Summary Overview of Specialist Inspections
Four Estates - Isle of Dogs

for

One Housing

of

Kelson House (Samuda Estate)

Contents

1.0 Introduction

Following the completion of the Four Estates stock condition survey and presentation of our report to residents and stakeholders in March 2018, Hunters were instructed by One Housing in August 2018, to provide a summary report for each of the individual blocks where a specialist survey had been undertaken.

The specialist surveys were targeted to include the high rise blocks only as these blocks are generally different in construction, (together with their building services) compared to the medium/ low rise blocks across the estates, e.g. construction is generally concrete and they typical include communal services such as heating/ water/ lighting/ Fire Alarms and lifts. This is the reason specialists were asked to advise on their condition in support of the overall stock condition survey.

The type of work the specialist consultants looked at included:

1. Mechanical and Electrical engineers (MCCE Ltd) – Surveys typically covered, communal electrics, heating and pipework, waste and rainwater pipes, lifts and below ground drainage systems.

2. Structural Engineers (Kirk Saunders) – Investigated the building structure (walls and floors) and concrete panels to assess their condition.

3. Refuse Chutes (Hardall UK) – They are a specialist in refuse chute furniture e.g. refuse hoppers and bin chute areas, assessing their current condition and performance.

This report summaries the detail of each of the above specialists.

Everything contained within this block report was included within the Hunters final report together with the costs, which were presented to One Housing, their customers and Stakeholders at the individual estate exhibitions held in March 2018.

The full detail of these summaries is included within the individual reports provided to One Housing and stakeholders and it is these reports that must be read to obtain a detailed understanding of the work required and their recommendations.

Specialist reports were provided for the following seven estate blocks with a separate report by CPT of the Sumuda estate underground car park:

Samuda Estate –	Kelson House
Barkantine Estate –	Bowsprit, Knighthead, Midship and Topmast Point Blocks and Kedge House
St John's Estate -	Alice Shepherd House

2.0 Summary of Specialist Observations and Associated Costs

The surveys include costs for replacement only and not regular daily repairs. These repair costs were included within One Housing Groups day to day budgets and cyclical works programmes included on the exhibition boards at the open evenings and form part of their wider options appraisal of the estate costs.

The table below shows the summary of the specialist costs inclusive of preliminaries (expenses that will be incurred during the construction, which are directly related to the running of the project by the contractor. Exclusive of professional fees and VAT). These cover the summarised work rereferred to, under the individual specialist consultant's headings below.

Block Costs by Specialist (all see Appendix A at the end of this block report).

Specialist	Component	Year 1	Year 2	Year 3	Year 4	Year 5	Yrs 06-10	Yrs 11-15	Yrs 16-20	Yrs 21-25	Yrs 26-30	Yrs 1-30
Refuse Chutes	Refuse Chutes	13,240	0	0	0	0	0	1,500	0	1,500	0	**16,240**
M&E	Heating System	0	0	0	0	1,993,750	381,250	0	0	0	0	**2,375,000**
M&E	Water Distribution Services	0	0	1,359,375	0	45,313	0	62,500	0	0	0	**1,467,188**
M&E	Soil & Waste Services	3,125	0	217,500	0	0	0	0	0	0	0	**220,625**
M&E	Ventilation	453,125	0	0	0	0	12,500	0	0	0	0	**465,625**
M&E	Fire Alarms	142,500	0	0	0	0	0	0	41,250	0	0	**183,750**
M&E	CCTV system	0	0	0	0	12,500	0	0	0	0	0	**12,500**
M&E	Door Entry	45,313	0	0	0	0	0	0	0	0	45,313	**90,625**
M&E	Communal Wiring	362,500	0	0	0	0	0	0	1,150,000	0	0	**1,512,500**
M&E	Communal Lighting	0	0	0	0	314,063	0	0	0	0	0	**314,063**
M&E	Lift	17,500	0	0	0	0	0	0	375,000	0	0	**392,500**
Structural Engineer	Structural Frame	3,150	0	0	0	10,800	13,200	13,200	13,200	13,200	13,200	**79,950**
Structural Engineer	External Panels	5,250	0	0	0	18,000	22,000	22,000	22,000	22,000	22,000	**133,250**
Structural Engineer	Structural Floors	2,100	0	0	0	7,200	8,800	8,800	8,800	8,800	8,800	**53,300**
Structural Engineer	Abseiling Inspections	8,000	0	0	0	16,000	20,000	20,000	20,000	20,000	20,000	**124,000**
	Total Specialists	**1,055,803**	**0**	**1,576,875**	**0**	**2,417,625**	**457,750**	**128,000**	**1,630,250**	**65,500**	**109,313**	**7,441,115**

Refuse Chutes (Hardall UK)

The survey of the refuse chutes concentrated on two main parts; the Refuse hoppers/ doors and the Discharge Section (The area at the bottom of the chute where the rubbish is stored).

