

New Hospital and Healthcare Services Project

Design Solution Summary

Introduction

This document summarises the principal features of the Preferred Bidder design solution to deliver NHS Orkney's new hospital and healthcare facilities.

Setting

NHS Orkney has acquired a greenfield site to the south of Kirkwall. The site benefits from a newly completed road built by Orkney Islands Council and named Foreland Road. This new road provides a connection from New Scapa Road (the main road into Kirkwall, connecting East and West Mainland) to Hatston and Orphir, avoiding the centre of Kirkwall.

The Preferred Bidder design orientates the hospital and healthcare facilities building to connect to the town of Kirkwall, creating a direct and clear axis. The form of the building and site arrangement creates a welcoming gateway to the site and the southern edge of the town, with vehicle and pedestrian access clearly located and signed to reduce stress for visitors on approach.

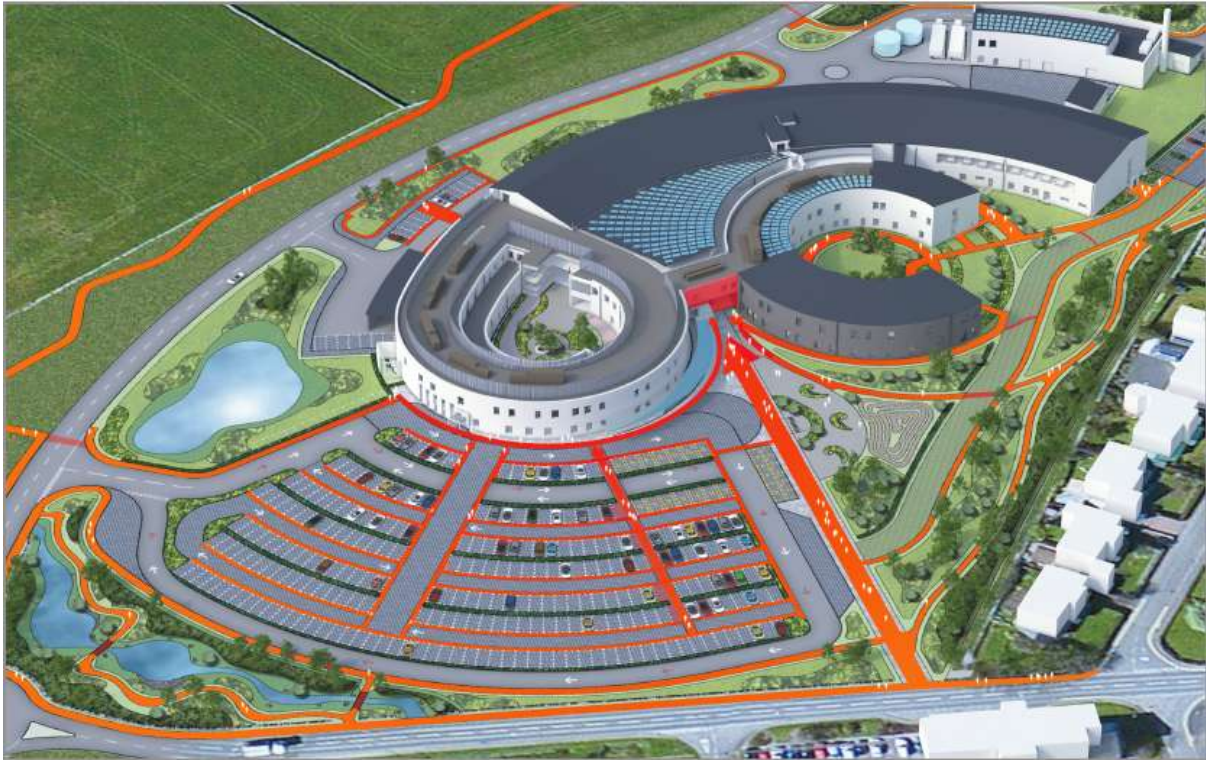
The landscaping proposals support the provision of safe and pleasant walking routes both through the site and connecting into existing networks beyond the site, including the Crantit trail



Artist's Impression, Aerial View

Site Access Arrangements

Pedestrians and Cyclists



Pedestrian and Cycle Arrangements

The main entrance to the new facilities will be accessible by pedestrians and cyclists from two points. The primary pedestrian access point is from New Scapa Road via a straight boulevard to the building's main entrance, with a secondary access point from Foreland Road. The site design and layout recognises the positive benefits both for the general public as well as NHS Orkney staff and building users, in creating pathways and circuit routes around the building and immediately adjacent to the site.

