



Report on the Condition of

FOLLY TOWER, FARINGDON, OXON

prepared for **Faringdon Folly Tower Trust**

A N D R E W T O W N S E N D A R C H I T E C T S

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Job no 1259

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Andrew Townsend Architects
Marlborough House
2 Bromsgrove
Faringdon
Oxon
SN7 7JQ

01367 242639

info@andrewtownsend.co.uk

A N D R E W T O W N S E N D A R C H I T E C T S

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1.00 PRELIMINARY INFORMATION

1.01 *General introduction*

The survey of the condition of the fabric of the Folly Tower was carried out on 27th May 2021 by the 2021 SPAB Scholars, Amy Redman, Libby Watts and Lucy Newport, under the supervision of Andrew Townsend Architects. This report was drafted by the SPAB Scholars and subsequently checked, amended and collated by Andrew Townsend. The survey was carried out following the instructions of Eddie Williams (email dated 26th March 2021), trustee of the Faringdon Folly Tower Trust.

The purpose of the report is to inform the Trust of the current condition of the building and to provide recommendations for necessary repair and other investigations, together with suggested priorities and budget costs. The last inspection of the tower was carried out in March 2008 by Annie Page of Andrew Townsend Architects.

At the time of the current inspection, weather conditions were sunny and dry following a period of wet weather. For the purposes of identification, it is assumed the elevation with the external door faces due east.

1.02 *Status, location and use of the building*

The tower sits on top of an eminence, known as Folly Hill, at 447 feet above sea level, just to the east of Faringdon town. Listed Grade II, the tower also lies within Faringdon Conservation Area. The list description is as follows:

GREAT FARINGDON FARINGDON HILL SU 2995

1/14 Lord Berner's Folly

1935 by Lord Gerald Wellesley for Lord Berners of Faringdon House. Tall brick tower built to command view over Thames valley, 140'0" high. Square plan, plain Fletton brick tower, originally intended to be whitewashed, red brick upper stage with 3 round arched windows with glazing bars to each face. Intersecting tracery. Octagonal crown with stone coping and crenellations at angles with short stone pinnacles. Architectural Review: 1936.69.169.

Listing NGR: SU2974095654

The building is owned by the Faringdon Folly Tower Trust with the day-to-day management/maintenance of the tower and surrounding woodland undertaken by the Friends of the Folly; several of the Friends are also trustees.

At the time of the inspection, the tower was closed due to the Covid-19 pandemic but under normal circumstances is open to paying visitors two Sundays a month from April to October. The tower is also available for private hire for parties, etc with a maximum occupancy level of 30.

1.03 *Brief description of the building and site*

Folly Tower was built in 1935 by Lord Berners, then the owner of Faringdon House, to the design of the architect, Lord Gerald Wellsley. The form of the building follows the precedent of an Italian *campanile* and the detailing is a quirky combination of spare classical and gothic. The building was closed and neglected for many years before being repaired and brought back into use in the late 1980s by the owner at the time, Robert Heber-Percy, who inherited the Faringdon House estate from Lord Berners on the death of the latter. The 20th century history of Faringdon House and the estate (including construction of the Folly Tower) is documented in *The Mad Boy, Lord Berners, My Grandmother and Me* by Soffka Zinovieff, published in 2014.

The tower is constructed in English bond brickwork to a height of about thirty metres (almost 100ft, contrary to the height given in the list description – see above) and is austere plain in style, apart from the top section where the tower changes in plan from square to octagonal with sloping stone broaches at the four corners where the change occurs. The outer dimension of the main, square section of the building is about 5.25m. Internally, the tower is open below the main upper (Belvedere) room with a timber staircase rising in straight flights against each wall and a small number of narrow timber round-arched windows lighting the stair.

The top part of the square section of the building is enclosed with a timber floor to form the Belvedere room which has plastered wall/ceiling finishes and three large arch-headed timber windows in each elevation. Above this level, the Lantern Room has a low ceiling, concrete floor and exposed brick walls, the connection between the Belvedere and Lantern being by means of a narrow timber stair built against the south wall. From the Lantern Room, a steep timber stair gives access to a flat roof and viewing area with crenelated limestone/brick parapet and, rising from the parapet, eight limestone finials in obelisk form.

The name of the hill pre-dates the construction of the tower and is probably a reference to a leafy place (Fr *feuille* = leaf). The tower is still surrounded by mature beech trees and mature/juvenile Scots Pines; the trees and tower forming an impressive landmark on Folly Hill, rising out of the flat Vale of the White Horse to the south and the flood plain of the stripling Thames to the north.

The Folly tower is understood to have been built by Lord Berners as a birthday present for his partner, Robert Heber-Percy, although Berners, a composer of some repute, also arranged during construction of the tower to have a grand piano installed in the Belvedere room, thus allowing him to play among the tree tops.

