Estates strategy

2021 – 2026

Royal Hospital for Neuro-disability

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Overview of the strategy, estate and key challenges

The Estates Strategy is a summary of a transformational plan to improve our estate over the next five years. The Strategy explores the potential for future developments that could materialise beyond the five year horizon.

The Estates Strategy will also address key challenges which directly impact the site as well as positively impacting on wider societal, economic and environmental issues. Some examples are listed below:

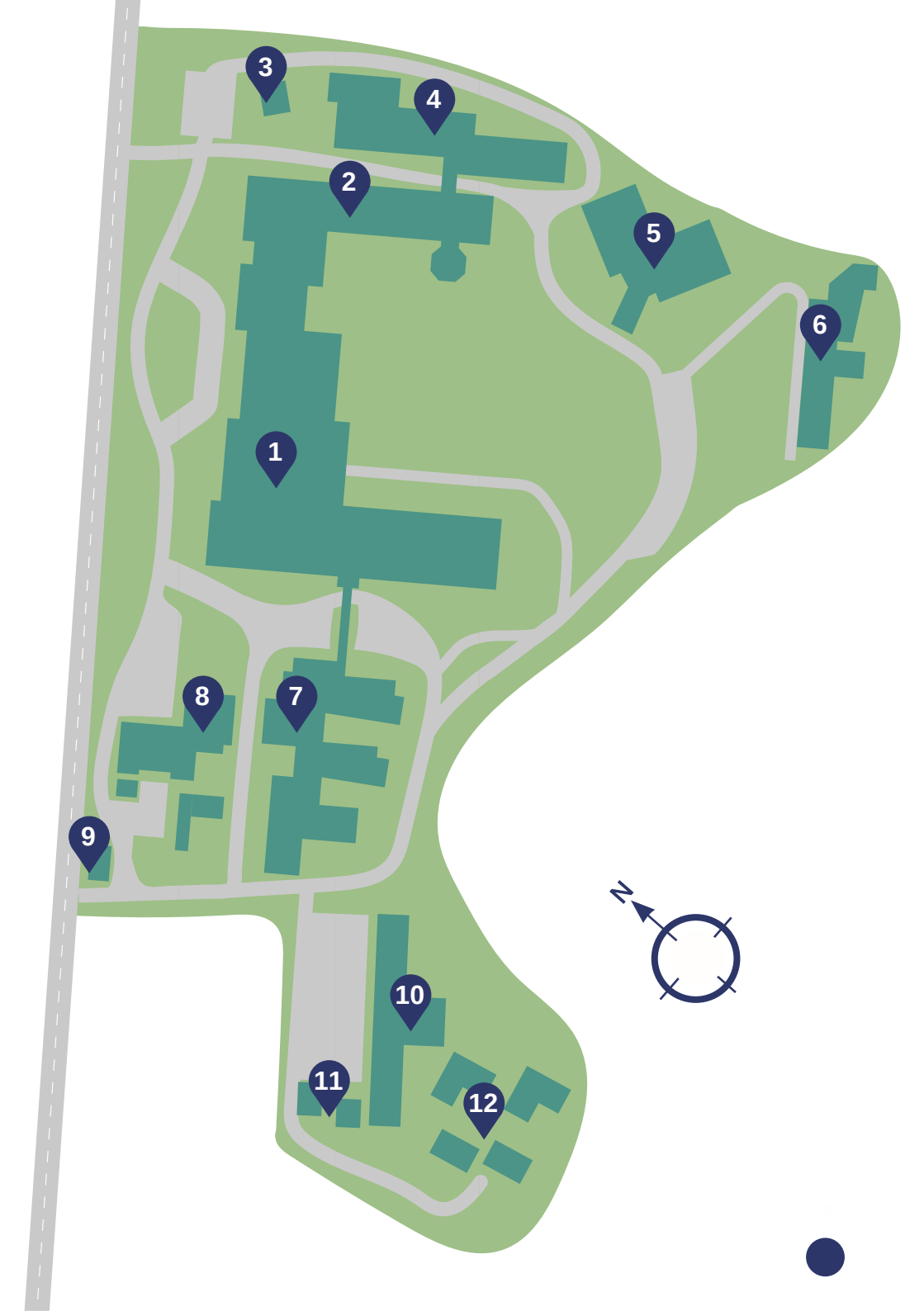
- Refurbishment of the main corridor on level 1 of the Main Building, which comprises reinstating the original corridor to improve horizontal access between the ward areas and common areas. In addition, the existing goods lift will be replaced with a larger patient bed-sized lift, which will improve step free and vertical access within our buildings.

- The pandemic has identified that our estate needs to be versatile with the ability to accommodate measures which were initially envisaged as temporary into permanent solutions, such as additional hand washing facilities and the ability to create self-contained areas to cope with lockdown scenarios.

