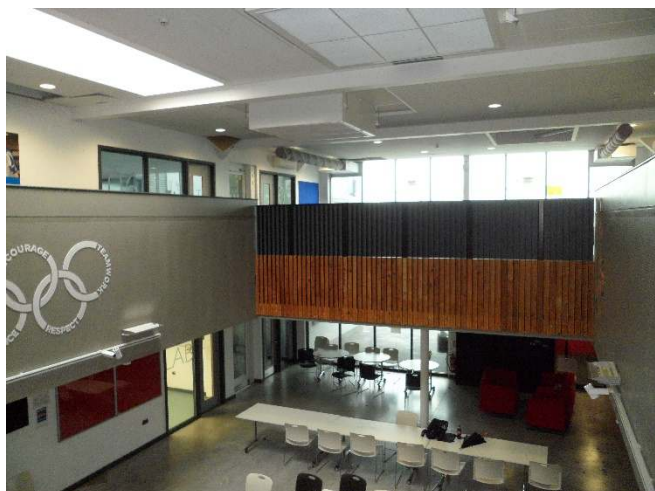
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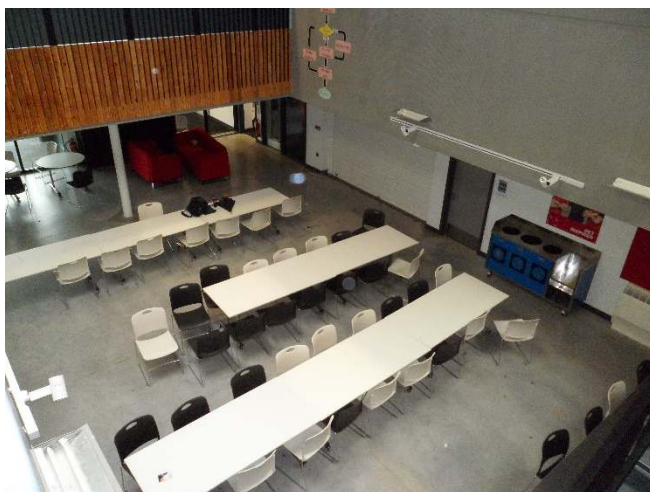
17. Communal areas



18. Ground floor toilets



19. Un-stopped service penetrations



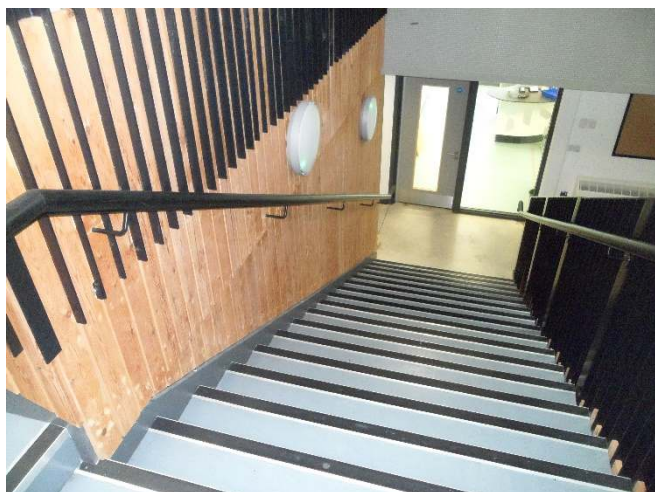
20. Communal areas



21. Classroom



22. Male changing room



23. Main stairs



24. First floor communal areas



25. Classroom



26. Gym



27. Staining to gym floor



28. Means of escape from kitchen



29. External landscaping



30. Access ramp



31. Rear recreation area

Appendix Three – Services Consultant’s Report



**Management
and
Engineering
Services Ltd**



**THE STUDIO SCHOOL
MARJON CAMPUS
DERRIFORD ROAD
PLYMOUTH
PL6 8BH**

**REPORT ON
ELECTRICAL & MECHANICAL
BUILDING SERVICES**

ADDENDUM

PROJECT No: **B2784**
DATE: **August 2022**
CLIENT: **Jones Lang LaSalle**

Amber Management and Engineering Services Limited

Suites 1 & 2 Kings Court, 87-89 High Street, Nailsea, Bristol. BS48 1AW

Registered Office: As Above

Tel: 01275 851100 Fax: 01275 851344

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PROJECT REVISION SHEET

Version	Date	Comments	Author	Checked
1.0	18-08-2022	First Issue	WMc/EJB	ALH

1.00 EXECUTIVE SUMMARY

1.01 General

The development was completed in 2016 and operated as a teaching facility until closure in 2018.

In general, the mechanical and electrical building services are deemed to be of a good standard although it is deemed that the installations have been designed and installed within strict financial constraints.

The information provided for the H&S Safety File is good although certain system information is lacking. Some of the testing and commissioning information is lacking for a number of systems or is incomplete and require additional support information.

Design calculations for the services have not been provided.

1.02 Electrical Engineering Services

The main electrical supply is derived from the local LV Network operated by WPD. The supply is deemed to be adequate for the anticipated demand.

The installed services have not been in use for about four years. The access control system and Accessible Toilet alarms are not functioning, possibly due to them being switched off. There are areas where additional Emergency Lighting is required. System testing and preventative maintenance has not been carried out. There are no records of any regular testing of the fire alarm and emergency lighting installations. These are life safety systems and require regular preventative maintenance.

All systems will need to be re-commissioned and the relevant certification issued.

The small PV system requires a G59/G99 agreement. This has to be issued by a specialist contractor who has the appropriate certification to do so. This may require the system to be re-commissioned.

The main switch room is untidy and needs to be cleaned. Cobwebs develop within the switch gear and result in a fire risk. A rubber mat and a framed LV Schematic should be provided and installed.

The general lighting installation is deemed to be acceptable, incorporate automatic controls and in good working order. Some minor repairs and luminaire replacement are required. It is also noted that only T5 fluorescent lamps will be available after September 2023.

Additional Emergency Lighting is required in all Teaching Spaces, Sixth Form Common Room, Staff Room and Performance Space. The emergency lighting in circulation areas may need to be supplemented after a three-hour test is carried out. There is no evidence of emergency lighting to a Place of Safety.

The provision of power outlets supplies is deemed to be adequate. The damaged lids to the floor outlet boxes will need to be replaced.

Technical information for the CCTV Installation, Data and Telephones, Access Controls and Accessible Alarm is limited. Such systems will need to be recommissioned to confirm compliance.