1.04 *Limitations of the report*

This report is based on a close visual inspection of all accessible parts of the building. The inspection of the external elevations was carried out from ground or roof levels using binoculars and is aided by visual information collected during a drone survey by Geo-4D (see below). Close access was not possible to the underside of the main stairs and of the floor of the Belvedere room.

No opening-up was carried out either prior to or during the inspection and we are therefore unable to comment on areas that were covered or unexposed. Testing and the detailed investigation of service installations is not included in this inspection, although general observations are made in the following report on these aspects where they impinge on the building fabric.

The report is limited to the general condition of the building and its defects. It is not a specification for the execution of work and should not be used for detailed pricing or for guiding construction works. The inspection/report is limited to the building and does not include the surrounding area of woodland, free-standing signage, etc.

1.05 *Works carried out since the last report*

The following works were carried out in 2010-11 by Owlsworth IJP, contractors administered by Andrew Townsend Architects:

- i) Replacement of bituminous felt roof covering with asphalt, incorporating lead flashings
- ii) Renewal of timber roof structure
- iii) Re-alignment of opening in roof structure; re-siting of existing stair running from the Lantern Room floor to the roof; provision of new steel balustrade and access hatch
- iv) Stabilisation of main stair structure by pinning stair string to external walls
- v) Provision of electrical/lighting installation
- vi) Patch repairs to brickwork to inner face of parapet above the tower roof

Limited repairs/repointing of high-level areas of external brickwork/stonework were undertaken using rope access by Conservatrix Ltd in c2014.

Periodic maintenance/re-decoration of the interior has taken place from time-to-time carried out by volunteers.

1.06 *Other survey work*

Two drone surveys in late April 2021 and on 27th May 2021 respectively were carried out by Geo-4D. The first survey yielded high-resolution photogrammetric images of the tower exterior elevations. The latter used a thermal imaging camera with the aim of indicating relatively damp areas of the walling, although the results were inconclusive due to strong sunlight on the day of the survey.

2.00 SUMMARY OF FINDINGS AND RECOMMENDATIONS

The general condition of the Folly Tower overall is reasonable following the works carried out in 2010-11 and bearing in mind the exposed location of the building.

Remedial works are required to prevent continuing water ingress which chiefly seems to be occurring in three locations on the south and west sides of the tower: through lead cover

flashings at the junction of the asphalt roof with the brick parapet; below timber window joinery in the Belvedere Room; and through the stone broach (and possibly the surrounding brickwork) at the south-west corner. In all cases, damage is occurring to plasterwork and decorative finishes in the Belvedere Room as well as (longer term) threatening the structural stability of the Tower roof, Lantern Room floor and Belvedere floor.

General and progressive deterioration of pointing to external wall faces continues, particularly to high-level areas where the loss of pointing will begin to have structural consequences (in addition to problems of moisture ingress affecting internal surfaces) if action is not taken in the reasonably near future. The sloping stone ‘broaches’ (at the transition from the lower square plan form to the upper octagonal one) show signs of erosion/decay and open joints, especially on the weather-facing sides. It is possible these areas could be tackled as a short-term measure using rope-access operatives with suitable conservation skills although more extensive access (via full boarded scaffolding) is likely to be required in the relatively near future.

Horizontal cracking has opened-up just above floor level to the inner face of the Lantern Room walls and we suggest this should be investigated further as it is indicative of concealed (and corroding) steelwork within the brick walls.

Repairs are required to stair joinery and the Belvedere floor and the stair structure would benefit from being inspected (ideally at close quarters) by a structural engineer. The external ground area near the entrance door suffers from too much foot traffic; although rubber matting has been laid in this area this has been damaged and a longer-term solution for this area should be considered.

3.00 DETAILED SCHEDULE OF DEFECTS

PR (PRIORITY)

A-Urgent, B-18 months, C-5years, D-10 years, F-further investigation needed, M-maintenance.