The site strategy and traffic plan prioritises pedestrians and cyclists over cars with the main pedestrian route linking the main pedestrian access point of the site to the main entrance. This route gives direct visual connection to the main entrance and will create a defined and important axis on the site. There are also safe, easily accessible cycle and footpath routes around the site leading to the hospital that follow desire lines, as well as access to existing footpaths such as the Crantit Trail. Bus, car and taxi drop-off points are close to the Main Entrance.

Vehicle Access



Vehicle Access from Foreland Road

All vehicles will enter the site from Foreland Road along the southern edge of the site via the entrances marked A, B and C on the site plan above. The principal public car parking zone is accessed off entrance A. The car park layout follows the curve of the hospital and is clearly visible from both Foreland Road and New Scapa Road.

Entrance B provides access to the Emergency Department for “blue light” vehicles with a dedicated sheltered drop-off and parking for emergency vehicles. Patients arriving by car and self presenting at the Emergency Department will also be directed to this entrance. There is a separate “walking wounded” entrance to the Emergency Department, with adjacent dedicated parking.

This site entrance also provides access to the Cancer and Palliative Care Unit for patients and visitors, with a dedicated parking area for the Unit.

Entrance C will predominantly be used by Facilities Management (FM) vehicles travelling to the main FM department and Energy Centre. The Mortuary is also accessed via this entrance, with dedicated visitor parking spaces and a drop-off for mortuary vehicles immediately adjacent to the department entrance.

Entrance to the Building

Movement from the outside to the inside of the building is phased and gradual. Curved sliding main entrance doors at the main entrance to the building open into a hub space, a light colourful and relaxed area. There is an immediate visual connection to both the reception and self check in spaces and to the GPs, Dental, Radiology and OPD departments.

From this central hub space the users can also see and access external space in the form of the internal courtyard, or choose to move further round in to the hub to make use of the restaurant, multifaith area and other public amenities within the building. The main hub space creates a relaxed atmosphere for users reducing stress and anxiety.



Artist's Impression, Main Entrance

The hub provides direct links to all clinical areas on the ground and first floor. Wayfinding is logical and the hub arrangement supports orientation and communication for patients and visitors while supporting service provision



Artist's Impression. Internal Hub

Court Yards

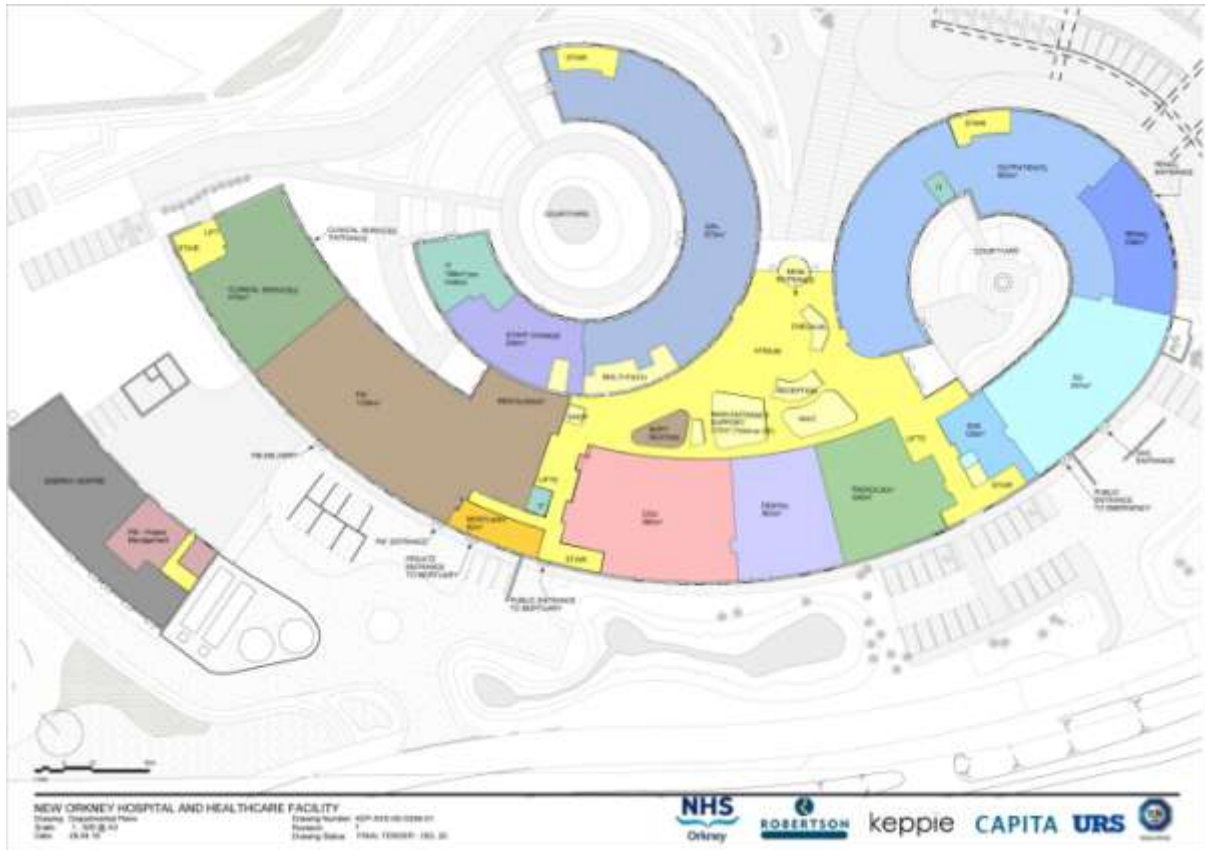
The south courtyard is a key area providing access to a large sheltered external space for all building users. Visible and accessible from the main entrance the hub space has been developed to introduce different usable zones;