A comprehensive analogue addressable fire alarm system has been provided and this is deemed to be functioning correctly. However, the system will need to be re-commissioned due to the length of time the building has been vacant.

1.03 Mechanical Engineering Services

Overall the systems look like they have been reasonably installed and systems drained down in order for the building to be shut down. There was no visible evidence was seen that any maintenance had taken place over the last 2 years.

The systems are only a few years old so there should be minimum general wear on a system. Re starting the systems would be a sensible move before winter time to prevent any further deterioration

to the fabric of the building as well as to prevent further damage to any seals on the mechanical systems. Therefore, the remedial works required to get the system up and running mainly involves refilling, pressure testing, water treating, sampling and recommissioning – the costs have allowed for this but not for replacement of any valves, pumps, fans etc. that may have seized due to the lack of operation in the 2 years or so of lack of operation. This will only be discovered when the systems are restarted and recommissioning occurs.

The other major concern is that the amount of mould seen around the building has probably penetrated the ductwork in places so it has been recommended that all ductwork and air handling units etc. are all professionally cleaned, filters replaced etc.

1.04 Vertical Transportation Systems

Confirmation is required that Building Control have approved the installation of a platform hoist in a new development. Approved Document Part M indicates that this is only to be considered “in exceptional circumstances.”

The commissioning information and service records are not available for this platform hoist. A service will be required prior to putting the unit in operation.

1.05 Budget costs for remedial Works

The assessed costs for the works required to the building services are based on current rates and do not include costs for associated builder's works, Main Contractor OH&P, professional fees and VAT.

The assessed budget costs are as follows:

Item	Budget
Electrical Engineering Services	£41, 450.00
Mechanical Engineering Services	£35, 665.00
Vertical Transportation	£1, 500.00
TOTAL	£78, 615.00

2.00 INTRODUCTION

2.01 History

The Studio School is located within the campus of the University of St Mark and St John. The school building was opened in September 2015. The school operated for a brief period and was closed in April 2018 and has not been in use since.

The mechanical and electrical building services have been shut down where practical to minimise energy use.

A detailed condition appraisal report for the Mechanical and Electrical Building Services was prepared and issued by Amber Management & Engineering Services in March 2020. This report is issued to update the previous report

2.02 Scope of Survey

The purpose of the survey is to carry out a non-intrusive inspection of the installed mechanical and electrical building services and comment on the condition of the installations.

The areas inspected included:

- *Ground Floor Plant Areas and Main Electrical Switch room*
- *Internal circulation, classrooms and ancillary accommodation.*
- *Toilets and changing rooms*

The survey was carried out on Wednesday 3rd August 2022 by the following;

Mechanical Engineering Services	<i>William McConnel</i>
Electrical Engineering Services	<i>John Borg, I Eng MIET ACIBSE</i>

3.00 ELECTRICAL ENGINEERING SERVICES

3.01 General

A non-intrusive survey has been carried out to visually inspect the services and assess the condition and expected life cycle. No formal testing of lighting levels, system operations and interfaces has been carried out.

The Health & Safety Files, comprising the Operating and Maintenance Manuals and Record Drawings for the facility were available on site. There is no reference in the O&M Manual to the PV Installation. Various certificates as issued at handover were also available for inspection. However, there are no records available to confirm that regular maintenance and testing has been carried out on the electrical services since the building was vacated.

These documents should be retained on site and will be required prior to the occupation of the facility. In particular, an Electrical Condition Report, in accordance with BS7671 Appendix 6, is required at intervals not exceeding five years.

Log books for the Fire Alarm installation and Emergency Lighting are not available for inspection on site. These must be provided.

3.02 Main Incoming Supply – Electrical

The electrical supply to the facility is derived from the local LV Network operated by Western Power Distribution Ltd. The supply is via a 4c underground cable terminating into a 400A Lucy Electric service cut-out. The main switch room is accessed external from the side of the building facing the car parking areas. The key is retained in the Key Box in the Admin Office. The key number is 23.

Metering is deemed to be on a Maximum Demand Tariff. The meter number is K12A007043 and is provided by EDF Energy Ltd.

The MPAN reference for the supply is 22000 42649296

3.03 Solar PV Installation

A solar PV system is provided at roof level. The system is rated at approximately 5.25kW and incorporates an inverter in the Plant Room at ground floor level. A Landis & Gyr meter is provided.

The system has been tested, commissioned and certified by Seraphim Solr Systems Co Ltd.

3.04 LV Distribution

The main LV distribution is provided from a wall mounted moulded case circuit breaker panel board of Eaton MEM Ltd manufacture. This is located in the main service intake switch room at ground floor level. This incorporates a 400A 4 pole MCCB as the incoming isolating device.

Outgoing sub main circuits are wired in LSF SWA XLPE cables installed in cable ducts and fixed to the steel basket tray fixed to the building fabric. Outgoing circuits are protected by Single Pole, SP, and Triple Pole, TP, moulded case circuit breakers.

An LV Schematic indicating the distribution system is available with the record drawings but is not provided at the main intake location.

LV sub distribution boards are located in various parts of the facility at ground and first floor levels. The sub distribution boards are of Eaton MEM Ltd manufacture and are as follows:

Reference	Description	Function
DBG1	18W TP&N Split Board	Lighting & Small Power, GF
DBG2	18W TP&N Split Board	Lighting & Small Power, GF
DBK	8W TP&N	Kitchen Services
DBF1	18W TP&N Split Board	Lighting & Small Power, FF

DBF2	18W TP&N Split Board	Lighting & Small Power, FF
DBEC	8W TP&N	Power supplies Comfort Cooling
DBSL	12W SP&N	Contactor Controlled supplies to Lab
DBIT	12W SP&N	IT Supplies Communications Room
MCP	19W SP&N	Mechanical Services Plant Room

All final circuit sub distribution boards are complete with integral incoming isolator and outgoing circuit protective conductors. Final circuits serving lighting and socket outlets are protected by combined mcb/rcd units rated in accordance with the circuit requirements and with a 30mA trip unit for earth fault protection. Other circuits are miniature circuit breakers for overcurrent and earth fault protection.

Final circuit charts are available at each sub distribution position. In addition, distribution boards have been labelled.

3.05 General Lighting Installations

The lighting installation comprises linear luminaires suspended from the soffit in classrooms and laboratory at ground floor level. In circulation and communal areas, luminaires are recessed in a 600mm X 600mm exposed grid ceiling. Luminaires in Classrooms at first floor level are direct/indirect type wire suspended from the grid ceiling.