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CLAUSE	ITEM/ ELEMENT	LOCATION	DESCRIPTION	CONDITION	PR	RECOMMENDATION
3.1.0						
EXTERIOR						
3.1.1	Pinnacles	Roof	8no. Limestone Pinnacles, bedded with mortar, probably cement/lime/sand.	Well bedded and generally appear in a good condition.	-	
3.1.2	Parapet	Roof	Limestone crenellations/ copings with red fletton brick parapet. Shaped bricks at internal corners. A number of brick replacements are visible. Mortar mix probably cement/lime/sand	5% of bricks have scaling or frassiness to the surface, however this is not of particular structural concern currently. Pointing generally is ok, isolated areas of open joints. Moss to the surface of the bricks on the South West Corner, an indicator of high levels of moisture in the masonry ie penetrating from the outer face.	B	Repoint any open joints (say 5%) and replace bricks in isolated locations (say 5%) where spalling is of particular concern. Arrange for rope access inspection of external brickwork at south-west corner and carry out remedial work as required
3.1.3	Flashings	Roof	Lead cover flashings at abutment of parapet to asphalt roof finish.	Mortar pointing/silicone mastic has failed to the top of the lead flashing in some areas particularly on the south side. The lead cover flashing which is chased into the brickwork joint does not go very far into the joint (in places the edge of the lead is visible) and therefore is likely to be allowing water ingress. However the lead generally is in a good condition.	A	Allow to renew the lead cover flashing chased into the joint by at least 25mm, a lead wedge should be used to secure the flashing in position and the joint pointed in using a suitable mortar.
3.1.4	Roof Finish	Roof	Asphalt roof with painted finish over.	The finish to the roof has a number of surface cracks, especially on the north side of the roof (which gets most direct sunlight); this appears to be only on the surface of the asphalt and no resulting water ingress below can be seen. One patch repair to the asphalt. According to Eddie Williams, water ponds to a depth of c25mm – and has done since construction in 2011 – suggesting the asphalt was not laid to the correct falls	B	Investigate options for re-coating roof to attain appropriate falls. Re-coat asphalt roof with reflective paint finish to minimize effects of heat from the sun and thus prevent further cracking.

PR (PRIORITY)

A-Urgent, B-18 months, C-5years, D-10 years, F-further investigation needed, M-maintenance.

CLAUSE	ITEM/ ELEMENT	LOCATION	DESCRIPTION	CONDITION	PR	RECOMMENDATION
3.1.5	Flagpole	Roof	Fibreglass flagpole fixed to brick parapet with galvanised steel plate bolted to the brickwork.	Generally the flagpole appears in good condition, some algae and dirt deposits to base of the flagpole. The fixing plate has caused cracking to 1 no. brick, this may be due to rusting of the bolts. The plate is beginning to show signs of rusting.	D	Clean flagpole. Redecorate plate which fits flagpole back to parapet. Review fixings, and potentially replace 1no. brick and re-fix with stainless steel fixings .
3.1.6	Star Decoration	Roof	Illuminated star carried by lightweight steel frame and cable stays, secured around pinnacles, possibly intended to be a 'temporary installation' [?]	Steel frame is beginning to corrode and the cable stays show signs of rusting; the star decoration itself appears to be in good condition.	F/B	Review the construction/stability of the framework/fixings. Cable stays may require replacement and the steel frame full decoration
3.1.7	Access Hatch and Balustrade	Roof	Ferrous balustrade painted grey with external electrical box fixed to it. Hatch is ferrous painted grey, with a gas strut opening mechanism.	Some areas of paint have chipped to the balustrade and hatch and there are areas of algae to the balustrade. The hatch is in working order, however the gas strut is slightly temperamental in its closing action.	A/M	Allow redecoration of balustrade and hatch. Gas strut to hatch to be replaced (before failure and to make opening/closing of hatch easier)
3.1.8	External Door	Ground Floor	Heavy-duty, ferrous door and frame with paint finish; reputedly re-used from bank vault	Generally appears in good condition; upper lock damaged	B	Replace upper lock ?. PR (PRIORITY) <i>A-Urgent, B-18 months, C-5years, D-10 years, F-further investigation needed, M-maintenance.</i>

PR (PRIORITY)

A-Urgent, B-18 months, C-5years, D-10 years, F-further investigation needed, M-maintenance.

CLAUSE	ITEM/ ELEMENT	LOCATION	DESCRIPTION	CONDITION	PR	RECOMMENDATION
3.1.9	Plinth	External wall, east	Brick plinth to east side of building, made up of bricks of standard size (wire faced brick in english garden wall bond) sand/cement/lime pointing of weak mix, with large cementitious fillet to brickwork course approx. 1m above ext. ground level and smaller cementitious fillet to brickwork course at higher level.	Generally good condition, some loss of pointing, moss and lichen growth, some open vertical joints (25%), some face decay/spalling to LHS of elevation. Bricks intended for use in internal partitions or inner skin of external walls (crinkle-cut finish designed to be plastered)	C	Minor repointing, replace sections of upper fillet
3.1.10	Plinth	External wall, north	Brick plinth to north side of building, made up of bricks of standard size (crinkly textured surface, garden wall bond) sand/cement/lime pointing of weak mix, with large cementitious fillet to brickwork course approx. 1m above ext. ground level and smaller cementitious fillet to brickwork course at higher level.	Cement fillets generally in good condition, minor damage to top fillet. Some open brick joints (vertical and horizontal, approx 60%), some spalling to bricks, wall in good condition generally.	C	Remove moss, repointing to open joints, mortar repairs or replace bricks(?), new brick to NW corner, fillet to be replaced where damaged/missing.

PR (PRIORITY)

A-Urgent, B-18 months, C-5years, D-10 years, F-further investigation needed, M-maintenance.