- Our buildings and related operations will require extensive adaptation to improve our environmental performance to assist with the delivery of healthcare Net Zero Carbon targets.

The RHN site covers 50,598m2, our core buildings comprises of circa 19,000m^2 of Net Internal Area (NIA) within or core buildings. The diagram below provides an overview of our buildings in terms of location, age, number of floors and NIA.

Building	Reference	Date built	Floors	GIA (m^2)
Main building	1	1865	4	
Alexandra wing	2	1980	5	
East Lodge	3	1879	2	
Drapers wing	4	1990	3	
Goodman House	5	1987	2	
Haberdashers House	6		2	
Chatsworth wing	7	1976	1	
Melrose Lodge	8	1867	2	
West Lodge	9	1914	2	
Bellringer House	10		3	
Norman Morris House	11		3	
Douglas Gracie House	12		2	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Supporting the RHN's strategic plan

The RHN's mission:

"Founded in 1854, our mission is to meet the complex needs of people with profound disabilities arising from brain injury. We are a well respected charitable hospital and research centre, providing services for adults."

In order to achieve this mission the RHN has set out a strategic plan. There are five key elements within this strategy which are of core relevance to the estate. These five elements are summarised below.

Rectifying longstanding maintenance issues

We will adopt a risk-based approach to rectifying our backlog maintenance issues, via the use of an Estates Risk Register.

A programme of works will be developed to upgrade and/or replace our core estates infrastructure. This work will be coordinated with our capital investment works programme to refurbish and renovate our clinical and non clinical areas.

Refurbishing and renovating clinical and non-clinical areas

Development of a capital investment works programme to create a modern and sustainable environment with versatility to adapt to our future needs and requirements.

Key stakeholder engagement and communication to ensure that our requirements and concerns have been addressed to deliver projects in accordance with our aspirations.

We will be carrying out a variety of projects ranging from refurbishment of clinical rooms, roofing works and water infrastructure works through to large scale refurbishments such as Wellesley ward.

Creating capacity to enable growth

COVID-19 has provided an opportunity to review how we operate and deliver our services. A variety of options will be considered to create the capacity for growth in clinical and non-clinical areas.

Growth can be achieved, either by reconfiguration of our existing spaces, or by the provision of new developments.

To expand teaching and research on site, thereby raising our profile and increasing fundraising

There are several options available to use our spaces differently – alongside technological solutions – to develop teaching and research opportunities.

Upgrading staff spaces and facilities, including accommodation

We will explore the potential to improve staff spaces and facilities, to create an environment that will attract, retain and develop our staff.

Estates aims

Patient comfort

Estates Aim: To develop and improve our systems for the benefit of our patients, residents, staff and visitors. It is critical that our systems take account of sustainability, energy efficiency, our carbon emissions through remote monitoring and control.

Acoustics

We will work with stakeholders to identify, develop and create areas that need specialist acoustic treatments, to benefit all users of these spaces.

Cooling

Increase the coverage of our cooling infrastructure based on providing multi-unit systems which share an external plant, rather than individual cooling systems.

Provide suitable and sufficient monitoring and control to ensure the systems are used effectively and efficiently. Reduce the reliance on individual supplementary, portable air conditioning units.

Lighting

Work with Clinical and Research staff to improve the functionality of our lighting in our patient focused areas through, effective lighting controls, dimmable fittings and energy efficient light fittings.

Heating

Our heating systems are gas-fired and produce higher carbon emissions than renewable energy sources. Careful consideration needs to be given to the timing of

a change from a gas-fired to a renewable system. Important factors will be utilities costs, capital investment, carbon emissions, resilience and the production of electricity via a combined heating and power plant.

Improvements will be made to the monitoring and control of our heating systems, to ensure they are working efficiently and not conflicting with cooling and ventilation systems. There will consequently be reduced reliance on individual supplementary electric heaters.

Ventilation

COVID-19 has shown that greater consideration needs to be given to good ventilation. To support improvements, consideration will be given to mechanical ventilation and CO2 monitoring.

Patient mobility

Estates Aim: To improve patient mobility with regard to both their day to day activities as well as horizontal and vertical movement within our buildings. To improve patient mobility around our external grounds and at points of access and egress to and from our buildings.

Bedroom hoists

To assist with the delivery of modern healthcare we are looking to increase the number of fixed hoists to our bedrooms and wards. We believe that this significant investment will not only enhance patient experience and safety but also aid our staff with the logistical and operational challenges of mobile hoists.

Shower room hoists

In addition to the bedroom hoists, we are also looking to increase the number of fixed hoists in our shower rooms, where applicable.