Their report highlighted that the above do not comply with current building regulations or Fire regulations for new buildings. The specialist has therefore recommended they are replaced with immediate effect. For the purposes of the report format, these costs have been included in year 1. In future years they have included for regular inspections for compliance and extend warranty of the new installations.

Mechanical & Electrical to Include Lifts and below Ground Drainage (MCCE Ltd)

There are many mechanical and electrical systems which when added together make up the overall cost of capital replacement for the building over 30 years. To summarise all these individual services, we have taken the same headings found in the specialist reports and listed the typical items of work which are included under each of these headings.

Mechanical and Electrical Main Headings and work items

- **Heating System** – Includes; Central plant, pumps, heating pipe distribution, Heating control units and individual flat radiators and pipework all feed from communal system
- **Water Distribution** – Drinking/ cold water pipework, valves, booster pumps/ controls and tanks
- **Soil and waste Services** – Toilet and sink waste, above and below ground
- **Ventilation** – Fans, ductwork (cleaning), Fire dampers and communal lobby vents
- **Fire Alarms** – Panel and detection heads
- **CCTV System** – Block cameras
- **Door Entry** – Entry phones/ buzzers
- **Communal Wiring** – Mains wiring communal (Incoming electrics, Rising mains, dwelling feeds, landlord services and dwelling consumer units.
- **Communal Lighting** – Wiring
- **Lifts** – Lift surveys were undertaken by a specialist lift consultant and managed by the Mechanical and Electrical engineers.

The costs of these works are added together and are included in the table of costs “Block Costs by Specialist” on page 3.

Below is a summary of the work necessary over the next 30 Years.

Many of the systems at Kelson House have undergone a refurbishment since the building was constructed and are approaching the end of their economic life.

However, where replacement systems have been put in place the old systems have not been removed and there is a significant amount of redundant services within the building.

Heating System

The central heating system to Kelson House is served by a roof top boiler house. The boilers feed a radiator system throughout the building using a combination of risers both within dwellings and in the central areas.

The age and routing of the pipework system is of concern as the pipes are corroding and serve a single radiator in a dwelling before entering the adjacent apartment with a flow pipe in one and the return in another.

The works recommend include the improvement of the system control from within the dwelling and allows for a single point of isolation to each dwelling.

It is recommended that the following works are carried out:

Central Plant – Boilers, Pumps etc – Due to age. Year 8
Heating Pipe Distribution & Ancillaries – Due to age. Year 5
Radiators, HWS and dwelling pipework – Due to replacement of system and valves. Year 5

Electrical Supply

The incoming supply enters from the EDF substation room into the Electrical intake cupboards on the ground floor. Many of the landlord's services have been replaced and the rising bus bar system has been modified with a new tap off serving the dwellings and appear serviceable although it has exceeded its anticipated life expectancy.

Rising mains & dwelling feed – Replacement of bus-bar system (may move forward due to obsolete equipment) Years 16-20
Landlord's services – Due to age of components. Years 16-20
Dwelling consumer unit – Due to the non-compliant installation Year1

Lighting – Communal

The lighting system has been replaced some 10 years ago and all fittings appeared operational with good light coverage. There were no recommended works, but a budget has been allowed for a replacement system at the anticipated life cycle end of these fittings.

Wiring Year 5
Internal fixtures Year 5
External fixtures Year 5

Ventilation System

The ventilation system serves the WC/Bathroom vent within Kelson House. The extract fan units were not located during the surveys but as the WC's and Bathrooms are enclosed some system must be present.

The WC/ Bathroom vent required an amount of immediate maintenance to improve operation.

Fire protection measures are recommended to WC/Bathroom Vent to prevent the spread of fire.

Fans – Replacement estimate Year 6
Ductwork – Clean Year 1
Installation of Fire dampers Year 1

Above Ground Drainage

The main soil stacks appear to be in good condition and are unlikely to fracture as they are internally mounted. Many of the connections to the services have been altered during Kitchen and Bathroom fit-outs. The new connections are often carried out to a poor standard using fittings that are not suitable for Cast Iron connections.

The recommendation is for all dwellings to be reviewed and the connections to the soil stack be made good. The budget allows for the works to be carried out at the same time as the Water Services works as the soil stack and water pipe share the same riser.

Replacement of surface PVC drain connections to kitchen and bathrooms due to previous poor installation. Year 3

Water Supply

This report reviews the water distribution pipe and pumps only.