CLAUSE	ITEM/ ELEMENT	LOCATION	DESCRIPTION	CONDITION	PR	RECOMMENDATION
3.1.11	Plinth	External wall, west	Brick plinth to west side of building, made up of bricks of standard size (wavy textured surface, garden wall bond) sand/cement/lime pointing of weak mix, with large cementitious fillet to brickwork course approx. 1m above ext. ground level and smaller cementitious fillet to brickwork course at higher level.	Generally good condition but a number of open joints (approx 50%).	C	Repoint open joints in brickwork, replace sections of missing fillet.
3.1.12	Plinth	External wall, south	Brick plinth to south side of building, made up of bricks of standard size (wavy textured surface, garden wall bond) sand/cement/lime pointing of weak mix, with large cementitious fillet to brickwork course approx. 1m above ext. ground level and smaller cementitious fillet to brickwork course at higher level.	Crack in larger lower fillet on SW corner with some spalling to bricks below, approx. 25% open joints to brickwork. Some other spalling of brick faces elsewhere. Spalling to SE corner bricks.	C	Replace/carry out mortar repairs to spalling bricks, replace cracked fillet

PR (PRIORITY)

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CLAUSE	ITEM/ ELEMENT	LOCATION	DESCRIPTION	CONDITION	PR	RECOMMENDATION
3.1.13	External walls	East	External east wall consisting of red bricks (wavy textured surface, garden wall bond) with sand/ cement/lime pointing of weak mix. Upper levels have three string courses and walls finish in stone pinnacles with stone crenellations.	Generally good, some lichen growth generally, staining to walls below windows, some loss of mortar in brickwork joints below window from water run-off from cill(?).	M/C	Maintenance only.
3.1.14	External walls	North	External north wall consisting of red bricks (wavy textured surface, garden wall bond) with sand/ cement/lime pointing of weak mix. Upper levels have three string courses and walls finish in stone pinnacles with stone crenellations.	Some open brickwork joints to low level above plinth and in isolated locations, staining of bricks below windows, some holes in pointing at low level.	M/C/F	Repoint open/defective joints; high level check required, maintenance generally.
3.1.15	External walls	West	External west wall consisting of red bricks (wavy textured surface, garden wall bond) with sand/ cement/lime pointing of weak mix. Upper levels have three string courses and walls finish in stone pinnacles with stone crenellations.	Some open joints at low level above plinth, generally good condition. At high level particularly just below belvedere windows quite deep open joints in brickwork occur – see drone survey images	M/B/C	Maintenance generally. Re-pointing brickwork especially at high level below belvedere windows

PR (PRIORITY)

A-Urgent, B-18 months, C-5years, D-10 years, F-further investigation needed, M-maintenance.

CLAUSE	ITEM/ ELEMENT	LOCATION	DESCRIPTION	CONDITION	PR	RECOMMENDATION
3.1.16	External walls	South	External south wall consisting of red bricks (wavy textured surface, garden wall bond) with sand/ cement pointing of weak mix. Upper levels have three string courses and walls finish in stone pinnacles with stone crenellations.	Some open joints in banding at 1/2m and 3m up from top of plinth, lichen growth generally but in good condition generally. At high level particularly just below belvedere windows quite deep open joints in brickwork occur – see drone survey images	M/B/C	Maintenance generally. Re-pointing brickwork especially at high level below belvedere windows
3.1.17	External walls	South and west	Sloping/stepped stone broach at junction between square/octagonal plan near lantern room floor level	‘Soft-bed’ decay to north-west and south-west broach; some holes at junction of stonework and brickwork; slight spalling to stone and open joints to south-east broach	M/B/C	Monitor; Mortar repairs to soft-bed decay; point-up open joints
3.1.18	Windows	North, south, west and east windows to main area of external wall	Tall six-light timber windows with three-pane fanlight over. 3no to east elevation 2no to north, south and west elevations. Curved/arched brick lintel with cementitious chamfered fillet to cill. East window has metal security mesh grille over.	Generally in good condition.	C	Check grille fixings (east lower window), redecorate windows and monitor moisture ingress.

PR (PRIORITY)

