# SHROPSHIRE COUNCIL

Quarry Swimming & Fitness Centre

**Building Survey Report** 

November 2014





## SHROPSHIRE COUNCIL Quarry Swimming & Fitness Centre Building Survey Report

	Document status				
Revision	Date	Status or comment	Prepared by	Checked by	Authorised by
	11.11.14	First issue	D Watkiss	R James / D Baker	D Watkiss

### DISCLAIMER

This document and its contents have been prepared and are intended solely for the Client's information and use in relation to the assessment of condition of the existing premises known as the Quarry Swimming and Fitness Centre, Priory Road, Shrewsbury, Shropshire, SY1 1RU

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## 1.0 INTRODUCTION

- 1.1 Instructions were received from Ian Pugh, Property Strategy and Review Officer, of Assets and Estate Management, Shropshire Council in September 2014 to carry out a condition survey of the premises know as Quarry Swimming and Fitness Centre, Priory Road, Shrewsbury, Shropshire, SY1 1RU. Subsequently Faithful+Gould have been asked to provide a written building survey based upon the information gathered during the condition survey inspection.
- 1.2 The property was inspected during the week commencing 29<sup>th</sup> September by Dave Watkiss BSc (Hons) MRICS and Richard James BSc (Hons) of Faithful+Gould, and John Slade MCIBSE of FHP ESS, at which time the weather was cool and overcast with periods of intermittent rain.
- 1.3 External elevations were inspected through binoculars from available vantage points within the confines of the site.
- 1.4 The site incorporates unsuitable external ground conditions and various barriers that limited vehicle access, as such, roofs were not inspected via truck mounted access platforms instead they were inspected from the safe access walkways afforded by the roof and other available vantage points.
- 1.5 In accordance with your instructions, the Mechanical and Electrical Services were inspected by FHP ESS. A summary of their findings is included within this report in Appendix A.
- 1.6 No Operation and Maintenance documentation, record drawings or systems and services inspection, testing and commissioning documentation for the existing engineering services installation were made available at the time of our inspection. The description and operation of the engineering services and opinions expressed in this report are based on a visual inspection only.
- 1.7 Our appraisal of the Building Services was focussed on the main plant items and connected distribution systems. We did not appraise the condition of individual ancillary components nor any specialist plant and equipment that were beyond our range of expertise and experience.
- 1.8 The extent of the survey comprised an internal and external inspection of the entire property, together with all associated external areas.
- 1.9 Where references to left, right, etc. have been used, they are taken as though the reader is facing the element being described or commented upon. For reference, we have deemed the front elevation of the property, facing the public car park, to be facing east.

## 2. <u>GENERAL DESCRIPTION</u>

- 3.1 The Quarry Swimming and Fitness Centre is situated approximately one third of a mile towards the north east of Shrewsbury town centre and within one mile of Shrewsbury Railway Station, in a predominately commercial area, and immediately adjacent to the River Severn. The premises are accessed via Priory Road which in turn provides direct access to the town centre and main A458.
- 3.2 The property comprises a variety of construction types, originating in 1864 with later 1960's demolition, rebuilding and extension works being undertaken. The property underwent a further major modernisation and refurbishment in the mid 1990's and provides net internal floor space, over four stories, totalling circa 48,007 sq ft (4,460 sq m).
- 3.3 Construction broadly comprises of traditional masonry walls, piers and stepped footings, a concrete cast insitu frame with a renovated inverted warm deck roof with brick and phenolic resin panel clad elevations. A designated car park is provided to the front of the site, the car park is undersized with limited spaces for public use.

## 3. <u>STRUCTURE</u>

- 3.1 The superstructure comprises a combination of traditional supporting masonry built piers, to the original 1864 Victorian premises, and cast in-situ concrete frames to the later 1960's extended, 33 meter, two storey pool area. Support to the lower ground floor teaching pool roofs is provided via rolled steel lattice beams. Where as the remaining structure is supported by concrete columns interspersed at regular intervals across the floor plate, thus creating open span areas that allow unimpeded access to the main upper pool area.
- 3.2 The concrete frames were covered with a variety of internal finishes that limited our inspection, however, we did not identify any obvious distress or deflection in the frame. Minor surface cracking and corrosion has formed on the framework within the warm, humid and chlorine laden pool area environment. This type of environment creates the optimum conditions for steel corrosion and so the concrete reinforcement should be properly protected, to prevent this from occurring. It will therefore be necessary to ensure that where internal finishes have been damaged these areas are repaired locally to prevent any further deterioration from occurring.
- 3.3 The concrete frame will have been designed to accept loads from roof coverings, snow and wind, maintenance staff and suspended services. Should you wish to undertake any alteration works in the future, you will need to consult a Structural Engineer to determine whether any addition loadings can be applied safely. Our inspection identified that additional loading of the slab may be problematic as previous works have relied upon either providing additional supporting steelwork or the use of light weight ballast, both of which suggest that the existing structure is at its maximum safe working load.
- 3.4 No details regarding the ground floor and upper ground floor slab construction have been provided for review, and with the exception of the plant room, floor coverings prevented direct access and inspection. It is, however, assumed that the floor slabs comprises a ground bearing in-situ cast reinforced concrete slab. We did not identify any evidence of any inadequacy of design or evidence to suggest that the slab had not been suitably designed to accept the point loads of plant and equipment. It was noted that the exposed slab within the plant areas had been subject to mechanical damage around redundant / former plant areas. In addition, the slab surface in the plant room has suffered from chemical attack, where chemicals have been stored / spilled, the chemicals have reacted with the concrete finish, and exposing the underlying aggregate.
- 3.5 No details regarding the first floor slab construction have been provided for review, and floor coverings prevented direct access and inspection. From inspection the floors are assumed to comprise of in-situ cast reinforced concrete supported by a series of universal columns and beams. Our inspection did not identify any evidence of any inadequacy of design or evidence to suggest failure. Note, that access to the underside of the slab from within the ceiling void could not be undertaken as asbestos containing materials were identified within the asbestos management plan, which we could not disturb to allow access.
- 3.6 Access between floors is via pre formed steel stairs with fixed timber treads. Again, our inspection did not identify any evidence of any inadequacy of design or evidence to suggest failure.

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3.7 The sub-structure cannot be confirmed without excavation but is considered to comprise a combination of stepped masonry to the original building and series of reinforced concrete pile foundations to the base of each stanchion. No obvious issues were identified that suggest the presence of structural deficiencies with the sub-structure of the property.