The lighting installation is wired in LSF/LSF multicore and integral circuit protective conductor cables, as CMA reference 6242B, installed in ceiling voids and routed via galvanised steel conduits to flush switch positions. Switches are of Honeywell MK Ltd manufacture grid series range with white insulated faceplates. Switches in plant room areas are surface mounted metalclad range.

Lighting controls utilise the CPE Control system with a control box in the room. This is linked to the wall mounted two position retractive switches and an internal ceiling mounted detector.

The method of control in Classrooms is for Absence detection so that on entry the lights are switched on by activating the two position switch. The system incorporates a 20-minute timeout. The illumination level in Classrooms can be dimmed up or down from the two position retractive switch. Lights can be manually turned off or left to the automatic system which will turn the lights off after a predetermined time.

The method of control for corridors and staircases is set for Presence Detection with a 20-minute timeout. Toilets accommodation and Stores have Presence detection controls but have a 10-minute time out.

It is noted that some lights are not functioning and a luminaire in one of the toilets at first floor level has fallen out of the ceiling.

3.06 Emergency Lighting Installations

In general, the emergency lighting installation comprises self-contained maintained emergency luminaires mounted on the ceiling. The luminaires are LED type.

Emergency luminaires are wired on the same circuit as the general lighting so that the emergency luminaires operate in the event of failure of the local final circuit. Test facilities are provided via key operated grid series switch located in the local switch assembly.

3.07 Small Power Installations

In general, the small power installations comprise twin switched socket outlets, fused switched connection units, DP and TP&N isolators, and local switch-disconnector to serve the fixed equipment and the small power requirements throughout the building.

Power supplies in all areas are derived from local sub distribution boards. Wiring is carried out in LSF/LSF twin and integral circuit protective conductor cables installed in ceiling voids and on basket tray. Cables are flushed in walls to wall mounted accessories. Supplies to three phase equipment are wired in single LSF insulated cables in conduit and LSF SWA XLPE cables.

Accessories are Honeywell MK Logic insulated type. In general, insulated accessories have a dark grey finish with white switches. Accessories in the Lab areas are finished in white and mounted on dark grey angled boxes. Grey. Isolators for TP&N equipment are generally IP rated.

Specialist contactor controlled power supplies are provided to the Laboratory at ground floor level. The Laboratory furniture incorporates power and data accessories. An emergency stop system is provided.

Power supplies in the Kitchen are wired from a local distribution board. These appear to be functioning correctly.

Accessories in Plant Room, Risers and Gymnasium associated areas are metal clad type for surface installation.

Additional power supplies have been provided to serve the roller shutter in the Served, Kitchen equipment, mechanical ventilation and comfort cooling, Fire alarm panel, intruder alarm panel, mechanical services control panels, supplies to the Platform Lift, AOVs, Access Control Panels, CCTV Equipment, Refuge Communications systems, Data networks, TV Signal distribution and telephone services.

3.08 Closed Circuit TV Installation

An internal and external CCTV installation is provided to monitor movement. The central equipment is located in a central 19" rack data cabinet. A DVR Recorder is included to provide data storage for up to 31 days.

3.09 Telephones and Data Installation

A comprehensive telephone and data network is provided throughout the facility. The Server Room is located at ground floor level accessed from the main corridor. The incoming fibre and copper connections are located in the server room.

It is understood that the wired system to the data outlets is to CAT 6 standard. The cabling to the school's wireless network is installed to CAT 6A standard. Routers for the wireless network are located at ceiling level. RJ45 flush mounted data outlets are provided wired to the patch panels in the data cabinets.

All cables are installed on basket tray located at high level with conduit drops to the accessory locations.

3.10 Access Control System

An access control system has been provided to enable access to certain areas by authorised users only. This is a card access system with readers located at door positions.

The following entry points are controlled:

- Main Reception Entrance
- Atrium Doors to Reception and Buggy Store
- Side Entrance Doors
- Wheel Chair Access/Maintenance Door

The system is linked to the fire alarm installation to enable doors to open in the event of a fire condition.

3.11 Fire Detection and Alarm Installation

An automatic fire alarm installation is provided within the facility. This comprises a main panel located in the Entrance Lobby with automatic detection and alarms throughout the building. Electronic sounders with integral visual indicators are provided throughout the building.

The system is designed and installed to Category L1 as defined by BS 5839 Part 1.

Wiring is carried out in Red sheathed FP200 cables installed within three compartment galvanised trunking and conduits in areas of exposed ceilings and routed on cable baskets where accessible ceiling voids are installed.

Interface units are provided to release magnetic locks on doors, and switch off ventilation and heating systems in the event of a fire condition.

A sound level test was not carried out at the time of the visit but it is understood that on the basis of the number of alarms noted, the sound level should be acceptable.

3.12 Emergency Voice Communication System

An Emergency Voice and Communications system is provided. The equipment is of SigTel Ltd manufacture for flush installation. The main panel is located at the main entrance lobby. Remote stations are located at the landing position of each of two stairwells.

Wiring is carried out in FP 200 fire rated cables installed within the three compartment trunking within ceiling voids and drop in flush galvanised conduit to the panel locations.

3.13 Accessible Toilet Alarm

An Accessible Toilet Assistance alarm is provided in the accessible toilet. This comprises a pull cord initiation unit, reset unit and over door visual and audible alarm.

3.14 Lightning Protection Installation

The building is provided with a lightning protection system which utilises the steel structure, aluminium tape at roof level and down conductors with bonds at low level to the lightning protection earth pits.

3.15 Observations and Recommendations

General

The electrical installation certificate for the installation, reference ICN4/0435724, is dated 28/09/2016. It is noted that this certificate does not have any details for the designer of the system and is not signed by the designer responsible for the installation. This in effect invalidates the certificate.

Design information for the electrical installation is not available. In general, it is expected that a copy of the specification for the electrical services is available together with calculation results to confirm compliance with current British Standards, with particular reference to BS 7671, Requirements for Electrical Installations, and BS5266 Emergency Lighting.

The Operating and Maintenance Manual is available on site. This contains a general description of the installations and is supported by the Record Drawings. However, the Record Drawings for the Lighting Installations are missing. Circuit references are indicated on the record Drawings and each accessory is also labelled to indicate the circuit reference.