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CLAUSE	ITEM/ ELEMENT	LOCATION	DESCRIPTION	CONDITION	PR	RECOMMENDATION
3.1.19	Windows	Belvedere: all elevations	3no nine-light windows plus arched fanlight to each elevation	Decay to decoration especially to cill areas of west-facing windows; putty/filler repairs to timber to window joinery to west elevation; gap between timber cill of windows and stone cill below filled with silicone mastic which is missing in a number of locations	M/B/C	Repairs to window joinery; re-decoration of window joinery; fill gap between timber and stone cill (as short-term measure); as longer-term solution, re-form cill detail – requiring temporary removal of windows and scaffolding access
3.1.20	External Fittings and Fixtures		Various plaques, notice boards	Generally all in good condition and secured well to building, no damage.	M	All require cleaning and maintenance generally.
3.1.21	Access	External ground and entrance area	The building is accessed at ground floor level on the east side of the building with a single stone/concrete step up at the threshold of the door. The external ground condition is natural soil and generally falls away from the building. Rubber matting has been laid to minimise erosion to the area of higher foot traffic around the entrance.	Stone step to entrance door weathered and worn but still in good/stable condition; external rubber matting is missing from one area and does not extend far enough - a hole in the ground has now formed which is muddy and collects water; grass is generally worn and muddy. Good fall to external ground surface.	B	Fill-in hole in ground and install additional area of matting to prevent further erosion of surface, ensure ground level is maintained to avoid water falling back towards the building. Consider laying paving/self-bound gravel in area of higher foot traffic.
3.2.0	INTERIOR					
3.2.1	Staircase Access	Roof	Timber staircase with handrail to allow access to the roof.	Some wear to the nosing of the staircase treads, but not of particular concern. Some historical damage to base of staircase. The stair is steep and only suitable for reasonably agile people without assistance	M	Monitor wear to treads.

PR (PRIORITY)
*A-Urgent, B-18 months, C-5years, D-10 years, F-
further investigation needed, M-maintenance.*

CLAUSE	ITEM/ ELEMENT	LOCATION	DESCRIPTION	CONDITION	PR	RECOMMENDATION
3.2.2	Roof Structure	Roof	Large softwood timber joists on steel hangers, with plywood decking over and roof finish above. Plastic sheet DPM under timber wall plate which supports joists. Galvanised vertical steel restraint straps connecting roof to masonry below at regular intervals.	Plywood adjacent to the north, west and south walls show signs of water ingress in the form of staining and mould growth. The cause of the water ingress is probably due to the flashing failure to the roof above; no apparent ingress due to cracking in surface of asphalt covering	M	Monitor areas of water ingress. The roof should dry out once the flashings failure is remedied.
3.2.3	Walls	Lantern Room - Internal	Eight sided brick structure with 1.5 brick thick walls. 1 no slit window central to each of the eight sides. Brickwork is assumed to be bedded in sand/cement/lime mortar.	Historic water staining to walls, mainly to south, west and south-west walls, although some may be recent and associated with flashing failure to roof. Horizontal crack in mortar joint 3 bricks up from floor level, most prominent on the north and east sides and continues through half the length of the concrete lintel above the staircase.	M/F/B/	Monitor water ingress following remedial work to flashings. Investigate cause of mortar joint opening at low level using a magnet or metal detector (or open up an area of brickwork?) to check for ferrous metal built into the brickwork. Investigate corresponding area externally when rope access survey carried out. Remedial work may involve removal of ferrous metal
3.2.4	Windows	Lantern Room - Internal	Concrete lintels over slit windows on each of the eight sides. Windows glazed with perspex sheet with vent detail and short inner sheet/screen at base. Cills have been built up with mortar.	Some soiling to perspex glazing. Silicon bedding to inner sheet is failing, and several sheets are loose.	M/B	Clean perspex and re-fix inner sheets with new silicon where loose.
3.2.5	Floor	Lantern Room Floor	Appears to be painted screed on concrete, although structure below is concealed.	Slight soiling to floor surface; structure could not be accessed for inspection.	M	Clean floor.

PR (PRIORITY)

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CLAUSE	ITEM/ ELEMENT	LOCATION	DESCRIPTION	CONDITION	PR	RECOMMENDATION
3.2.6	Services	Lantern Room - High level	High level galvanised steel conduit containing cabling for lighting installation.	Generally good, with exception of heavily corroded section below area of water ingress on west elevation.	M/B	Replace section of corroded conduit. Consider re-routing cabling to less-vulnerable location
3.2.7	Staircase and Balustrade	Stairs between Lantern Room and Belvedere Room	Softwood staircase with solid panelled balustrade to both sides. Top three treads have been replaced previously.	2no. balustrade panels on south side by external wall are loose with missing beadings to panels. The third tread from the bottom has an opening at the centre; white (water) staining generally appears historic. The stair is very narrow and allows for only one person to pass at a time.	C	Repair or replace loose balustrade panels on south side and replace beading.
3.2.8	Ceiling	Belvedere Room	Plasterboard ceiling painted white; bulkhead to the south side running east-west concealing a downstand trimming beam to the edge of the floor adjacent to the stair void.	The bulkhead and southwest corner of the ceiling have signs of water ingress including black mould to the side, cracking to plasterboard and flaking paint. This is occurring below the sloping stone broach, where the tower plan changes from square to octagonal. Elsewhere the condition of the ceiling appears to be ok	F	The cause of water ingress requires investigation and remedial work; requires rope access survey to check coping stones and pointing. Opening up to the floor structure will be necessary to check condition.