## 4. <u>ROOF</u>

- 4.1 The roof is formed from a series of stepped height flat roofs, spanning between supports, being formed from cast insitu reinforced concrete over edge channel reinforced wood-wool slabs. The wood-wool slabs originally acted as both permanent shuttering and provided a degree of insulation. The roof is typical of a 1960's structure and it is likely that during the original construction period the concrete around the slabs was poorly compacted, a common issue leading to poor durability, and reducing the effective cover of the concrete reinforcement. This can cause deterioration to the concrete, however, our inspection did not identify any evidence to suggest failure. Although, it should be noted, our inspection was impeded due to limited access points and the retro fitted insulation and replacement roof coverings undertaken during the 1994 refurbishment works.
- 4.2 No concrete core samples have been undertaken and tested to confirm the presence of High Alumina Cement (HAC). This differs from Portland cement, as it is composed of calcium aluminates rather than calcium silicates and provides rapid strength making HAC popular from 1950 to 1970. However, mineralogical 'conversion' sometimes caused reductions in concrete strength and increased vulnerability to chemical attack. HAC concrete was effectively banned for use in new structural concrete in the UK following a number of well publicised collapses in the 1970s. The primary causes of these collapses were poor construction details or chemical attack, rather than problems with the concrete itself and up to 50,000 buildings continue to remain successfully in service today in the UK. If the presence of HAC is suspected, confirmation requires chemical or laboratory testing of samples and if confirmed, professional advice on its condition may be required. It is important to remember, however, that the majority of these buildings are performing perfectly adequately.
- 4.3 The property was subject to a major refurbishment in 1994, these works included the application of an inverted warm roof system, consisting of the following; high performance built up bitumen mineral felt roof covering bonded to the main deck with a self-ballasted foam insulation board that includes a factory applied top surface of modified mortar, approximately 10mm thick. The surface is mottled grey, resembling a cement: sand render with wood float finish.
- 4.4 The insulation boards incorporate a tongue and grooved edge and will have been designed to negate wind uplift etc. Our inspection identified that the insulation boards have been subject to movement and have begun to deteriorate and curl. Joints between boards have opened and are considered excessive allowing significant plant growth to occur on the underlying waterproofing layer. This profuse growth and associated debris will cause damage to the coverings, shortening an already limited remaining lifespan. Although a number of areas have been replaced post 1994 the existing insulation has been relayed, and again significant growth has occurred at these points.
- 4.5 The ballast layer, described above, has been disturbed and is damaged in numerous locations and is very undulated under foot. Although at the time of the roof survey the weather was clear and cool with little precipitation, it is considered that due to the undulating nature of the coverings, and debris evident within the gutter lines / ballast joints; that the roof may be subject to ponding. If rainwater ponds, then subsequent freezing and expansion may cause the felt to split, allowing water to seep into the open joints and down through the deck to the rooms below.

- 4.6 Where viewed the roof covering and associated items were considered to be in poor condition and nearing the end of their natural life span, it is therefore considered that replacement works will be required within the next few years. At this time, it will also be necessary to upgrade the depth of the insulation layer to increase U values to current requirements and increase the overall energy efficiency of the building. In undertaking any roof level refurbishment / upgrade works it will be necessary to establish that the structural suitability of the existing slab is appropriate for the increased loads.
- 4.7 Access to the roof is via the first floor viewing area which provides both access onto the roof and suitable vantage points to allow inaccessible areas to be viewed. No access was available to view the upper pool roof due to vehicle access restrictions, however, it is considered that coverings will be of a similar condition as per the main roof areas, having undergone similar works during the 1994 refurbishment.
- 4.8 Situated across the roof are a number of twin skin polycarbonate domed kerb upstand rooflights. Where safe access was afforded the single 600 x 600mm lights appeared in fair condition, the larger rooflights, however, were noted to be suffering from gasket failure and / or condensation forming between the two skins. Internal paint finishes around rooflights were deteriorating and isolated areas of water ingress was identified. It will therefore be necessary to allow for overhauling and resealing, as well as some isolated replacements.
- 4.9 To the main roof, a painted timber plyboard tank house has been constructed. This structure incorporates a number of galvanised ducts and cowl penetrations serving the swimming pool plant. The structure is in poor condition suffering from decay and damage and should be replaced in its entirety.
- 4.10 Two number steel beams are positioned across the length of the roof supported at either end by the external frame. These steels support the roof mounted plant and are in poor condition. The steel paintwork has deteriorated significantly allowing corrosion to occur, this will require cleaning down, treating and recoating.
- 4.11 Across the roof a number of steel access gantries and steps are also positioned, these too are suffering corrosion and will require cleaning down, treating and recoating. The access walkways incorporate galvanised perforated planks providing pedestrian access and support; these were generally noted to be poorly fixed or damaged and will require isolated replacement as part of any refurbishment programme.
- 4.12 The rainwater system is assumed to be a traditional gravity fed system, however, no access was provided for review. Where gutter lines were exposed these were noted to be of mineral felt, sumped within the roof covering, and were generally silted and blocked with debris
- 4.13 A Mansafe system is provided on the roof with the mounting points being laid on a plywood boarding covered with sacrificial felt. This system will require servicing annually, however, we were unable to review any servicing records but from the age and condition of the installation it is unlikely that a planned maintenance and servicing programme has been established.

## 5. <u>ELEVATIONS</u>

- 5.1 No original construction details were provided for review; however, elevations broadly comprise traditional solid and cavity brickwork, clay fired tile hanging, painted render / concrete, and full height aluminium framework and glazing to the upper ground floor swimming pool area.
- 5.2 The double storey height walls and high level areas are generally finished in a coloured phenolic resin, laminate cladding panel, assumed to have been installed as part of the 1994 refurbishment works. Alternatively, and towards the main elevation and café area, fibre cement fascia panels are provided. The fascia panels are damaged with one section missing, having been disturbed during previous high winds, these panels may contain asbestos and additional sampling may be required before any remedial repair works are undertaken.
- 5.3 At roof level the walls are in poor condition, render finishes were noted to be blown and cracked, due to the extent of damage identified isolated repairs will not be sufficient and it is recommended that the render is removed to expose the substrate and a new coating is provided. The brickwork was noted to be suffering isolated stepped cracking that will require structural stitch tie repairs and isolated repointing.
- 5.4 At ground level the exposed brickwork to elevations 1, 2 and 3 was considered to be in poor condition. The solid Flemish bond joints along the upper level swimming pool wall were recessed and weathered, whereas around the rear of elevation 3 the stretcher bond brickwork was suffering from exhaust gas staining, cracking and general deterioration. The cracking identified suggested signs of movement within the superstructure, this should be monitored to determine whether it is historic or not, and if appropriate structural stitch tie repairs undertaken.
- 5.5 The original red clay tile hanging is, due to atmospheric pollutants, severely discoloured and is suffering isolated dropped, missing or chipped tiles to all elevations where it is installed. Although the issues identified will not be severely impacting upon the functionality of the building, aesthetically, remedial repairs should be undertaken.
- 5.6 The render throughout the low level areas is in poor condition, cracking is prevalent throughout and it is apparent that significant amounts have debonded from the background substrate. Low level water damage and saturated render is also evident which will be affecting the internal finishes and environment. Any loose / debonded plaster will continue to deteriorate and any trapped water behind may cause freeze / thaw action that will accelerate the breakdown. Again isolated repairs will be ineffective and all such finishes will require removal and replacement.
- 5.7 Where the render has failed over the concrete framing members it will also be necessary to ascertain if the low level cracking, identified, permeates through the structural frame.
- 5.8 The phenolic resin cladding panels are generally in fair condition although some panels are suffering isolated damage and the joints, ridges and high level exposed areas are suffering from excessive algae and fungal growth. Areas will require cleaning down with some isolated replacements or detail alterations being necessary.
- 5.9 The main entrance and café doors consist of naturally anodised aluminium frames, as is the majority of glazing throughout. To the rear areas, elevations 3 and 4, the windows are formed

from single glazed metal crittal windows with a paint finish and doors are timber incorporating either a solid flush face or Georgian wired glazed panel. In addition timber louvers serving the swimming pool plant rooms are provided.