Lifts

Our lift infrastructure requires significant investment to refurbish and replace our current lifts. We also recognise that increasing the size of some of our lifts and/or installing new lifts (including shafts) will improve our overall resilience in relation to coping with breakdowns and the management and response of emergency situations.

Access to and from internal and external spaces

We are proposing to work with AccessAble (see link About | AccessAble) to develop detailed access guides for each area of the hospital. The detailed access guides describe the patient, visitor and staff journey from arrival on site to points throughout the hospital including lifts, stairs, reception, wards, facilities and toilets.

Patient Safety

Estates Aim: To ensure from an estates perspective that suitable and sufficient measures are in place for the safety of our patients, visitors and staff.

Access control system

We are keen to increase the coverage of are access control system across the estate to improve the security of our spaces by restricting and controlling access. Generally access control installation will form part of a larger refurbishment project.

Emergency lighting system

We will be exploring the potential of upgrading our existing emergency lighting system with a modern LED based self testing system. This will enable our resources to be used more efficiently and enhance our record keeping.

Fire alarm system

We will be looking to maximise the capability of our fire alarm system to enhance the system's coverage across our buildings and the operation, control and monitoring of the system.

Nurse call system

There are currently three different Nurse Call systems within the hospital. Therefore, to improve our logistical and operational management processes we are proposing to standardise our Nurse Call Systems and work in partnership with a single supplier.

Medical Devices

We will be reviewing our medical devices to adopt a standardised approach for selecting products. We will be implementing a replacement programme to ensure that our medical devices are able to meet current and future needs where practicable.

Water safety

Estates Aim: To create and develop a water infrastructure which is fit for purpose and adaptable to meet our future requirements which are currently undefined.

Resilient systems

A key aim is to improve the overall resilience of our mains, cold and hot water systems to minimise the impact on patients, staff and visitors of any faults or failures that may occur. Replacing our ageing pipework infrastructure, improving our cold water storage facilities and installing valves to facilitate temporary connections to external water sources will improve the resilience of our systems.

Water hygiene

It is imperative that we provide high levels of water hygiene to comply with modern healthcare standards. Therefore, we have robust policies and procedures in place for the management of water hygiene at the RHN. We have a programme of works in place to upgrade our showers to enable isolated water hygiene remedial works to be carried out without impacting on remaining areas.

Water pipework infrastructure

A majority of our pipework infrastructure is in need of replacement. Therefore, it is essential that a detailed programme of works is developed to replace our pipework infrastructure whilst maintaining our service provision. These works will be carried out either as isolated infrastructure projects or as part of larger refurbishment projects.

Water temperatures

Maintaining the correct temperature ranges for hot and cold water is essential in a healthcare environment. In addition to the pipework infrastructure works, we will be upgrading our cold water storage tanks and our hot water heat sources to assist with meeting current and future compliance requirements.

Creating a digital estate

Estates Aim: Together with our in-house IT team we will utilise current and emerging technologies to assist with creating, developing and maintaining an efficient and effective estate.

Audiovisual installations

We will continue with the installation of audiovisual equipment, as we recognise the benefits that they bring to our patients, staff and visitors.

Building management system

Recent improvements to the way in which we operate our centralised building services plant and equipment will be further developed through improvements and upgrades to our Building Management System. We are keen to incorporate real time monitoring of patient spaces and for this data to automatically modify the outputs of Heating, Ventilation and Air Conditioning (HVAC) equipment.

The BMS will help with control, monitor and forecast heating, cooling ventilation water temperatures and potentially lighting. Remote monitoring of operational plant and equipment will enable significant changes to be made outside of core working hours which will benefit our patients.

Data infrastructure

Maintaining and enhancing our fixed and WiFi data infrastructure is key to the operation of our patient facing equipment and our Building Management System and Access Control System.

Estates management system

Our Helpdesk system enables reactive works to be logged by staff and works issued via mobile technology. The system is currently being developed to issue routine planned maintenance activities.

IoT (Internet of Things) technologies are becoming more and more prevalent in the monitoring and control of building systems and services.

IoT technologies

Our IT department has already made significant progress with regard to the installation of wireless temperature monitors within our ward areas. Our immediate focus will be to integrate these monitors with our building management system to improve the control and regulation of temperatures within our buildings.

Management of mobile medical equipment

We will be utilising wireless technology to monitor and manage our mobile medical equipment. Key items of equipment that are used across a number of wards will be tracked to enable their locations to be identified.

We are currently auditing our medical equipment to develop an equipment replacement programme based on, cost, age, patient risk, lead times and maintenance regime.

Potential future developments

In addition to an Estates Strategy for the next five years, it is critical that RHN's has oversight of potential opportunities than could arise towards the end of that period.