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CLAUSE	ITEM/ ELEMENT	LOCATION	DESCRIPTION	CONDITION	PR	RECOMMENDATION
3.2.9	Walls	Belvedere Room – internal	Four internal walls are plastered and painted in a sage green with timber skirting. Each wall has three large windows with arched lintels, almost the full height of the wall.	Low level staining and blistering to the plaster below the base of the windows and above the skirting, predominantly on the south and west walls. High level staining to the plaster in the south-west corner (corresponding to staining, etc to beam end noted above)	F/B/C	The cause of high level and low level water ingress leading to the plaster blistering requires further investigation (also see item above). Water appears to be tracking through the windows below the external cill where the mastic has failed at the junction of the stone cill and timber window cill. Short- to medium term measure may be to re-apply silicone mastic; longer-term measure may involve re-forming window joinery/stone cill junction; once defect is resolved affected, walls should be cleaned / stripped and re-plastered/re-decorated
3.2.10	Windows	Belvedere Room	12no large timber framed windows with arched heads; 3no to each wall elevation. The windows each have 9 rectangular panels and curved panels in the arched head; all are single glazed. Central rectangular panel to each window is hinged and can open, although they are currently screwed shut. External stone cill as continuation of string course/sloping offset.	Missing ironmongery to the central window on the south side and the south window on the east side. Fogging of glass to the south, west and north elevations. Decayed timber section to the internal cill to the south window in the west wall and the west window in the north wall. Externally, the pointing between the timber cill and stone cill has failed in most cases; this may be allowing water to enter causing the blistering to the plasterwork below. The stone cill has a shallow pitch and it is not well detailed for water run-off.	B/C	Putty to the windows should be replaced and windows cleaned. Given the level of water ingress, it may be appropriate to improve the detailing of the external window cill; such as including a lead flashing and / or change pitch of stone cill.[requires scaffold access]
3.2.11	Floor	Belvedere Room	Softwood boarding with previous patch repairs.	Light staining to most westerly board; otherwise in good condition.	–	Nothing required

PR (PRIORITY)
*A-Urgent, B-18 months, C-5years, D-10 years, F-
 further investigation needed, M-maintenance.*

CLAUSE	ITEM/ ELEMENT	LOCATION	DESCRIPTION	CONDITION	PR	RECOMMENDATION
3.2.12	Ceiling/ floor structure	Underside of Belvedere Room	Single span joists span E-W onto wall plates set within east and west walls with central herringbone noggins. Underside of timber boards visible above. Staircase posts meet underside of joists providing restraint.	Water staining throughout; floor timber appears damp but still sound and no decay visible.	F/B	Further investigation recommended to west wall where the brickwork is very damp above to check joist ends and wall plate condition. This can be carried out by lifting floor boards above.
3.2.13	Stairs	Body of the Tower	Timber stairs. The stringer closest to the external wall throughout the stairs has been bolted back to the main tower. Additional steel supports at the newel posts have been added historically, alongside 2 additional handrails above the historic panelled handrail.	Generally: There is minor wear to the treads (this is particularly evident on the bottom tread to flight 5 and top tread to flight 4), and there is historical water staining throughout the stairs, especially on the boarding to the underside. Flight 9 and 10 (as number on stairs): These 2 flights are particularly angled and leaning towards the centre of the tower, this is believed to be due to the potentially damage to the folding wedges between the newel posts and stringers. A detail which is continued throughout the staircase and appears to be a potential area for failure. Newel post between these flights also has some historical water staining.	F	Further investigation should be carried out by an SE to understand the drop to flights 9 and 10 and check condition of folding wedges; there may need to be replaced.
3.2.14	Handrails	Body of the Tower	Timber panelling with handrail over, with 2 additional handrails over, likely added for health and safety reasons.	Some of the panelling to the handrails has evidence of worm holes, however this is likely historical. Some of the higher handrails are loose (particularly on flight 14 and 3).	B	Each of the higher sets of additional handrails should be tested and where loose, these should be re-fixed back to the newel posts.

PR (PRIORITY)

A-Urgent, B-18 months, C-5years, D-10 years, F-further investigation needed, M-maintenance.

CLAUSE	ITEM/ ELEMENT	LOCATION	DESCRIPTION	CONDITION	PR	RECOMMENDATION
3.2.15	Balustrade and Stairs	Flight no. 13	Timber stairs with ply boarded balustrade internally. External stringer has been bolted to external walls.	Staining to south west corner. There is a gap on the tread no. 4 from the top. Tread no.8 from top had water staining and is rotten.	C	Replace decayed tread (no. 8 from top). Re-cork gap to tread no. 4.
3.2.16	Windows	Above flight no. 13	Masonry arched window	Hairline crack at top of arch	C	Repoint and monitor by visual inspection.
3.2.17	Windows	Above flight no. 12	Masonry arched window	Hairline crack top of arch	C	Repoint and monitor by visual inspection.