- 5.10 The metal crittal window frames are in poor condition, internally hinge mechanisms are corroded and stiff to operate, glazing panes are cracked and paint finishes are delaminating. The window frames themselves are also poor in terms of thermal efficiency and consideration should be given to their complete renewal.
- 5.11 The timber louvers are in poor condition, low level framing members are suffering severe timber decay, furthermore isolated slats are missing or decayed and finishes have generally failed and are stained. Again complete renewal should be considered. The timber doors are also in poor condition again suffering low level decay or damage and where glazing is provided it is cracked and represents a health and safety risk.
- 5.12 To elevations 3 and 4 concertina painted metal doors are installed, that at one time provided access to the lower ground floor plant rooms. These doors have been sealed making area 048 inaccessible. The sealing of these doors has been poorly executed, the doors are not fully closed and sealing has been undertaken with an expanding foam. At the time of inspection doors could not be physically opened, however, excessive force may result in the doors being accessible creating a security breach. We would therefore advise that, if the areas are deemed to be redundant, the doors are removed and the opening blocked up with a permanent structure i.e. masonry.
- 5.13 Generally the aluminium entrance doors and office / circulation space window frames are in fair condition but should be replaced to achieve higher energy efficiencies. The aluminium frames and associated glazing panels to the café, full height pool and high level pool areas are, however, in poor condition.
- 5.14 The glazing panels to the full height frames have failed allowing moisture and condensation to form between the internal and external skins. In addition, gaskets have deteriorated or are missing, being replaced with a silicone seal that does not provide adequate protection. Cover strips and trims are also missing or have been mechanically damaged during maintenance works and general corrosion is occurring to isolated locations. These panels are considered to be in a poor condition and should be replaced with a more modern energy efficient product.

## 6. INTERNAL AREAS

- 6.1 The internal fixtures comprise a variety of floor mounted cubicle fittings, stud / solid partition walls and softwood timber doors with Georgian wired glazed panels. The finishes broadly comprise a combination of painted brickwork, plaster / textured coatings, ceramic / porcelain wall tiles, suspended mineral fibre ceilings, textured ceilings, exposed polyester powder coated steel linings and a combination of carpet sheet, vinyl, ceramic / porcelain tile and exposed concrete floors. Finishes are generally in poor condition, subject to general wear and tear and water damage / deterioration.
- 6.2 The highly chlorinated and humid swimming pool atmosphere has deteriorated the internal finishes, the tiled floor coverings are in particular poor condition, grout has failed and cracked, enamel surfaces have worn allowing heavy algae growth to occur around the pool surround, and tiles are suffering mechanical fixing damage and / or isolated cracks. Coverings will require either complete re-grouting or full replacement.
- 6.3 Wall finishes are suffering from water damage where water has condensed beneath the high level windows causing plaster finishes to debond and fail. Wall tile finishes have also debonded and cracked with corrosion forming around edge beads and the like. Metal fixtures and fittings are also suffering heavy corrosion around fixing points and other isolated areas and will again require replacing in and around the pool areas. The ceilings within the pool areas are also poor and require remedial and / or replacement works, for example the textured ceiling beneath the spa pool and sauna is suffering from corrosion and salt staining due to chlorinated water purging through the deck from above. The high level acoustic "hit and miss" type steel ceilings over the pool areas are also suffering from minor damage or are missing in part and require isolated replacements.
- 6.4 Within the pool area circulation / stairs, reference 041, a white PVCu gutter and down pipe is located internally which appears to be a secondary remediation measure to disperse water condensing from the moisture laden poolside atmosphere onto the PVCu ceiling bulkhead.
- 6.5 The medical room, staff changing areas and upper staff offices (room references 71 76) are in poor condition. Areas have had little capital expenditure in recent years and are suffering from severe deterioration of finishes and fixtures and fittings. These areas will require extensive works and investment to upgrade and provide acceptable facilities. Other office areas located on the upper ground floor were in a better condition but did require redecoration and replacement of carpets and kitchenette facilities.
- 6.6 Generally internal finishes within the various circulation spaces and spectator seating areas are in fair condition, although tired and suffering from general wear and tear and isolated damage.
- 6.7 Reception desk and other fixtures and fittings are aged and should be upgraded to provide better facilities, generally floor and wall coverings within the main entrance are in a poorer state of repair than other circulation spaces due to the increased volume of traffic and cleaning regimes which have caused low level water damage to the plastered finishes.
- 6.8 The catering kitchen and café areas are in fair condition but would benefit from full refurbishment and upgrade to provide more suitable refreshments.

- 6.9 The upper ground floor fitness suites are generally in good condition requiring only isolated minor repairs. The spa facilities to the rear of the fitness suite are, however, in poor condition. Wall and floor tiles have had numerous ill matching replacements and grouting has started to fail and crack. Coverings should therefore be replaced in their entirety. Timber doors within these locations are also suffering from low level water damage and metal fixtures and fittings are suffering heavy corrosion and again should be replaced. The timber cladding panels to the sauna are damaged and suffering from decay. As such, we would recommend that allowances be made for the total refurbishment of these areas. In addition a steam room is also damaged in part and, again allowances for total refurbishment should be made.
- 6.10 The premises contains large changing room and locker room facilities which are classed as wet areas, and as such, incorporate falls and drainage gullies within the tiled floor coverings to discharge standing water. These falls are insufficient as water is allowed to pool resulting in the majority of low level fixings suffering from timber decay or corrosion. Generally cubicle and changing areas are dated and although accessible facilities are provided for disabled users these are not to the extent as would be expected in a new build development. Generally finishes throughout these areas are suffering from general wear and tear with isolated damaged, such as cracked tiles, etc. We therefore consider that the facilities would benefit from complete renewal and refurbishment.
- 6.11 The plant room areas are in poor condition, generally areas are exposed with a simple paint finish applied. Finishes are severely degraded and areas are suffering from general damage and spalling and numerous remedial repairs will be required.
- 6.12 Generally the flush faced doors, throughout, were in fair condition, suffering some minor mechanical damage, and low level timber decay due to the general nature and location of their environment.
- 6.13 The swimming pools were full at the time of our inspection, the main swimming pools appeared to be in satisfactory condition, however, we would recommend appropriate specialist investigations be carried out to establish any inherent defects with the systems and materials in place.

## 7. EXTERNAL AREAS

- 7.1 Boundaries comprise a series of brick boundary walls, metal railings, timber fence panels, concrete kerb edges to access routes and non-delineated boundaries across the car park.
- 7.2 There is no evidence of any structural movement in the brick retaining walls towards the front elevation, however, the mortar joints to brick courses at low level have started to erode and we consider that brickwork will require repointing in the next 5 years.
- 7.3 The car park to the front entrance is provided with a tarmacadam wearing course with thermoplastic lines delineating road markings and parking bays. The tarmacadam car park is considered to be in a fair condition although undulated areas and minor damage / breakdown of surface dressings were noted.
- 7.4 The white thermoplastic lines have also started to deteriorate and will require renewal. Localised repairs will also be necessary to keep the car park in satisfactory condition over the coming years.
- 7.5 Subject to a jet wash down and removal of localised vegetation, the paved pedestrian areas are considered to be in fair order. However, a number of areas are raised and could cause a trip hazard. We would therefore recommend that these are lifted and reset.
- 7.6 There is a system of underground foul and storm drainage serving the unit that will be connected to the main underground drainage system. In the absence of drainage layout drawings, it is assumed that it is routed below ground within the car park area at the front of the unit. Although no deficiencies in the systems were identified we recommend you commission a CCTV survey of the drainage systems to establish if any problems exist due.