There are no records to indicate that regular maintenance and testing, in accordance with current British Standards and Codes of Practice, has been carried out since the building was vacated.

It is recommended that prior to occupation of the building the following inspections and tests are being carried out and the appropriate certification is issued by an approved contractor.

- *Electrical Installation - Periodic Inspection and Test in accordance with BS 7671*
- *Emergency Lighting - Annual three-hour test in accordance with BS 5266*
- *Fire Alarm Installation – Annual Test*
- *Lightning Protection Test – Tested every 11 months.*

Mains Incoming Supply - Electrical

The main switch room is untidy and should be thoroughly cleaned of cobwebs etc. A Rubber Insulating mat should be provided and located directly in front of the main switch board.

We have previously advised that Building Regulations Part L require that “*automatic reading and data collection facilities*” should be provided for buildings with a floor area in excess of 1000m². It is understood that the electricity meter for each sub distribution board is connected to the BMS system for remote energy monitoring but it was not possible to confirm this. The systems should be provided prior to the occupation of the building to comply with Building Regulations.

Solar PV Installation

This is deemed to be functioning correctly. However, A G59/G99 agreement was not available for inspection. This should be provided. It should be noted that G99 requirements are changing as from 1st September 2022.

LV Distribution

The Main LV Distribution panel is located in the main electrical switch room at Ground floor level. The equipment is deemed to be in very good condition and suitable for the system operation. However, as previously indicated, there are no calculation results to confirm the selection of circuit protective devices are in compliance with the requirements of BS 7671. It is noted that test results are available to confirm compliance.

Meters are provided on the main panel to monitor energy use on sub main circuits.

As previously reported, that suitable warning labels, including Unauthorised Entry Prohibited, Shock Treatment Cards and a glazed framed LV Distribution Schematic are provided for the Main Switch room. In addition, a rubber insulating mat is required at the main LV distribution panel location. These items are a requirement of Health & Safety Regulations and should be provided.

The sub distribution boards and consumer units have been labelled. Circuit charts are included in the sleeve fixed to the inside of the sub distribution board doors.

General Lighting Installations

The lighting installations are deemed to be suitable for a facility of this type. No illumination levels have been measured but it is considered that the general illumination levels are in accordance with current standards.

Some luminaires utilise fluorescent lamps. It should be noted that these will be withdrawn from sale as from September 2023. Any such luminaires should be replaced with energy efficient LED luminaires.

It is noted that some LED luminaires were not functioning and that a circular LED luminaire has dropped from the ceiling in one of the Gents Toilets. These items should be replaced and re-fitted.

Emergency Lighting

It is noted that in general, emergency lighting is from ceiling mounted self-contained LED emergency luminaires operating in maintained mode. The onsite record for testing of the emergency lighting installation was not available for inspection. There are no test results to confirm illumination levels. A functional test of the emergency lighting was carried out at the time of the inspection. The emergency luminaires were found to be functional. However, it is anticipated that due to the age of installation, a number of battery units will not complete the three-hour duration test. This is due to the age of the installation and the lack of regular maintenance.

In addition, it was noted that some emergency luminaires will need to be relocated to provide the emergency illumination to comply with current standards. Emergency luminaires should be provided in the Performance Hall, Teaching Spaces including the Laboratory, Sixth Form Common Room, and Staff areas to comply with current standards.

There are no records of lighting levels taken under emergency condition. An Emergency Lighting Certificate, reference ECN4/0343722, dated 29/09/2016 is available but there is no record that either calculations or recorded illumination levels, have been provided. These are required to complete the certification documents.

Externally illuminated Exit Signs have been provided. A number of Exit signs are not compliant with BS 5499 Part 4, as the direction arrow is incorrect. In addition, some signs will not be visible in an emergency condition as the emergency luminaire is located to the side of the sign and hence there is insufficient illumination.

A log book should be provided to record the testing regime and any works carried out to rectify failures in the system

Small Power Installations

The small power installation is deemed to be in accordance with current standards. Earth fault protection is from combined mcb/rcd devices. This is in accordance with current standards.

The floor outlet boxes in the Staff Room are damaged and require new lids.

Closed Circuit TV Installation

No information for this system was found in the O&M Manual.

It is recommended that "*As Installed Record Information and Commissioning Information*" is requested from the contractor for the building. If this is not available, it is recommended that a specialist contractor is appointed to recommission the system and prepare the relevant commissioning certification and the Operating and Maintenance Manual and Record drawings.

Telephones and Data Installation

No information for this system was found in the O&M Manual.

It is recommended that "*As Installed Record Information and Commissioning Information*" is requested from the contractor for the building. If this is not available, it is recommended that a specialist contractor is appointed to recommission the system and prepare the relevant commissioning certification and the Operating and Maintenance Manual and Record drawings.

Access Control Installations

It was not possible to check that the system was functional as cards were not available. All doors were openable without the need for an access card. It can only be assumed that the system is switched off.

It is recommended that the system is commissioned by a specialist contractor and "*As Installed Record Information and Commissioning Information*" is provided.

Fire Alarm Installation

The installed system was commissioned by AWL Group. An acceptance certificate, dated 19/10/16, is included in the O&M Manual.

This certificate needs to be supported by results of the sound measurement tests carried out. This is required to confirm that the minimum sound level of 65dBA as achieved. There is no record that regular testing has been carried out since the building was vacated.

It is proposed that the systems are recommissioned after the installation of additional visual alarms and the relocation of smoke alarms in some areas. This should include a full sound level test with measured sound levels recorded on drawings. Confirmation is also required that the relevant interface units operate in the event of an alarm condition and that connection is provided to a remote station.

Emergency Voice Communication System

The system is installed and is deemed to be functioning correctly.

A certificate of Commissioning was not found in the documents inspected. It is recommended that the system is re-commissioned and a certificate issued.

Accessible Toilet.

Accessible toilets have been provided in accordance with Building Regulations Part M. A manual test was carried out and it was noted that the systems are not functional. This may be due to the systems being switched off.

The systems should be checked and brought back into full operation.

Lightning Protection Installation

This is deemed to be in good condition. It is noted that the system should be tested at no more than intervals of eleven months.

It is noted that the system was installed by Redpath Buchanan but installation details were not found in the O&M Manual. Tests certificates have also not been found.

It is recommended that the system is recommissioned and test results are recorded for each earth rod location. In addition, a Risk Assessment in accordance with BS 62305 should be carried out and the results retained in the Operation and Maintenance manuals for the facility.