PR (PRIORITY)

A-Urgent, B-18 months, C-5years, D-10 years, F-further investigation needed, M-maintenance.

CLAUSE	ITEM/ ELEMENT	LOCATION	DESCRIPTION	CONDITION	PR	RECOMMENDATION
3.2.18	Walls	Ground Floor	Fair faced brickwork, painted white with unknown paint. (Likely masonry paint).	Salts present at low level to the North and East elevation. Otherwise walls appear sound.	M	Clean off salts and monitor.
3.2.19	Floor	Ground Floor	Painted concrete Slab	Appears generally sound.	-	Nothing required.
3.2.20	Under Stairs Cupboard	Ground Floor	Softwood boarded cupboard, lined with plasterboard.	Some mould build up to the base of the door and boarded elevation. Otherwise appears sound.	D	Drill a number of holes to the base of the doors to improve ventilation into the cupboard (or leave the door open as much as possible)
3.2.21	Steel newel posts	Ground Floor	Painted steel stair supports with tie beams.	Appear in a sound condition.	-	Nothing required.
3.2.22	Services	Electrical installation	Installed in 2010-11 as part of major refurbishment. Lighting and small power	Appears to be in good condition except where noted otherwise above	M	Test/inspection/report (following NICEIC format) every 2-3 years; carry out urgent remedial works as recommended

4.00 SCHEDULE OF PRIORITISED RECOMMENDATIONS WITH BUDGET COSTS

4.1.0	Works required urgently	<i>Budget</i>
4.1.1	Replace lead cover flashings to tower	£700
4.1.2	Replace gas strut to roof access hatch	£300
4.2.0 Works required within 18 months		
4.2.1	Rope access survey and temporary/limited repairs to brickwork; renew silicone mastic pointing below Belvedere Room window cills; brief illustrated report on findings	£2,300
4.2.2	Provide coating to asphalt roof to fill cracks and achieve reasonable falls; provide reflective paint coating (provisional)	£2,000
4.2.3	Alternative to 4.2.2: renew asphalt roof covering (provisional)	£8,000
4.2.4	Check steel frame/cables holding star decoration on tower roof; re-decorate steel frame; provisional figure of £1,000 for additional works	£2,500
4.2.5	Replace/repair upper lock to external door at ground level	£600
4.2.6	Subject to findings in 4.2.1, carry out repairs and re-pointing to brickwork/stonework to external walls of the tower (assume approx. 20% re-pointing, 127m ² x £300/m ²)	£40,000
4.2.7	Subject to effectiveness of temporary repairs in 4.2.1, remedial work to Belvedere windows including temporary removal/re-fixing of joinery, re-form cill detail, repairs to joinery, replace defective glass, re-decoration (12no x £2000/window)	£24,000
4.2.8	External scaffolding access, hoarding to base of scaffolding, debris netting, hoist; temporary trackway to facilitate the above; all as required for 4.2.6 and 4.2.7 including 16 week hire	£70,000
4.2.9	Remedial work to ground area adjacent to entrance door to tower (provisional)	£2,000

	<i>Budget</i>
4.2.10 Investigation of horizontal cracking to internal face of walls of Lantern room; metal detector survey and/or opening-up (provisional)	£2,000
4.2.11 Works arising from investigation in 4.2.5 - may be B, C or D priority (provisional)	£10,000
4.2.12 Clean perspex glazing in Lantern room; re-fix inner sheets of perspex at base of window openings	£700
4.2.13 Replace defective electrical conduit in Lantern room; provisional figure of £500 for re-routing conduit cabling	£750
4.2.14 Further investigation of timber structure of Belvedere floor (by architect following opening-up) where bearing on west wall; remedial works to structure, if required (provisional £5000)	£5,500
4.2.15 Further investigation (by structural engineer) of deflection in flights 9 and 10 of stairs; check condition of 'folding wedges' between newel posts and strings and carry out remedial work as necessary (provisional £3,000 including access)	£3,750
4.2.16 Re-fix loose sections of handrail to main stair	£300
4.2.17 Investigate condition of west end of plaster-cased beam/trimmer to side of stairs to ceiling of Belvedere; carry out remedial works (provisional £2,000); make good plasterwork and decorations)	£2,700
4.2.18 Commission test/inspection/report on electrical installation following NICEIC recommended format (if this has not been carried out in the last 2-3 years); carry out remedial works as recommended (provisional £750)	£1,250
4.2.19 Commission annual test/inspection/report on lightning conductor installation; carry out remedial works as required (provisional £750)	£1,250
4.2.20 Commission test/inspection/review/report on fire safety equipment; carry out remedial works as recommended (provisional £750)	£1,250
4.2.21 Review Fire Risk Assessment and enact recommendations for procedural change	–