## 8. STATUTORY COMPLIANCE

## 8.1 FIRE SAFETY

- 8.2 We have not had sight of any Fire Risk Assessment and we would normally advise that a copy be requested for review and comment.
- 8.3 Our inspections identified that the existing café server area, leading to the kitchen, has no fire rated shutter installed. A shutter separating the kitchen facilities will be required and should be linked to the automated fire detection system. Furthermore a noncompliant fire door was noted to have been installed within the plant room areas and should be replaced.
- 8.4 Throughout the property a number of intumescent seals were noted to be missing from fire doors and ironmongery had dropped and was stiff to operate. An emergency push to exit bar was also noted to be stiff to operate having corroded fixings.
- 8.5 During the inspections it was consider that little or no internal cleaning of the existing ductwork had been undertaken. This represents a fire hazard and should be thoroughly cleaned by a specialist contractor.
- 8.6 The distribution board within the kitchen area is non IP rated and again this should be upgraded to ensure compliance.

### 8.7 HEALTH AND SAFETY

- 8.8 Glazing around the spectator areas was considered to be in 'at risk' location under the definition provided by Regulation 14 of the Workplace (Health, Safety and Welfare) Regulations 1992. The glazing was not thought to be toughened or laminated and should therefore be replaced. In addition there were other areas throughout the property that incorporated cracked or damaged glazing (doors, screens etc.), again these areas should be replaced.
- 8.9 The site was developed during the 1960's and asbestos containing materials (ACM's) were identified within the asbestos management plan located on site. Any refurbishment works undertaken should therefore be given due consideration as to the potential risk of damage and contamination.
- 8.10 The floor coverings throughout the wet areas are severely worn with enamel surfaces being significantly eroded to allow algae to form, causing both health risks and risks of slips and falls. In addition a number of areas incorporate cracked or damaged coverings that may cause injury to bare feet.
- 8.11 Wall coverings are generally poor with blown and corroded finishes to the majority of locations. Again this could cause health risks where mould is allowed to grow, particularly in the crevices of the textured coatings in the medical / treatment rooms on poolside.
- 8.12 Safety barriers and guarding's around the pool area are severely corroded around fixing points. There is therefore a risk of sudden failure and injury to persons utilising the fittings.

- 8.13 Access to maintain the ceiling mounted plant and equipment over the upper ground floor pool is via CAT ladder that leads to a timber walkway with ineffective and noncompliant handrails. To access equipment maintenance staff are required to traverse ductwork that intersects the walkway resulting in a high risk of severe / fatal injury. We would therefore recommend that access to these areas is prohibited until such time that a suitable system has been installed.
- 8.14 Access is available onto the roof via the first floor seating area together with external walkways with handrail guarding's over a large majority of the roof. Where walkways are not provided a fall protection system was noted. We recommend that the system is serviced and checked annually to ensure its adequacy.

### 8.15 DISABILITY DISCRIMINATION ACT / EQUALITY ACT

8.16 We have not undertaken an access audit and therefore cannot comment in detail on access provisions. However, we identified that access to the premises was generally well considered and appeared on the whole to be in accordance with the regulations in place at the time of construction.

### 8.17 SUSTAINABILITY CONSIDERATIONS

- 8.18 We have not reviewed the Energy Performance Certificates (EPC) for the premises which shows the energy rating of the building and indicates the energy efficiency of the building fabric and the heating, ventilation, cooling and lighting systems.
- 8.19 From April 2018 it will no longer be legal for landlords to rent out business premises with an energy efficiency rating that is less than an 'E' on an EPC. Based on the current assessments, this should not present you with any concern; however, the EPC will need to be reviewed if additional plant and machinery is required, as the provision of additional energy using plant and equipment will impact on the energy rating of the unit. This should be considered when developing any future refurbishment schemes and engineering services to ensure that the EPC rating meets with the current requirements.
- 8.20 Owing to the current minimum heating, cooling and ventilation provisions, and subsequent low energy usage, the relatively high EPC ratings provided to the premises is broadly in-line with our expectations.

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# 9. <u>APPENDICES</u>

APPENDIX A -MECHANICAL SERVICES SITE SURVEY REPORTAPPENDIX B -PHOTOGRAPH SCHEDULE

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Appendix A Mechanical Services Site Survey Report **CONDITION REPORT** 

# ON THE

# **ENGINEERING SERVICES**

AT

# QUARRY SWIMMING POOL & FITNESS CENTRE PRIORY ROAD SHREWSBURY SY1 1RX

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## **1 – INTRODUCTION**

Please note that the entire contents of this Report should be read and understood and no part or parts are to be acted upon or dealt with in isolation. Your attention is drawn to the Limitations of the Survey at the end of the Report.

### Instruction

Faithful + Gould appointed FHP Engineering Services Solutions on behalf of their Client, to undertake a Condition Survey of the mechanical and electrical plant, fire safety systems, public health services and pool plant and equipment at the Quarry Swimming Pool & Leisure Centre, Priory Road, Shrewsbury, SY1 1RX.

### **Property Overview**

The property comprises a purpose built swimming pool and leisure centre believed to have been constructed during the late 1960s and incorporating the original swimming pools. There is a paddling pool as part of the overall site; the paddling pool is likely to pre-date the main complex by a number of years.

### **Date of Survey & Weather Conditions**

The survey was conducted on 3<sup>rd</sup> November 2014 when the weather was clear, sunny and mild.

#### Energy

A Display Energy Certificate (DEC) and advisory report are required for buildings with a total useful floor area over 500m<sup>2</sup> that are occupied in whole or part by public authorities and frequently visited by the public.

Whilst no DEC was observed on site, a check on the national data base established that one is available and it was noted that the property has achieved a rating of D92, this is slightly better than the rating of D100 which would be normally be expected for this type of building.

In addition, regular inspections of air conditioning systems are required to be carried out as follows:

- by 4<sup>th</sup> January 2009, all air conditioning systems over 250kW must have had their first inspection
- by 4<sup>th</sup> January 2011 all air conditioning systems over 12kW must have had their first inspection

No air conditioning inspection report was made available at the time of the inspection and FHP ESS was able to determine from the available information on site as to the rated capacity of the relevant cooling plant, that an ACI is required. The current building owner is advised that since the collective cooling capacity is above the 12kW threshold he will need to make arrangements for an ACI to be undertaken by an accredited assessor and we recommend that the Landlord supplies a copy.

Once a new person becomes responsible for the control of operation of the air conditioning system then that person has the responsibility to ensure that a current valid air conditioning inspection has been undertaken (within three months of his appointment should there be no evidence of one being made available) and subsequent inspections at the maximum five year interval takes place.

## 2 - EXECUTIVE SUMMARY

#### Description

The Quarry pool hall and associated male and female changing rooms and the Priory pool hall and associated changing rooms including toilets are ventilated by their own independent supply/extract air systems. The ventilation system serving the Quarry pool hall dates from the building's construction as do the Priory hall systems. Both systems are in an acceptable condition but the AHUs have exceeded their economic life of twenty five years, as defined by CIBSE, by approximately nineteen years and as such should be replaced with modern energy saving units.

Low temperature hot water (LTHW) for heating of the property is provided by a centralised system comprising three gas fired boilers, distribution pipework, pressurisation unit and circulation pumps. Generally the systems date from the building's construction with the boilers being renewed during circa 1993, and the burners during 2008. Whilst overall the LTHW system is in fair condition the boilers have exceeded their CIBSE recommended economic lifespan, normally twenty years, and will require replacing in the next five years. One circulating pump was also noted to have been removed for repair. A current gas safety certificate was available on site.

