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DESIGN

HAMPSTEAD SYNAGOGUE

Preliminary report on services at the synagogue.

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INTRODUCTION

Hampstead Synagogue is a listed building located in Dennington Park Road, West Hampstead.

The building is in need of renovation. The heating system no longer functions and local electric heaters are used. A number of high priority items must be fixed in the electrical installation. The lighting does not provide sufficient illumination. There are no emergency systems.

A preliminary visit was made to investigate the state of the existing services, and consider what remedial work is necessary. This report details the findings.

HEATING

The original heating system included a boiler in a basement boiler room on the southwest corner of the synagogue. This fed cast-iron column radiators on the ground and first floors through steel pipework. In certain places, a metal floor grille allowed convection heating from the pipes.

The boilers were removed and the pipework connected to the heating system in the adjoining community building in the 1970s. The radiators are now a mixture of styles. It is believed that the original radiators were the decorated ones which were cast with a raised decorative pattern (Figure 1), but there are now decorated radiators, plain rounded-top column radiators (Figure 2), rectangular-top column radiators (Figure 3), two panel radiators on the east and west galleries, and two radiators composed of multiple horizontal tubes at each side of the north gallery (Figure 4). It would appear that over the years the original radiators have been replaced when problems have occurred. There are also indications that radiators have been removed in one or two places.

It is proposed that the radiators are completely replaced by a modern equivalent cast-iron type. The existing ones will be coated internally with sludge and scale, and there is some doubt as to how long they would last when cleaned. Decorative radiators are still available and a typical example from MHS Radiators is shown in Figure 5. If there is any historic interest in the existing ones, a typical example could be retained for the future. There is, however, little point in attempting to put the radiators back into use. Further design work is necessary to establish whether the present number of radiators is sufficient to achieve modern levels of comfort.

The pipework is heavily corroded and should be completely replaced. The pipe route on the ground floor is below the timber floor of the synagogue. This will need to be raised to allow re-installation of new pipework. The radiators in the rooms and entrance on the north side are fed by pipework which appears to run in trenches below the mosaic floor. Further investigation is necessary to determine the exact routes, but in order to re-feed the radiators, it will be necessary to lift and replace sections of the floor. On the first floor, most of the pipework runs at low level around the walls of the galleries, with vertical drops to the ground floor.

Locating the new boilers in the old boiler room area would have the least effect on the remainder of the building. There are two rooms, which are presently used as stores, and the size of these appears adequate for new plant. Flues would need to be taken to the top of the building. Modern boilers tend to use different flue arrangements, and it might be easier to run

a number of small diameter flue pipes externally in a suitably unobtrusive position. The original chimney has been bricked up at basement level.

GAS

A new gas supply for the boiler plant will be needed from the street, provided by the utility company.

COLD WATER

Male and female toilets are located at the north side of the synagogue, the men's being at lower ground floor level, and the women's at first floor level.

There are two cold water storage tanks on the roof, one on each side of the building, over the women's toilets. Access to these is through a hatch in the toilets, using a long stepladder. This is not suitable for regular access. The tanks were not inspected closely, due to the restricted access, and although the felt covering appeared in good condition, it is unlikely that they comply with current Water Regulations. Thames Water, the water utility company, will no longer guarantee pressures above 1 bar (10 metres), but if the water usage is limited to the present sanitary accommodation, it is suggested that the water supply is taken directly from the mains in future.

The cold water main intake was not found, but lead pipework was noticed in the men's toilet, so any future refurbishment should allow for complete replacement of the cold water system, including a new suitably sized connection to the main in the street.

HOT WATER

There is no hot water at present. Local electric water heaters are proposed for refurbished sanitary accommodation, assuming that no extra facilities are provided.

SOIL AND WASTE

Existing soil stacks pass down from the women's toilets on the first floor through the entrance. Soil pipework from the men's toilets goes directly to underground.

New soil and waste pipework to the sanitary fittings is required. The underground drainage was not inspected. A CCTV survey is required to assess the design and state of the existing arrangements.

ELECTRICAL POWER

There is a 3-phase electrical supply with a 100A cut-out and meter at the north-east corner of the building.

This is currently feeding 60A switchgear. The supply is at its limit, but this is because the building is being heated by portable electric heaters, the heating system from the adjoining building being defunct. It would be expected that 100A 3-phase would be sufficient for a

building this size if heated by gas, but the available capacity should be confirmed with the electricity utility company.

The wiring is in a poor state, and the electrical installation will need to be completely re-wired. The existing wiring is a mixture of MICC and domestic flat-twin-and-earth cable, and replacement using MICC, which is generally long lasting, robust, and easier to route than conduit, is proposed. It is not expected that large numbers of power sockets will be needed in addition to those for office and for general cleaning, but this needs to be confirmed.

LIGHTING

The synagogue is lit by one large electrolier and a number of smaller ones. These seem to be fed from flat-twin-and-earth cable in the timber roof structure. There are surface-mounted glass globe fittings over the galleries, which have been added using surface-mounted conduit to supply them.

The lighting needs to be completely refurbished. There are a number of separate considerations:

1) Light on the ground floor and galleries should be sufficient to allow reading. 200 lux is recommended.
2) Accent lighting should concentrate the focus of attention on the ark at the south end of the synagogue.
3) Lighting should highlight the architectural form of the building. Light fittings could illuminate a number of the columns and ribs of the ceilings
4) Light fittings should have an attractive appearance. Visible light fittings will need to be carefully considered to fit with the style of the interior decoration of the synagogue.