The system is formed of Galvanised Steel which appears to have been installed with the buildings construction with an anticipated life of 35 years. Sections cut for an identical building within the Tower Hamlets area shows significant corrosion internally and the recommendation is that following a section slice to prove the condition that the pipework system be replaced.

Replacement of pipework & valves – Due to internal corrosion Year 3
Booster pumps & controls – Due to age Years 11-15
Tanks - In dwelling (allowance for 50%) – Due to age Year 5

Fire Alarm System

The Fire alarm only serves the ground floor areas and there is not detection in the communal areas rising up through the building. The recommendation is to provide a new system that serves the entire building.

System Panel – Due to age Year 1
Heads & Wiring – Due to age Year 1
Smoke Head replacement – Cyclical replacement due to age Years 16-20

Door Entryphone

The door entry phone system is an audio only system appears to have been installed late 1997. The manufacturer no longer exists, and spares are difficult to obtain. In addition, the system is now in excess of 20 years old and is passed its economic life. It is recommended that the system be replaced.

CCTV System

The system appears to have been installed in 2010 and is partially operational with low quality images and one camera not operational. A budget has been put forward for the replacement of the system in year 5 when the system would have reached its anticipated economic life although some repairs are likely to be required to get the system fully operational immediately.

Below Ground Drainage

The survey indicated some drains silted up and a recommendation for a jet clean and re-check has been proposed.

Wet Riser

The wet riser system has had the diesel pump and the landing valve boxes renewed but the pipework, electric pump and landing valves are all as originally installed. These have all exceeded their life expectancy.

Lifts

Current disabled standards are not met and a number of upgrades/ tests for compliance for signage and guarding's in motor rooms. These are included in year 1 costs and replacement of lifts Years 16-20.

Structural Surveys (Kirk Saunders)

The structural engineer has surveyed and reported on their surveys under the following three headings:

- Structural Frame
- External Panels
- Structural Floors

The costs of this work is shown included in the table of costs "Block Costs by Specialist" on page 3.

Below is a summary of the work necessary over the next 30 Years.

The building comprises a 25 storey residential block of flats. The flats are often described as scissors style maisonettes where each individual unit has split levels.

The structure appears to be cast in situ reinforced concrete, predominantly (possibly entirely) having walls providing both vertical support and lateral stability.

No archive record information relating to the original design or construction is held by the current building owners.

Anecdotal evidence indicates the building was constructed in the early 1960's.

No visible structural defects were apparent in the areas surveyed, however, access was only available to communal areas including the plant room at roof level and 2 void flats, nos. 15 and 51. Refer to main report section 3.1 of Constructive Evaluation report for further details of specific areas / locations accessed.

In situ tests for carbonation and laboratory tests for chloride ion content on samples obtained from various locations indicate that there are no issues for concern at the present time. It is considered that these conditions are unlikely to significantly alter or deteriorate for some considerable time into the future and it is suggested that further testing could be deferred for at least 10 to 15 years.

The support and restraint of an external cladding panel was the subject of intrusive investigation in flat 16. The panel, a "spandrel" below a full width window was found to have reinforcing bars projecting from the end of the precast panel cast monolithically into an internal cross wall. The rebar exposed was in sound condition at this one location and there were no visible gaps or signs of distress in this or other locations in units 16 and 51.

Exposed aggregate panels to the flank walls have been subject to previous patch repairs; refer to images in Constructive Evaluation report in the main report. No details of the reason(s), nature or date of these works are known, but they are likely to be due to spalling due to reinforcement corrosion. The eastern (river-facing) flank wall appears to have been subject to more repairs than elsewhere. These panels do not appear to be structural elements.

A detailed assessment of the robustness of the existing structure is beyond the scope of our brief and this report. Whilst the construction appears to be monolithic cast in situ reinforced concrete as opposed to any form of precast panel / system build, and would therefore offer an inherently greater resistance to serious damage and potential catastrophic collapse in the event of an accidental event such as the 1968 Ronan Point gas explosion, it is not possible to determine the extent of compliance with modern-day design and construction standards, but it should be assumed that the structure would not meet the standards in certain respects.

Appendix A

Block Costs by Specialist

Block Summary cashflows

Specialist	Component	Year 1	Year 2	Year 3	Year 4	Year 5	Yrs 06-10	Yrs 11-15	Yrs 16-20	Yrs 21-25	Yrs 26-30	Yrs 1-30
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M&E	Soil & Waste Services	3,125	0	217,500	0	0	0	0	0	0	0	**220,625**
M&E	Ventilation	453,125	0	0	0	0	12,500	0	0	0	0	**465,625**
M&E	Fire Alarms	142,500	0	0	0	0	0	0	41,250	0	0	**183,750**
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