Chemical and microbiological certification for the LTHW closed loop system was not available for review and therefore the water quality of this closed loop system could not be ascertained. Although no issues were reported at the time of the survey, it is not possible to assess if there are water quality issues in the absence of this information. However, if there are issues then there is the potential that the cost of corrective action could be

### **Photo Reference**

DSCF 9319, 9321

<b>Description</b> significantly higher than normal maintenance levels would allow.	Photo Reference
Cooling is provided to the gym areas by split system direct expansion (DX) air conditioning (AC) units. Whilst the AC units appeared to be operating in an acceptable manner they were noted to be operating on the non-environmentally acceptable refrigerant gas R22. As this refrigerant gas will no longer be available for maintenance purposes after the 1st January 2015 the units should be replaced.	DSCF 8770, 8802
The property is provided with a 400 volt, three phase and neutral (TP&N) electrical supply from the Regional Electricity Company's sub-station, located external to the site boundary.	
The supply terminates into a three phase and neutral (TP&N) main panel; from where the sub distribution boards supplies emanate. Although the main panel dates from the building's construction and was found to be in a satisfactory condition, due to its age spares are likely to become difficult to obtain and it should therefore be considered for replacement.	DSCF 8868
Lighting in the pool areas is provided by metal halide fittings, the main hall lighting is by Hi bay Sodium fittings, other areas are a mixture of surface mounted fluorescent fittings and recessed fittings which appeared to be designed and installed in accordance with CIBSE Category 2, circular down lighters fitted with PL lamps and in the cafe area some dichroic light fittings have been installed.	DSCF 8773, 8780, 9249, 9250
Emergency lighting in the offices, public areas and gyms etc. comprises selected light fittings fitted with emergency battery packs, whilst the pool hall and main hall has dedicated spot light type fittings. There are bulkhead fittings above the fire escape exits.	DSCF 8807, 8816

Description	Photo Reference
The lighting systems appeared dated and can only be described as	DSCF 8797, 8799
being in a fair condition, a considerable number of failed lamps	
and fittings were noted, the systems should be considered for	
renewal (including the paddling pool) as part of a site wide refurbishment of the centre.	
A comprehensive fire detection and alarm system is installed	DSCF 8939
within the property, with the main panel located at the reception	
and a repeater in the main office.	
The system appears to have been renewed and upgraded circa	
2008 and was generally found to be in good condition, with no	
faults noted.	
The site is monitored by a comprehensive CCTV system comprising	
a mixture of fixed and PTZ cameras (both internal and external), a	
hard disc recorder and monitor in the reception office. The system	
appeared to be operating in a satisfactory manner at the time of	
the survey and no faults were noted.	
Domestic hot water for the toilets, showers and kitchen is	DSCF 9302
generated by a non storage hot water calorifier supplied with	
LTHW as the primary heating medium. The calorifier appeared to	
be only fair in condition and should be renewed in conjunction with the boiler renewal.	
Toilets (including those in the paddling pool) and shower facilities	DSCF 8759, 8895, 9524
whilst appearing dated were in a satisfactory condition. It was also	
noted that the accessible toilets are unlikely to comply with the	
Equality Act 2010.	
Whist the below ground drainage systems in general appeared to	
be in reasonable condition, with no known issues, we would	
recommend that a full CCTV survey be carried out to establish their true internal condition.	

Description	Photo Reference
A single keypad accessed lift installed within the centre which serves the ground and first floor. The lift and associated hydraulic equipment appeared in a satisfactory condition and whilst appearing generally accessible compliant, only a full audit would establish this.	DSCF 8935
Pool filtration equipment serving the Priory/Teaching/Clermont pools was renewed in 2008 and that serving the paddling pool area in 2004, other than requiring a good clean down all the equipment appeared to be in reasonable condition.	DSCF 8764, 9301
The filtration equipment serving the quarry pool dates from the property's construction, the equipment is believed to have been designed and installed to suit a fifty metre pool, the pool however is only thirty three metres.	
Although the equipment is oversized, it is in good condition for it's age. However due to its size it is most likely very inefficient in it's operation and should be replaced with equipment sized to suit the pool.	DSCF 9308, 9305
All plant areas were noted to be tidy and pipework insulation was in the process of being replaced.	DSCF 9304

## **Budget Cost Table**

No.	ltem	Year(s)	Budget Cost (£)
1	Renew air handling units	1	250,000.00
2	Renew boilers	1	75,000.00
3	Repair gym A/C units	1	24,000.00
3	Renew main electrical switch panel	2	50,000.00
4	Renew lighting systems	2	150,000.00
5	Renew DHWS calorifier	1	10,000.00
6	CCTV survey of below ground drainage	1	2,500.00
7	Renew Quarry pool equipment	2	250,000.00
	Total £		811,500.00

All costs (above) are for items identified in excess of £3,000 as at 2014 (the base year) and are for budget purposes only. Non maintenance items below £3,000 have been included in the report for clarity. They include professional fees, craneage, redecoration, builders work in connection but exclude taxes. We have not included costs in relation to routine or cyclical maintenance.

## **3 – DESCRIPTION OF SERVICES**

3.1 Heating, Ventilation	& Air Conditioning	Photo Reference
The Quarry pool hall rooms and the Prior including toilets ar supply/extract air sy handling units (AHU ductwork. Those serv floor plant room and an external roof end Quarry pool hall date Priory hall systems, b was however obse repair/replacement. life of twenty five ye	I and associated male and female changing ry pool hall and associated changing rooms re ventilated by their own independent restems, comprising AAF, Snyder General air Js) and associated supply and extract air ving the Quarry pool are located in the ground those serving the Priory pool being located in closure. The ventilation system serving the s from the building's construction as does the oth systems are in an acceptable condition. It erved that insulation was in need of Also the AHUs have exceed their economic ears, as defined by CIBSE, by approximately as such should be replaced with modern	DSCF 8866, 8867, 8872, 8873, 9317, 9318, 9319, 9320, 9321, 8840
provided by a central boilers, distribution pumps. The circulation areas	t water (LTHW) for heating of the property is ised system comprising three Strebel gas fired pipework, pressurisation unit and circulation s, offices and toilets are heated by due cast The changing rooms are heated by a mixture	DSCF 8878, 8879, 8880, 8881, 8884, 9339, 9337, 9336, 9338, 9343 DSCF 8872, 8790, 8799, 8826, 8842, 8849,
construction; the b replacing the origina also may have been burners were renew	ting system dates from the building's poilers were renewed during circa 1993, I oil fired boilers; it is believed the radiators renewed at this time. The Nu-Way forced air red during 2008. Whilst overall the LTHW dition the boilers have exceeded their CIBSE	8927, 9225, 9228, 9237, 9238, 9240, 9287, 9292, 9295, 9230, 9332

	recommended economic lifespan, normally twenty years, and will require replacing in the next five years, one circulating pump was also noted to have been removed. It was also noted that the radiators in the changing rooms are suffering a high level of corrosion and require cleaning and repainting.	
	There is also a combined heat and power (CHP) unit installed, however from the poor condition of this unit it is unlikely to have run for a considerable number of years.	DSCF 8870, 8871, 9315
	Cooling is provided to the gym areas only by split system direct expansion (DX) air conditioning (AC) units of differing manufacturers.	DSCF 8802, 8910, 8911, 8912, 8913, 8817
	Whilst the AC units appeared to be operating in an acceptable manner, they were noted to be operating on the non-environmentally acceptable refrigerant gas R22. As this refrigerant gas will no longer be available for maintenance purposes after the 1st January 2015 the units should be replaced.	
3.2	Electrical Services	
3.2	Electrical Services The property is provided with a 400 volt, three phase and neutral (TP&N) electrical supply from the Regional Electricity Company's sub-station, located external to the site boundary.	DSCF 8869
3.2	The property is provided with a 400 volt, three phase and neutral (TP&N) electrical supply from the Regional Electricity Company's	DSCF 8869 DSCF 8868, 9314
3.2	The property is provided with a 400 volt, three phase and neutral (TP&N) electrical supply from the Regional Electricity Company's sub-station, located external to the site boundary. The supply terminates into a 500 Ampere three phase and neutral (TP&N) main panel; from where the sub distribution boards	

Although some of the electrical installations date from the original construction, the majority have been changed and updated over the years and generally found to be in a satisfactory condition with the exception of the kitchen distribution board which is in poor condition and should be replaced in year one. From stickers on items of plant and documentation testing an inspection would appear to be being carried out in accordance with BS7671, however no certificate was available on site to verify this.