4.3.0 Works which may be required within five years	<i>Budget</i>
4.3.1 Remedial work to brick plinth on external face of tower (may be carried out as B priority)	£2,500
4.3.2 Re-decorate window joinery to main body of tower (carry out as B priority to utilise scaffold access)	£2,000
4.3.3 Repair stair from Belvedere to Lantern room	£700
4.3.4 Remedial work to wall/ceiling decoration in Belvedere Room including plaster repairs	£3,000
4.3.5 Minor repairs to joinery to main stairs	£1,500
4.3.6 Point-up minor hairline cracking to brickwork adjacent to main stair to allow for basis future monitoring	£300
4.4.0 Works which may be required/desirable within ten years (excluding maintenance items)	
4.4.1 Remedial work to flagpole and fixing	£500
4.4.2 Drill vent holes in cupboard at foot of stair	£200

- Notes:
- i) Where an item has more than one priority, the higher priority is taken for the purposes of the above eg the figure for a B/C item in the detailed schedule of defects becomes a B.
 - ii) Figures are intended to be a very rough guide only and are subject to inflation and fluctuation in the cost of labour and materials. Figures are giving for fourth quarter 2021 and should be adjusted accordingly taking into account inflation for forward planning. All figures relate only to works as specified and overseen by ATA. All figures **exclude** contractors' preliminaries, overheads and profit, which may vary between 10-25% depending on the scope of works.
 - iii) Estimates are made on the basis that works will be carried out in groups of related items by contractors with suitable experience of working with old buildings, selected after a process of competitive tendering.
 - iv) All figures **exclude** professional fees and VAT on fees/construction works.

APPENDIX A

Key to elements of the building

Key to Elements of the Building



Roof



Lantern Room



Belvedere Room



Stair Void

Ground Floor



APPENDIX B

Screen shots from drone photogrammetry

North



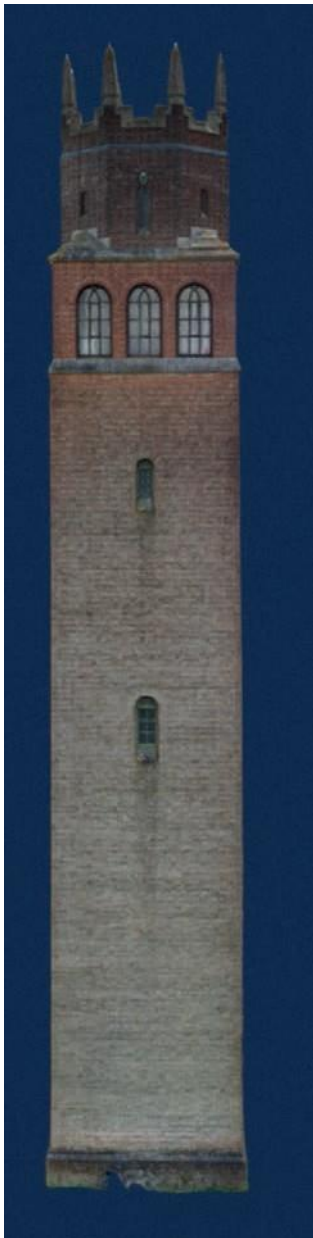
East



South



West



APPENDIX C

Photographs



Figure 1 General view of the tower from the north-west



Figure 2 General view of south side of the tower



Figure 3 Erosion to stone 'broaches' at south-west and north-west corners between Lantern and Belvedere rooms



Figure 4 Cill level of windows in west wall of Belvedere showing defective pointing below timber cill and shallow fall on stone cill of string course



Figure 5 Cill/string course below windows in south wall of Belvedere showing deep open joints in brickwork



Figure 6 Detail of cill to window in south wall of Belvedere



Figure 7 General view of plinth



Figure 8 Detail of damage to plinth



Figure 9 General view of north side of roof with asphalt covering and lead cover flashings



Figure 10 Detail of same showing patch repair and cracking to upper surface



Figure 11 Open joint at head of lead cover flashing to roof



Figure 12 Silicone mastic removed at head of lead cover flashings reveals shallow section of lead in rebate in brickwork



Figure 13 General view of inner face of parapet showing open joints and spalling bricks. Note also corroded steel stanchion supporting star decoration and signs of water ponding on the asphalt roof covering



Figure 14 Star light decoration



Figure 15 General view of south and west walls of Lantern room with signs of recent water ingress



Figure 16 Detail of same



Figure 17 Damage to internal wall finishes in south-west corner of Belvedere room – this occurs generally on the weather sides and appears to be due to failure of pointing between the timber window cills and stone cills below



Figure 18 Detail of same with corresponding decay in stair joinery



Figure 19 Mould growth and disruption of decorative finishes to west end of enclosed trimmer beam to ceiling of Belvedere room



Figure 20 Detail of same



Figure 21 General view of Belvedere floor structure



Figure 22 General view of stair