It is difficult to achieve all this from the existing electroliers, and a mixture of wall lighting, spotlights and pendants may be necessary

Wiring should all be concealed, preferably using re-wirable conduit or long-lasting mineral-insulated cable.

The lighting at the front will also need to be replaced. With regard to its appearance, the same considerations apply to the entrance and stairs as to the synagogue. Accommodation stairs at the rear and the toilets should use compact fluorescent fittings.

Emergency lighting will be necessary throughout. This could be maintained lighting using the same light fittings which provide normal lighting, but with a battery for when the electricity supply fails.

FIRE ALARM

A fire alarm system will be required. There is none at present. Discussion with the Fire Officer or Building Control will be needed to confirm the level of protection and extent of automatic detection.

TELEPHONE AND DATA

Telephone and data connections will be required in the front office. It is assumed that further provisions will not be necessary.

SECURITY

There is an existing door entry system. Something similar will be necessary. Further security measure such as CCTV and PIR intruder alarms may be required.

APPENDIX 1 – PHOTOGRAPHS

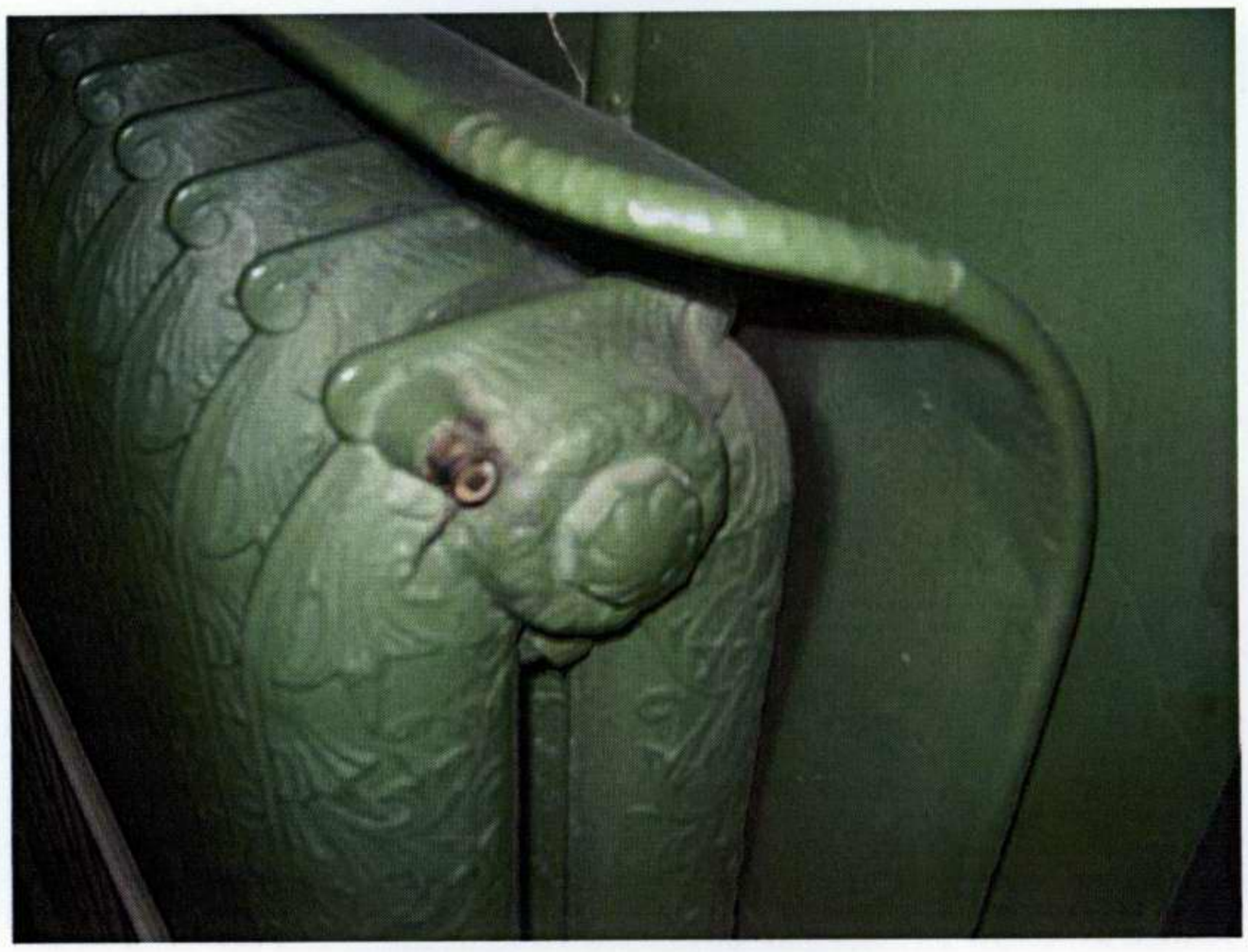

Figure 1 – Decorated Radiator

Figure 2 – Plain Column Radiator

Figure 3 – Rectangular top radiator

Figure 4 – Horizontal tube radiator

APPENDIX 2 – EQUIPMENT

Figure 5 – MHS Liberty Radiator