3.16 Budget Costs

The budget costs provided are generally based on rates per square metre unless indicated otherwise. Costs are based on historical data for works of a similar nature carried out within the last five years and are current rates.

No allowance has been made for the following:

- Professional Fees and expenses.
- Building Regulations Part L Consequential Improvements.
- Associated builder's works.
- Costs to Local Authorities and Public Utilities.
- Increases for inflation.
- VAT which should be added at the appropriate rate

Description	Budget Cost
General	£12, 500.00
Carry out recommended installation inspections and tests	
Metering	£5, 500.00
Provide Automatic energy data collection and metering	
Solar PV	£2, 000.00
Provide G59/G99 Agreement	
LV Distribution	£1, 500.00
Provide LV Schematic, Warning Signs and Rubber mat	
General Lighting Installation	£3, 000.00
Carry out repairs and replacements	
Emergency Lighting Installation	£7, 500.00
Replace batteries/luminaires and provide additional luminaires	
Small Power Installation	£00.00
Provide Acoustic and Fire Protection treatment to flush boxes.	
CCTV	£1, 500.00
Recommission. Provide Documentation.	
Telephones and data	£1, 500.00
Recommission. Provide Documentation	
Access Control System	£1, 500.00
Recommission. Provide documentation. Provide Access Cards	
Fire Alarm Installation	£2, 000.00
Recommission. Provide Documentation.	
Emergency Voice Communication System	£450.00
Recommission. Provide Documentation	
Accessible Toilet Alarm	£1, 000.00

<i>Return to working order. Recommission. Provide Documentation.</i>	
<i>Lightning Protection Installation</i>	£1, 500.00
<i>Retest. Provide Documentation</i>	
TOTAL (excluding VAT)	£41, 450.00

4.00 MECHANICAL ENGINEERING SERVICES

4.01 General

The services have been visually assessed but no formal testing of air and water flows, air and water temperatures, system capacities, system operations and interfaces etc. has been carried out.

The Health & Safety Files, comprising the Operating and Maintenance Manuals and Record Drawings for the facility were available on site although some information was missing – or not found.

All the mechanical systems had been switched/turned off in the building such as gas isolated and locked off where it enters the building.

4.02 Natural Gas supply

The gas supply meter is located at the front of the building in a green housing – the housing was locked and taped up, an internal inspection was not made. The gas pipe then runs down the left side of the building below ground then rising from below ground outside the boiler room before entering at low level. The gas enters the boiler room complete with an emergency isolation valve. After this valve a 65mm branch rises to high level and exits the boiler room to serve the science lab. A Gas Solenoid valve interlocked to a gas detection system and the fire alarm is connected to the branch than then splits into 2 further branches (each with a sub meter) to serve the 2No. Heating boilers and the 1 No. Water Heater. Each of these branches has its own isolation valve as does each plant item.

The branch serving the science labs runs through the ground floor right side corridor ceiling void. The ceiling void where the gas pipe runs is ventilated with egg crate grilles fitted to allow for air movement and prevent any build-up of gas.

The lab gas pipe enters the classroom at high level and drops to low level in a duct and is believed to distribute below the floor to the 4 lab islands. It is not known without removing various panels how the gas pipework is properly ventilated and requires further inspection to ensure compliance. In addition to the 4 islands there is a mobile fume cupboard which can be moved around the lab and connect into (for water, gas and waste) one of the islands. A further gas supply also distributes to the technician's prep room - this room was locked and therefore not accessed.

On the wall in the lab was the gas controller which it was assumed operates a gas solenoid valve – this valve could not be seen and is thought to be on the gas pipework either just outside the room in the ceiling void or else in the boxing in where the pipework drops.

All gas pipework is in welded or screwed steel and is clearly identified being painted in yellow ochre paint as well as having ID banding tape. It is thought that the louvre boiler room door provides sufficient free area for the ventilation requirements for the boiler room – however it was noted that there was mesh between the louvre blades – this should be removed since this has the potential block up with leaves and debris and therefore reduce the free area of the louvres.

4.03 Domestic Hot & Cold Water Systems

The main cold water is fed from a meter located in the path/road at the front of the building and then runs below ground down the left side of the building to rise up in the boiler room. The pipe rises in what looks like a 63mm Blue MDPE pipework and converts to 54mm Copper complete with stop cock, double check valve sub meter and pressure reducing valve.

From this point the pipework splits with a 22mm branch to a small CAT 5 break tank booster system to provide a segregated supply to the science lab and the 2No. External Bib taps.

The CAT 5 supply runs through the building to the lab and prep room – the hot water in these areas are supplied by local electric water heaters fed off the CAT 5 supply. The mains cold water has a further branch with the main branch distributing around the building to supply the cold water to the sanitary outlets as well as shower rooms on the first floor level.

A secondary mains cold water branch in the boiler room also runs to serve the gas fired hot water heater complete with conventional flue that exits horizontally above the boiler room.

The gas fired water heater is as manufactured by Andrews and is a MaxFlo 60/300 which has a maximum input of 56kW and a storage capacity of 300litres with a recovery rate of 19 minutes through a Delta T of 50 degC. The distribution of the hot water follows the same routes as the Mains Cold water and is complimented with a hot water return system to maintain the minimum flow temperature through the building and minimise the risk of bacterial growth in the pipework.
All pipework is insulated with preformed foil faced Kingspan KoolTherm and ID banded roughly at 5m intervals.

The hot water return pump is a Grundfos 15/50 N which is a WRAS approved pump and suitable for this function. Regulation valves have been fitted on the return system at the end of each run, although most of these were hidden from view in most cases, but they were identified as being Crane Thermal Circulation Valve D2880. These valves should maintain the temperature in the pipework and can also work if a pasteurisation cycle can be incorporated into the control system.

The O&M manuals were examined for details of the original certificates for chlorination of the hot and cold water systems, including lab reports on bacterial levels – these all seemed in order. It is believed that the hot and cold water system is currently drained down since the MCW is isolated and there is no pressure registering on the incoming pressure gauge. The system being drained would seem like a sensible process to have done but unless all the water was blasted out with compressed air and a vacuum put on the pipework – which is doubtful- then there will be water in low points – this can give rise to bacterial growth and depending on the type of bacteria can cause pin holing in copper pipework.