DSCF 8765, 8808, 8811, 8844, 8915, 8920, 8921, 9345

### 3.3 Small Power & Lighting

Lighting in the pool areas is provided by metal halide fittings, the main hall lighting is by Hi bay Sodium fittings, other areas are a mixture of surface mounted fluorescent fittings and recessed fittings which appeared to be designed and installed in accordance with CIBSE Category 2, circular down lighters fitted with PL lamps and in the cafe area some dichroic light fittings have been installed.

DSCF 8770, 8773, 8774, 8778, 8789, 8780, 8786, 8787, 8796, 8797, 8798, 8800, 8801, 8803, 8804, 8822, 8823, 8827, 8828, 8845, 8846, 8852, 8856, 8865, 8883, 8890, 8896, 8904, 8922, 8923, 8924, 8926, 8928, 8932, 8924, 8926, 8928, 8932, 8933, 9222, 9224, 9227, 9231, 9230, 9234, 9235, 9236, 9241, 9242, 9248, 9249, 9250, 9251, 9252, 9257, 9259, 9260, 9261, 9274, 9275, 9276, 9278, 9277, 9280, 9281, 9282, 9285, 9291, 9286, 9293, 9296, 9297, 9322, 9324, 9327, 9328, 9332, 9343, 9351, 9352

Emergency lighting in the offices, public areas and gyms etc. comprises selected light fittings fitted with emergency battery packs, whilst the pool hall and main hall has dedicated spot light type fittings. There are bulkhead fittings above the fire escape exits.

The lighting systems appeared dated and can only be described as being in a fair condition, a considerable number of failed lamps and missing diffusers were noted, the systems should be considered for renewal as part of a site wide refurbishment of the centre.

Small power within the property is provided via either floor boxes set into raised floors, skirting trunking and/or surface mounted outlets of either the plug type or fixed wired. These were noted to

## be in a satisfactory condition.

3.4	Lifts	
	There is a single lift installed within the centre which serves the ground and first floor. The lift can only be accessed by the use of a code, this is normally restricted to disabled persons. The lift and associated hydraulic equipment appeared in a satisfactory condition and whilst appearing generally accessible compliant, only a full audit would establish this	DSCF 9346, 9347, 8935
3.5	Fire Safety Systems (Fire Alarm, Sprinklers, Hose Reels etc.)	
	The property is monitored via an analogue addressable fire alarm system which consists of a multi zone fire alarm panel (located in the reception office) and a repeater panel in the main office smoke detectors, beam detectors, sounders and break glass units. The fire alarm system is believed to have been upgraded during 2006 and 2008, it appeared in reasonable condition with no faults noted on the panel. Fire extinguishers and hose reels are located throughout the property; certification for fire extinguishers was noted to be current. The hose reels appeared to be used for wash down purposes rather than fire fighting.	DSCF 8769, 8939, 9284, 9263 DSCF 8819, 8829, 8838, 8929, 9262
3.6	Public Health (Domestic Hot & Cold Water, Drainage, Toilets etc)	
	Toilets and shower facilities, whilst appearing dated, were in a satisfactory condition. It was also noted that the accessible toilets are unlikely to comply with the Equality Act 2010.	DSCF 8754, 8755, 8757, 8759, 8761, 8762, 8792, 8793, 8795, 8825, 8847, 8848, 8925, 9241, 9254, 9255, 9289, 9298, 9325, 9326, 9331, 9333
	connection. Rain water at roof level is collected into a public sewer discharges via down pipes internal to the property.	

		I
	Whilst there are no known issues with the drainage we would recommend that a full CCTV survey be carried out to establish the true internal condition.	
	Cold water service (CWS) is provided to the property from the utility company's main to all points of usage. Insulation is coming off of the paddling pool main and should be re-fitted.	DSCF 8766
	The CWS systems were noted to be in fair condition.	
	Domestic hot water (DHWS) for the toilets, showers and kitchen is generated by a Strebel non storage hot water calorifier supplied with LTHW as the primary heating medium. The calorifier appeared in a fair condition with hot water available at all points of usage, however it should be considered for replacement in conjunction with the boiler replacement.	DSCF 8854, 9302
	DHWS is provided to the paddling pool male and female toilets by two Heat-Rae Sadia electric hot water heaters, which are in	DSCF 8756, 8760
	reasonable condition.	
3.7	reasonable condition. Miscellaneous (BMS, CCTV, Security Systems etc)	
3.7	Miscellaneous (BMS, CCTV, Security Systems etc) Security systems include a CCTV monitoring system comprising internal and external fixed and PTZ cameras, a hard disc recorder and monitor located at the reception.	
3.7	Miscellaneous (BMS, CCTV, Security Systems etc) Security systems include a CCTV monitoring system comprising internal and external fixed and PTZ cameras, a hard disc recorder	DSCF 8885, 9342
3.7	<ul> <li>Miscellaneous (BMS, CCTV, Security Systems etc)</li> <li>Security systems include a CCTV monitoring system comprising internal and external fixed and PTZ cameras, a hard disc recorder and monitor located at the reception.</li> <li>The boiler control panel pre-dates the current boiler installation, the optimiser did not appear to be functioning and is also of an obsolete type. The boiler control panel should be renewed as part</li> </ul>	DSCF 8885, 9342
3.7	Miscellaneous (BMS, CCTV, Security Systems etc) Security systems include a CCTV monitoring system comprising internal and external fixed and PTZ cameras, a hard disc recorder and monitor located at the reception. The boiler control panel pre-dates the current boiler installation, the optimiser did not appear to be functioning and is also of an obsolete type. The boiler control panel should be renewed as part of the boiler replacement.	DSCF 8885, 9342

has been drained down for the winter period.	
The quarry pool and Priory/Teaching/Clermont pool water is heated by independent horizontal non storage calorifiers, fed with LTHW as the primary heating medium.	
Pool filtration equipment serving the Priory/Teaching/Clermont pools was renewed in 2008 and other than requiring a good clean down appeared to be in reasonable condition.	DSCF 8851, 9300, 9301
The filtration equipment serving the quarry pool is believed to date from the property's construction, the equipment is also believed to have been designed and installed to suit a fifty metre pool- the pool however is only thirty three metres in length.	DSCF 8852, 9304, 9305, 9306, 9308, 9309, 9310, 9311
This has resulted in the filtration plant never having been used to its full capacity. It is however well oversized and due to its age, although in reasonable condition, should be replaced with plant of the correct size and duty.	
Pool pump, dosing equipment etc is believed to have been renewed over the years and all appeared to be operating in a satisfactory manner.	DSCF 9312
All pumps have been fitted with inverter controls as an energy saving measure. Pipework was noted to be being insulated at the time of the survey.	DSCF 8857, 8858, 8859, 8860, 8861, 8862, 8863, 8864
Documentation	
No operating and maintenance manuals and as fitted drawings were available on site for the services.	
Limited current Statutory Testing and Inspection documentation was available on site for inspection.	