Below is a list of potential future developments that are being considered:

1. New Chatsworth wing

Initial proposals have been drafted for the provision of either a single storey or two storey building to accommodate residents currently based in the existing Chatsworth building. The new building will be situated such that views of the remainder of the site are largely unhindered.

2. Drapers wing extension

This proposal comprises the demolition of East Lodge and the construction of up to a three storey extension to provide additional bed capacity.

3. Hydrotherapy pool redevelopment

The current Hydrotherapy pool requires significant investment to function. However, even with this investment it is unlikely that the facility would meet current healthcare standards and be comparable with modern facilities. Therefore, considerations should be given to the provision of a new facility.

4. Staff accommodation

Some of our staff reside within our on site accommodation. There are a number of options to be considered regarding the future of our staff accommodation.

Bellringer House

A three storey building comprising 78 single person bedrooms with shared bathrooms and kitchens.

The options under consideration are to leaving the building in its current configuration; between 50% and 100%, conversion to bedsits and/or flats; the transfer of management responsibilities to a third party.

Norman Morris House

Six flats across two three-storey blocks. Due to their age and construction, they suffer from excessive damp. Currently two flats are unoccupied due to these issue and require significant investment which may not be recovered.

The options under consideration are to leave the buildings in their current condition and continue to repair on an ad hoc basis; demolish as repair costs are higher than the current value; transfer of management responsibilities to a third party.

Douglas Gracie House

A series of two and three bedroom flats. Some flats have been upgraded in recent years. These buildings also suffer from damp issues.

The options under consideration are to leave the buildings in their current condition and continue to repair on an ad-hoc basis; demolish as repair costs are higher than the current value; transfer of management responsibilities to a third party.

Day-to-day activities

As well as supporting the Strategic Plan, the estate has to remain operational on a day to day basis. This includes the repair and maintenance of the building fabric plus improvements to infrastructure and equipment to ensure that the buildings remain operational and provide a safe and sustainable environment.

Energy management

Improved heating control has contributed to reduce gas consumption however the recent increase in consumption of hot water due to more frequent hand washing has had the opposite effect.

Increased Combined Heat & Power (CHP) operation and installation of solar Photovoltaic panels has helped reduce the amount of imported electricity.

An increase in onsite electricity generation, in addition to further grid decarbonisation, has supported a reduction in the RHN's (energy related) carbon footprint.

Health and safety

Continue to improve our health and safety performance within Estates by developing our policies, procedures and guidelines to provide and maintain safe and healthy conditions, equipment and systems of work.

Continue with the development of our Estates based staff and contractors through instructing, training and supervising.

Information and knowledge management

Another key driver is to improve our management of information and knowledge. It is critical that our floor plans are up to date as they are intrinsically linked to our estates related systems.

Infrastructure projects

Currently our technical knowledge is limited to a small number of staff. Therefore, it is essential that our distribution of knowledge is spread across our resources to improve our technical competence and support our succession planning requirements.

Our infrastructure projects will support and complement our refurbishment projects to ensure that our estate is fit for purpose and sustainable. The following projects are currently under review:

- Roof replacement
- New water tanks
- New heating and hot water plant
- New electrical distribution boards
- Fire compartmentation works
- Upgrades to our Building Management System
- New mains, cold and hot water pipework infrastructure
- Lighting and lighting controls upgrades

- Replacement of internal drainage
- External works (surfacing, paving, kerbing, and drainage)
- External façade works

Key performance indicators

A range of key performance indicators (KPIs) will be used to assess the performance of our estate and associated equipment.

The KPIs will allow the RHN to continually monitor improvements. These KPIs will also be compared to sector norms and benchmarking groups to monitor progression.

Year on year targets will be developed for these KPI's to track progress against the baseline figures.

Maintenance

This is the delivery of a continuous programme of maintenance and statutory compliance work. Our planned maintenance activities aims to reduce the volume of reactive works as the cost of pre-planned work is lower than reactive repairs and replacement.

Our planned maintenance approach work also ensures a consistent approach to the operation of estates services, which reduces the risk to business continuity.

Reactive works and user requests are managed via our helpdesk. Works are carried out by our in house operatives and external contractors.

There is a large volume of backlog maintenance, which will need to be prioritised based on their business risk, impact in relation to statutory compliance and coordinated with future projects.

Refurbishment projects

We will continue with our refurbishment projects to provide an environment and facilities to modern healthcare standards.

Risk management

Estates risks are managed via an operational risk register which focuses on governance (policies, procedures and guidance), operations (contracts and in house resources and infrastructure (plans for capital investment to upgrade, refurbish or replace).

Our Projects risk registers focus on controls and mitigating actions in relation to time, cost, quality and specific stakeholder risks.

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