The kitchen equipment is also off the mains cold water and hot water system – it looks like it was fitted out at a slightly later since some speed fit fittings have been used and not soldered joints as has been used elsewhere. Kitchen fittings such as the washing machine should be fitted with the necessary backflow prevention devices to suit the application – this was not seen although could well be fitted as part and parcel of the dishwasher – this is often the case but should be checked.

From the O&M manuals all the outlets have been tested and all measured within acceptable temperatures off the mixers. It was noticed that in the Accessible Toilets that pipework was exposed – this should be boxed

Potential Issues

- Bib taps for cleaners
- Drain cock
- Flexes to outlets maintenance legionella
- Access to flue joints?
- Cleaners not known if off the MCW or CAT 5 supply
- System flushed – chlorinated rinsed and tested.
- Pressure test system for pin holing.
- Exposed pipework in the disabled toilets

4.04 Heating/ Cooling

The principal method of space heating with in the building is via the low temperature heating circuit. Details of the running temperatures could not be found and again the entire system looked as if it had been drained with the gas being isolated and equipment isolated. It is suspected that the heating flow and return temperatures are 80degC 60 degC respectively – although this would need to be confirmed when the system is restarted.

Two natural gas boilers are provided, these are Potterton Sirius Two WH – 90 with a heat output of around 85kW each – dependant on design flow and return temperatures.

Two natural gas boilers are provided, these are Potterton Sirius Two WH – 90 with a heat output of around 85kW each – dependant on design flow and return temperatures.

Each of the boilers has its own circulation pump which circulates water to the heating flow and return headers which in turn circulates around the Spirotech Air/Dirt Separator. In addition, a pressurisation unit has been installed complete with associated expansion vessel to maintain pressure and water in the heating system – it should be noted that the valve installed on the expansion vessel is the wrong type being a quarter turn isolation valve whereas regulations dictate this should be a lockshield valve so

that it cannot be inadvertently tampered with. A dosing pot has also been installed across the header so that inhibitors can be easily added to the system. Looking into the tundish at the top of the dosing pot there are signs that chemical has been added in the past.

Two circuits are drawn off the, the first a Variable Temperature (VT) circuit to serve the radiators, fan convectors and sports hall radiant panels. Secondly a Constant Temperature (CT) circuit serves the Air Handling Unit Coils the 2 ceiling mounted fan coil units at the front of the main hall as well as the over door heater in the entrance lobby.

It is understood that the radiators in the class room are vertical Stelrad Planar radiators and are on the whole in reasonable condition, although one radiator has been used a blackboard but the pen marks can probably be removed with a suitable cleaner/solvent. Generally, in each classroom (with exception of the Science Lab) two rads are fitted in each room. These are large vertical rads and controlled via a thermostatic radiator valve at LL – it was noted that 1 was missing. Further to the radiator valves there are 2-port control valves which look as if they are on/off valves rather than modulating valves. The reason for these valves is not fully understood but could well link in with the Breathable Building ventilation controls for when the windows are opened so that the radiators automatically shut off if the windows are opened. At ground floor level for the main hall the area is heated via periphery SPC fan convector heaters and as well as two ceiling void mounted fan coils on the front side of the main hall. The periphery offices and toilets are heated generally via Stelrad Compact radiators. Where radiators have been fitted in the Accessible Toilets Stelrad Low Surface Temp Rads have been fitted although the covers have been removed for some reason – possibly to drain the system.

A 3-port valve arrangement is fitted on the header side of the VT circulation pumps to provide a variable temperature output dependant on the external temperature. It was noted that it did not look as if there was a pressure bypass valve but this could have been installed elsewhere on the system, or an end of line bypass.

The radiant panels located in the sports hall on the first floor are controlled via some wall mounted controls on the wall.

The CT circuit principally supplies the re-heat coil in the air handling unit to supply tempered air to the science lab. A further branch runs to the fan coils in the main hall and also the Biddle over door heater in the lobby. The 3-port controls for the lobby over door heater and the fan coil are located in the ceiling void. In addition, there is a CT connection to the heater coil on the server supply fan.

There are certain areas within the building where reverse cycle heat pumps have been included – the areas are as follows; the science lab, and in the open areas of the first floor Level. The server room has 2 wall mounted cassette units which are considered to operate on an N+1 basis, for keeping the server room cool.

4.05 Ventilation systems

There is a complete mixture of ventilation systems in the building.

For the classrooms (with the exception of the science lab) these are supplied with fresh air from the breathable buildings units 2 mounted at high level in each classroom, these operate by bringing in fresh air in from outside via a louvre dedicated to each unit. Each pair of units is controlled via an internal room sensor which monitors the room air quality and also indicates via a led when windows require to be opened.

The Science labs are supplied with fresh tempered air via the air handling unit located in the plant room next to the boiler room. This air handling comprises heat exchange section reheat coil and filter sections as well as extract fan sections. It supplies and extracts air from the changing/shower rooms on the first floor as well as the science lab and

There are further vent systems around the building again many of these are breathable buildings units located in the open area at first floor level complete with fabric ductwork off them, there are further units also located in the sports hall again with fabric ductwork.

Within the double height area of the building further roof extract units are located in the roof it is thought that these are linked to the vents located to the front of the building at low level on the first floor to

prevent the build-up of heat within the building. In addition, what look like smoke vents have also been installed which could also act as preventing overheating.

4.06 Observations and Recommendations.

In principle, the building uses the following systems to provide both heating, ventilation and domestic services

- LPHW Boiler plant located at the back of the building providing the heating source to
 - LPHW radiator circuit
 - Air handling unit re-heat coil
 - Reheat coils on Breathable Buildings NVHR units located in class rooms, front elevation of first floor circulation area as well as the sports hall.
- Ventilation is provided from a number of sources
 - An air handling unit located in the plantroom adjacent to the boiler room
 - Breathable building NVHR units as mentioned above
 - Heat Recovery Unit (HRU) located in front office(s)
 - Use of manually openable windows
 - Use of automatically openable windows/louvres
 - Toilet extracts
 - HRU serving the kitchen area.
 - Dining Hall & First Floor Circulation utilising natural ventilation system S Series Breathable Buildings Units
- The domestic services comprise the following systems
 - It is thought that the building runs off mains cold water since no cold water tank was seen or located however there is a boosted water system which supplies the labs, in order to give a CAT 5 air break on the system to minimise contamination risk.
 - Hot water is generated via an Andrews Water Heater, with the exception of the labs which have below desk electric water heaters
 - Distribution is via copper pipework with a pumped return on the hot water system to maintain water temperature within the system, as well as reduce the risk of legionella within pipework by keeping the temperatures above those of bacteria breeding temperature, regulation valves have been fitted on the returns although this was not checked for each leg
 - No TMV3 safety valves were noted although these could be incorporated into the mixer taps in each wash hand basin.