3.9

# **4 – DOCUMENTATION REVIEW**

Item	Available (Y/N)
Records of Fire Detection, Smoke Detection and Alarm Tests	Y
Checks on Fire Protection Systems with supporting records (to cover extinguishers, hose reels and sprinkler systems	Y
Legionella Risk Assessment and Records of Legionella Risk Management implementation to cover stored water, showers and evaporative coolers, plus general water hygiene	N
Operation and Maintenance Manuals including sections dealing with equipment isolation and emergency procedures	N
Installation Record Drawings	N
Emergency Lighting System Test Records	Y
Electrical Earthing and Insulation Test Records	N
Gas Safety Inspection Record	Y
Lift Inspection Reports (Factories Act 1961, Offices, Shops and Railway Premises	Y
Pressure Systems Reports and Certificates	N
Smoke Extract System Test Records	N/A
Records of Maintenance and servicing of equipment containing refrigerants	N
Asbestos Register	N
Records to demonstrate compliance with PUWER	N
Building Log Book	N
Maintenance Records for systems which control a working environment (heating, ventilation and cooling systems)	Ν

#### **5 – LIMITATIONS**

Health and safety issues noted during the survey are commented on within this report but are not intended or implied to relieve those responsible from their duties and obligations in respect of current Health & Safety Legislation.

This type of survey cannot establish the true condition of the plant. It is possible to find plant, which, from an external view, appears good but is subsequently found to have a history of operational problems.

The internal condition of the Mechanical, Electrical and Public Health (MEPH) services such as water storage tanks, air-handling units, terminal units and control panels, drainage or water distribution pipework systems for example, could not be judged or commented on from this level of visual inspection. Additionally, MEPH installations concealed within the fabric of the property, conduits or otherwise inaccessible during the survey could not be judged or commented on.

No design checks, calculations or tests were carried out and it is assumed that the installed systems can meet their original design criteria and parameters.

This survey did not include any examination of deleterious materials within the property and the findings summarised within this Report do not allow for the treatment of such materials to affect any recommendations.

This report is not to be used either in part or in whole for the purpose other than that for which it was originally intended and should not form the basis of any specification for refurbishment or replacement works.

The survey of the property and subsequent production of the report has been undertaken in line with the associated fee proposal and the FHP ESS Terms & Conditions of trading.

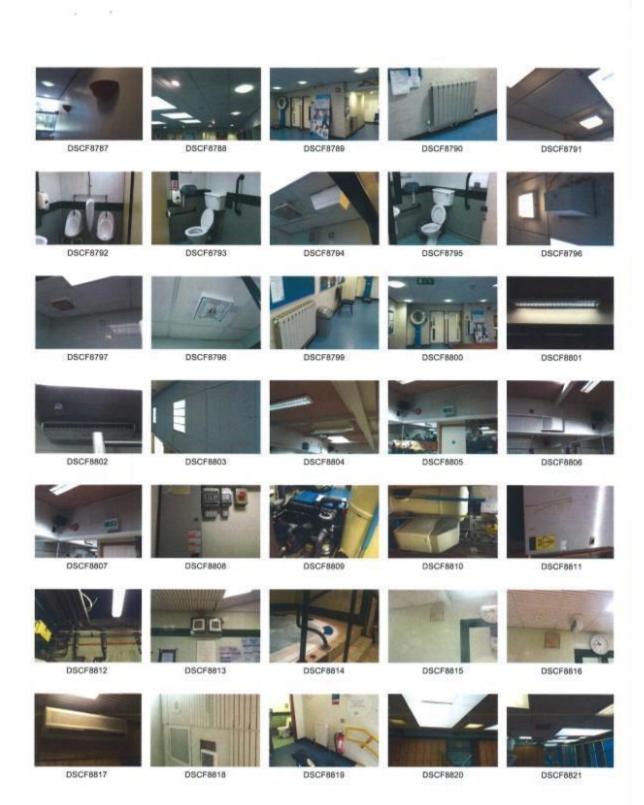
Unless otherwise informed in writing we assume that we are preparing this Report for the recipient named on the front cover page of this Report. No other party can rely on this Report unless we are informed in writing of their identity and that we have agreed in writing to this. Our permission for such reliance may be subject to a charge but not be withheld unreasonably. Refrigeration equipment has been noted within this Property operating on refrigerant R22 which is being phased out under European Community legislation. Up until 1<sup>st</sup> January 2015 it will be possible to top up this equipment with re-claimed refrigerant but after that date no top up will be allowed. The Tenant(s) can however continue to use the equipment and maintain it from that date providing that they do not have to top up the refrigerant. It is possible that, subject to the lease, this equipment could be handed back in an operational condition after the 1<sup>st</sup> January 2015. It is not clear how this will be covered by dilapidations claims and FHP ESS considers that there are likely to be legal test cases after that date and thus the building owner could well be faced with the return of equipment which will have to immediately be changed but with no contribution from the Tenant. Please refer to the main text of this Report to see the specific age and condition of the equipment.

It is also probable that the costs for replacement equipment will rise significantly towards the year 2015 and could be prohibitive for a period after that date. For this reason FHP ESS would recommend the replacement of this equipment as soon as possible. It is possible with some equipment to carry out conversion to an alternative refrigerant but this can only be considered on a project by project basis.

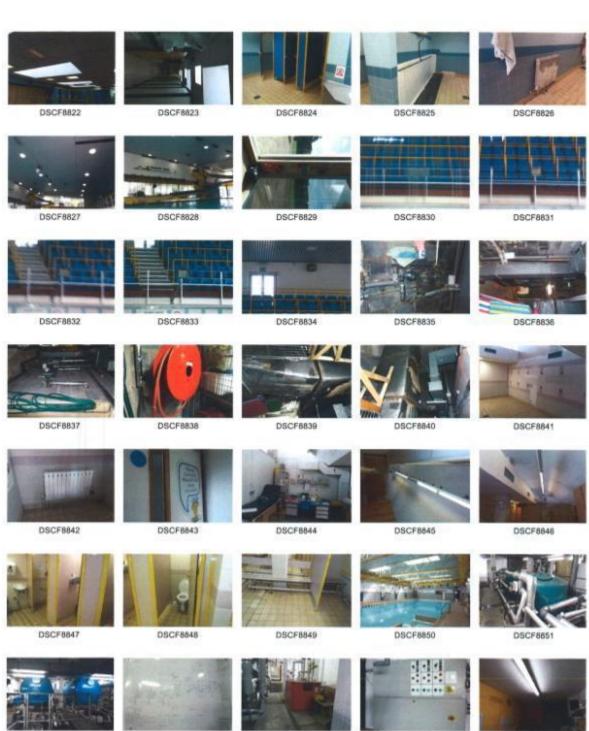
### **APPENDIX 1.00**

#### **PHOTOGRAPHIC SCHEDULE**





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DSCF8863



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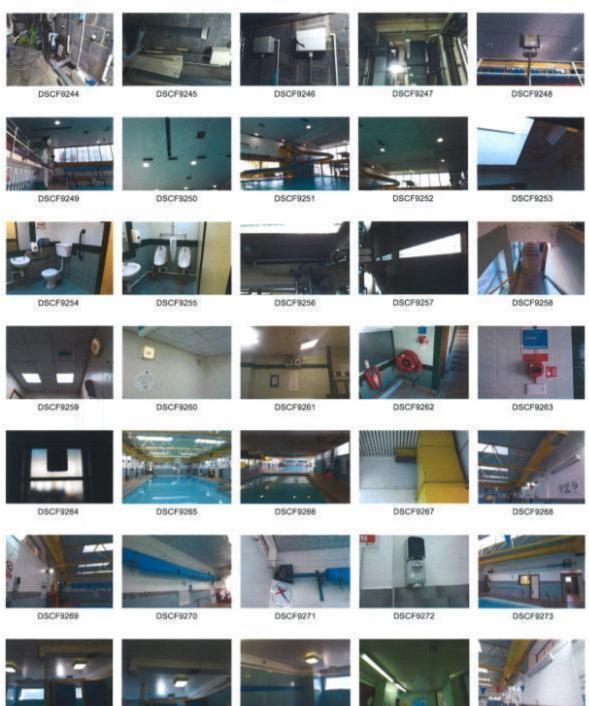