ROOM TYPES AND SERVICES PROVIDED

Standard Classroom Rooms (Ground & First Floors)

Ventilation:

- Via 2No. Breathable Buildings NVHR Units
- These units are c/w heat recovery & modulate fresh air requirement dependant on Carbon Dioxide levels and temperature (sensors on corridor side of class room)
- Heater batteries off LPHW heat incoming air in winter conditions
- Warning light on wall panel if Carbon Dioxide or temperatures rise too high to manually open windows.
- Carbon dioxide temperature sensors located on corridor wall which control the function of the units.

Space Heating

- Via 2No. Vertical flat panel Radiators, c/w thermostatic radiator valves (TRVs)

Issues

- In some cases, TRVs are missing
- Some radiators have paint work a bit chipped
- One radiator has been drawn on
- Location of radiators beneath the NVHR units, although not ideal having discussed this with the NVHR manufacturers the room sensors placed on the corridor walls should override the internal sensors of the unit.
- It was noted that there is exposed waste pipe in Rm 02 (Ground Floor) running at high level thought to be from the showers in the changing rooms above. If these are in use, then there may be a noise

level from the pipework that may cause disruption in the classroom since the waste pipework looks like standard pipework and not acoustic, alternatively if this is a problem this could be acoustically lagged.

Laboratory (Ground Floor)

Ventilation

- This provided for off the main Air Handling Unit supplying both bulkhead supply grilles along the corridor wall and extract grilles from above the chemical store area.

Heating and cooling

- This is provided by 2 cassette type air conditioning units

Gas

- Gas is provided through floor ducts to each of the lab desk islands with the gas safety controls located in the technician's room, complemented with emergency knock off buttons at the exits to the lab.

Domestic Services

- Boosted cold water is provided via a CAT 5 water tank and booster system located in the plantroom
- Hot water is derived locally from a water heater located below the lab main sink – cold water is only provided to island benches.

Sports Hall (Alternatively called “Performance Hall” - First Floor)

Ventilation

- Principally provided by 4No. NVHR units with ventilation socks to distribute the air further into the space.
- High level windows with electric actuators which are thought to be manually switched on, to open should the internal temperature rise.
- Ventilation sensors are mounted on the back wall next to the

Heating

- Heating is provided by 6No. Radiant heating panels, each of these panels is comprised of 2 sections each approximately 8m long.
- A black bulb temperature sensor is located on the back wall to control the radiant panels; however, no control valves were seen although these could have been behind the pipe riser covering.

Issues

- One of the radiant panels has incurred slight damaged where one of the twin panels has started to separate from the one adjoined to it.
- It was noted that on one of the high level windows that the actuators looked as if they had been disconnected and would need further inspection

First Floor Circulation Area (Above Dining Hall)

Ventilation

- 2No. NVHR breathable building units are located at the front of the building and it is thought these are to provide the principle ventilation requirements for this area, these are connected to flexible ducts to extend the influence of the ventilation, as in the class rooms these have the associated wall mounted controls.
- It is thought that the low level louvres located at the front of the building are there to provide air to be disposed of through the Breathable Buildings 'S Series' Penthouse louvered ventilation units located in/on the roof. These also provide ventilation to the dining hall below as well.
- Low level louvres are provided at the front of the space at low level and it is thought that these in combination to the 2No. actuated roof vents, give provision for extra air flow to reduce the risk of the space overheating. (It is also not known if these units are also connected to the fire alarm system to provide smoke vent as well)

Heating

- Heating is provided via 2No. radiators serving the space (not LSTs), it would seem that they would not provide sufficient heating for the area, but this area is designated as a gym area on the Plymouth Studio School fire routes drawing and therefore may only be expected to be heated to 16degC during the winter period.

Cooling

- This is provided via 4 wall mounted AC Units at each corner of the space, it is not known if these provide heating as well as cooling.

Issues

- There are many forms of ventilation, heating and cooling in this area and the controls logic for this area would need to be understood, for example when the AC cooling units are operating that the radiators will not operate, it so that different systems are not *fighting* each other.
- Due to the layout of the ventilation it would seem that there is possible conflict in ventilation between the ground floor dining hall requirements and that of the first floor requirements.
- One of the overheat actuated glass covers double glazing unit has failed requiring replacement since this could cause condensation formation during the colder winter months forming on the underside and dripping onto people below.

Changing Rooms, both Male & Female (First Floor)

Ventilation

- Supply ventilation is provided into the main changing area, and is thought to be derived off the main air handling unit
- Extract ventilation is thought to be from a separate extract fan located in the ceiling void which then discharges through a duct located on the roof. The extracts are via grilles mounted in the ceiling above the showers

Heating

- Heating is provided to each of the changing areas via non-LST rads located in each changing area.

Domestic Services

- The water is premixed to each bank of showers in the male & female shower areas. The mixer valve was not located and is assumed to be in the ceiling void or possibly the riser. Each shower has a push button type operation to actuate the premixed water flow.
- Drainage is via grated floor gulleys

Issues

- Extract grilles in the male shower look loose in ceiling, and require re-fixing
- Grilles in female changing area look dirty and require cleaning

Staff Room (First Floor)

Ventilation

- Provided by openable window

Heating

- Provided by 1No. Vertical Radiator. (Non LST)

Domestic Services

- Hot and cold water are supplied to
 - The kitchen sink
 - Dishwasher (Cold only)
 - Wall mounted Zip Boiler (Cold Only)

Issues

- Cover not fixed to LST Rad in bathroom
- Pipework to LST Radiator not properly boxed in

Sixth Form Common Room (This is the same as a standard Class Room – First Floor)

Room M1 Office (First Floor)

Ventilation

- Provided by openable window.

Heating

- Provided by non-LST radiator

Issues

- None noted

Room M2 Office (First Floor)

Ventilation

- Provided by openable window.

Heating

- Provided by non-LST radiator

Issues

- None noted

Meeting/Conference Rm (First Floor)

Ventilation

- Provided from main AHU via bulk head supply & extract grilles, also it was noted that the window was openable.

Heating & Cooling

- Provided by wall mounted AC Unit

Issues

- None noted

Dining Hall (Ground Floor)

Ventilation

- This is provided through the first floor open space above via the 3No. Breathable building units as mentioned above. It is not fully understood how the make-up air works here since it is usual to have openable windows either automatic or manual to maintain airflow although the Breathable Building units will also provide fresh air although one of the units is not located over the dining hall first floor opening.
- There are 4No. ceiling mounted grilles adjacent to the entrance glazing, although nothing is shown on the drawings it is thought that 2 fancoils have maybe been installed in the ceiling to provide heating to the front area of the dining hall as well as provide a level of condensation control on the glazing.

Heating

- This is principally provided by 2 No. wall mounted fan convectors to the rear of the area and also by the aforementioned fancoils.

Issues

- It would normally be expected to see some low level openable louvres/windows to provide an element of cooling in warm conditions but perhaps at design stage this was not considered

necessary and that there was no significant risk of overheating for this area being surrounded by other rooms.

Entrance Lobby (Ground Floor)

Heating

- This is provided by an LPHW Biddle over door heater, it is not known how this is control but is probably controlled off internal sensors.

Reception (Ground Floor)

Ventilation

- This is provided by a Heat Recovery Unit, assumed to be located in the ceiling void.

Heating

- Provided by one small non LST radiator.

Issues

- An electric radiator had been used by previous staff, and looking at the size of the radiator there is probably enough capacity for it to manage the fabric loss of the reception area but is probably not sized to take account of the reduced air temperature during winter conditions off the heat recovery unit.

3No. Reception Back Offices (Ground Floor)

Ventilation

- Openable windows

Heating

- Non LST Radiator

Issues

- None noted

Kitchen (Ground Floor)

Ventilation

- This is provided by an HRU which extracts and supplies from the space

Heating

- None seen, although kitchen equipment usually provides adequate heat to the space.

Issues

- The ventilation would seem inadequate depending how the kitchen has been classified, as a rule of thumb the vent requirements for a kitchen would be in the region of 40 air changes/hr and it is thought that the existing system would not meet this requirement, although it would need testing. With the use of an HRU it would also suggest that inadequate filtration has been used resulting in potential grease laden ductwork greased up filters and heat exchange matrix which will be difficult to clean. Dependant on how it is envisaged how this area will determine the ventilation requirements.

Toilets (Ground Floor)

These comprise 8No. Toilet cubicles plus 2No. Accessible toilets.

Ventilation

- It is thought that supply & extract vent is derived from the main air handling unit plant with supply to the central area between the toilets and an extract from each cubicle.

Domestic Services

- For the 8 cubicles hot and cold water is supplied to washing troughs, it is assumed that TMV – 3 mixer valves have been installed on the pipework serving each run.
- For the accessible WCs a wash hand basin has been installed in each WC and although no spate TMV-3 valves have been installed it is thought that this has been combined into the outlet mixer tap.

Issues

- Check operation of all TMV-3 mixer valves
- Tap heads missing require replacing
- Hot water pipework under sinks in accessible toilets is exposed and requires to be boxed in.
- Cleaners sink tap head missing

Store (Ground Floor Opposite Rm 04)

Ventilation

- 1No. Extract grille has been installed, it is thought that extract make up air is via the undercut door into the corridor.

Heating

- No heating supplied, this is an internal room therefore heat loss will be minimal, also being a store a temperature of 16degC would be reasonable.

Issues – none noted

Small Office (Ground Floor Opposite Rm S1)

Ventilation

- Supply & Extract grilles off main building Air Handling Unit

Heating

- No heating supplied, this is an internal room therefore heat loss will be minimal, but potentially may be cool in winter when sitting at a desk

Issues – none noted

Sick Room(?) (Ground Floor Opposite Rm S1)

Ventilation

- Supply & Extract grilles off main building Air Handling Unit

Heating

- No heating supplied, this is an internal room therefore heat loss will be minimal, but potentially may be cool in winter when sitting at a desk

Issues – none noted

4.07 Budget Costs

The budget costs provided are generally based on rates per square metre unless indicated otherwise. Costs are based on historical data for works of a similar nature carried out within the last five years and are current rates.

No allowance has been made for the following:

- Professional Fees and expenses.
- Building Regulations Part L Consequential Improvements.
- Associated builder's works.
- Costs to Local Authorities and Public Utilities.
- Increases for inflation.
- VAT which should be added at the appropriate rate

Description	Budget Cost
Gas	£5,465.00
Refill system. Boiler & Water Heater Recommission	
Domestic Services	£8,350.00
Cleaning, chlorinating, bacterial testing & pressure testing & checking TMV operation	
Heating System	£7,475.00
Chemical Clean Flush, Refill, Treat. Pressure test & Recommission	
Ventilation	£14,375.00
System Deep Clean and Recommission	
TOTAL (excluding VAT)	£35,665.00

5.00 VERTICAL TRANSPORTATION SYSTEMS

5.01 General

A Platform Hoist, as manufactured by Orona Ltd, is provided to serve ground and first floor levels. This hoist is rated at 500kg. Access is limited to authorised users.

5.02 Observations and Recommendations

It is noted that the platform lift has been installed in a new building.

Approved Document Part M Building regulations indicates as follows:

3.22 For existing buildings, and in exceptional circumstances for new developments with particular constraints (e.g. a listed building or an infill site in a historic town centre), where a passenger lift cannot be accommodated, a vertical lifting platform (platform lift), although not equivalent to a passenger lift, may be considered as an alternative option.

No information was found to confirm that the installation of this type of lift was acceptable. At this stage, it would be difficult to replace this lift with a conventional passenger lift. However, confirmation is required that the relevant authorities have accepted this installation as being compliant with Building Regulations.

Prior to returning the unit into service it is recommended a service visit is carried out by the specialist manufacturer or their delegated agent to return the unit into the service.

A maintenance agreement is required to carry out regular maintenance, expected to be at intervals of six months, to check and adjust operation of the unit.

5.03 Budget Costs

The budget costs provided are generally based on rates per square metre unless indicated otherwise. Costs are based on historical data for works of a similar nature carried out within the last five years and are current rates.

No allowance has been made for the following:

- Professional Fees and expenses.
- Building Regulations Part L Consequential Improvements.
- Associated builder's works.
- Costs to Local Authorities and Public Utilities.
- Increases for inflation.
- VAT which should be added at the appropriate rate

Element	Budget
Service Visit/Recommissison	£1, 500.00
Total	£1, 500.00

JLL offices

Exeter
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