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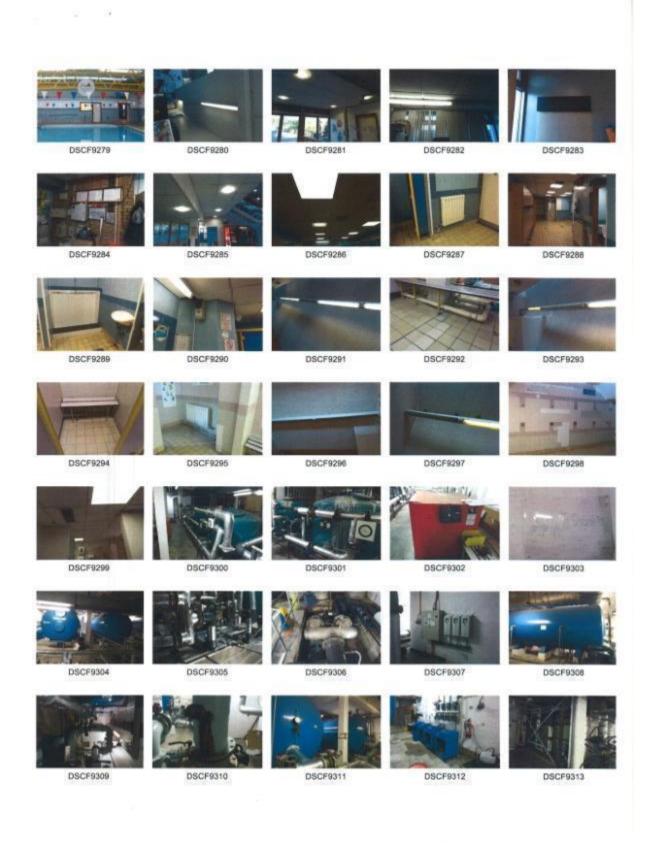
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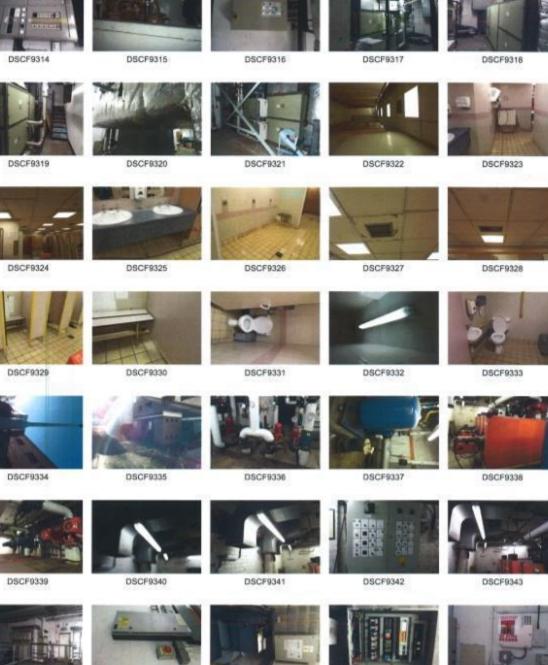
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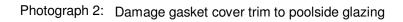
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Appendix B Photograph Schedule



Photograph 1: General view of defective glazing to poolside elevation.





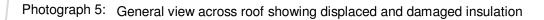


Photograph 3: General view of cracked and damaged render finishes



Photograph 4: Stepped cracking



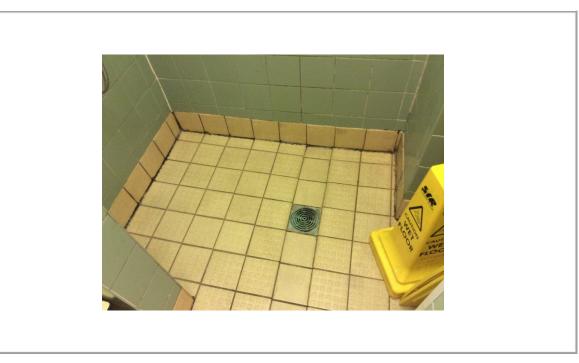


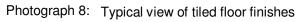


Photograph 6: General view of plant growth across roof



Photograph 7: General view of low level water damage to plastered surfaces





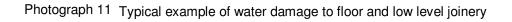


## Photograph 9: Damaged / poor vinyl floor finishes



Photograph 10 Damaged plaster surfaces







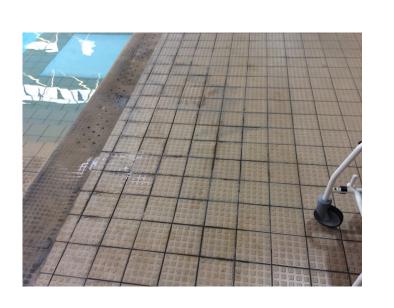
Photograph 12 Missing wall tiles



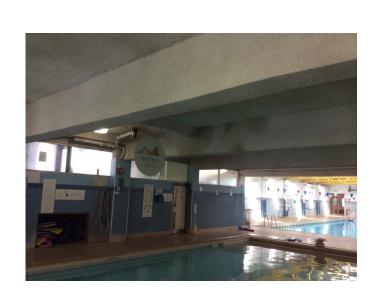
# Photograph 13 Typical example of floor finishes



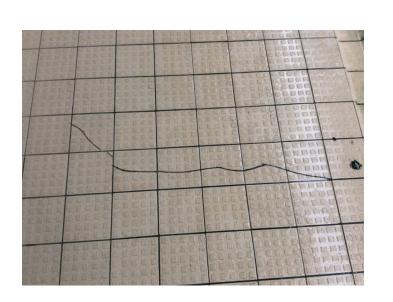
Photograph 14 Concertina door sealed with foam



Photograph 15 Typical floor covering condition to pool side



Photograph 16 Staining to ceiling areas



Photograph 17 Cracking within floor coverings



Photograph 18 Corrosion to metal fixings and algae growth



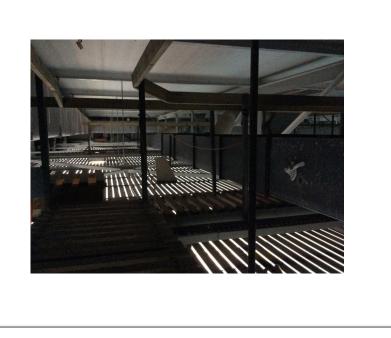
Photograph 19 Typical example of mechanical damage and algae growth to pool side



Photograph 20 Typical example of damaged vinyl flooring



Photograph 21 Typical example of corrosion to fixtures and fittings



Photograph 22 High level access walkways and intersecting ductwork

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