- the main waiting area which overlooks the Main Entrance door also benefits from direct views out to this courtyard and people can access the landscape from the adjacent circulation space. The area immediately outside can accommodate a seating area to be used in good weather;
- there is Therapy and Sensory Garden with access from the AHP treatment waiting area, extending and enhancing the available treatment space and environment when appropriate, for both inpatients and outpatients;
- the space is a balance of structured zones for particular use whilst also providing a natural and more relaxed element of planting which provides visual interest and softness such as the wildflower boundary.

The north courtyard can be viewed from the consulting/ treatment spaces of Skerryvore and Heilendi GP practices. It is also directly accessible from the clinical support facility for staff to enjoy in good weather but will still ensure no visual privacy issues in terms of the adjacent consulting rooms.

Internal Arrangements (Clinical Areas)

The internal planning of the building has been subject to a rigorous process of design development. The design delivers all the adjacencies and clinical and operational flows mandated by NHS Orkney and responds to the Board's Design Statement in terms of environment and patient and staff experience.



Ground Floor Block Diagram

General Practice

The two General Practices within the healthcare facility, Heilendi and Skerryvore, benefit from a strong relationship with the central hub. The layout of the area maintains practice identity for both practices whilst offering future flexibility. Located on the ground floor adjacent to the main entrance, the two General Practices are immediately visible upon entry to the building, giving the practices a presence within the entrance Hub. Patients can enter and leave the practices quickly, without feeling they have been at the Hospital, with minimal disruption to other services but also have the opportunity to use the amenities in the hub space, including the restaurant and soft seating and waiting areas.

Dental Unit

The Dental Unit is accessed directly from the main entrance Hub, with direct line of sight from the main entrance door. The unit reception, waiting areas and overflow

waiting is located just inside the department entrance, with the waiting area directly in front of reception so the staff can undertake passive monitoring of the waiting area. The dental administration area is adjacent to reception to enable good communication. The dental recovery area is located directly opposite the special care and oral surgery treatment rooms.



Artist's Impression. Waiting Area

Outpatients and Ambulatory Care

The Outpatients and Therapy Department is located on the ground floor. The main public entrance to the department is adjacent to the main building entrance for easy access. There is a strong relationship with the central hub which supports check-in for appointments and wayfinding. There are external courtyard views from clinical spaces and waiting areas, within the Department.

The outpatient consulting area is adjacent to the Emergency Department treatment rooms to allow flexibility between departments in the event of clinical demands changing in the future or to cope with short term peaks in demand in either department.

Renal Unit

The Renal Dialysis Unit has its own dedicated external entrance located next to dedicated parking spaces. There is an alternative entrance, through Outpatients, which can be secured out-of-hours. The Renal Unit staff base is located directly opposite the dedicated entrance to the Unit and close to the entrance from Outpatients. This makes it highly visible to patients and visitors entering the unit and enables staff to monitor access to the area effectively. The staff base is also close to

the isolation treatment room and has an overview of the dialysis cubicles for observation of these areas.

Radiology

Radiology is situated centrally but not embedded within a deep footprint, thereby allowing for future expansion. It benefits from adjacencies to the lift core, the Outpatients area, Emergency Department and the main hub area, where it is visible from the main entrance door. It also delivers an excellent adjacency to the Dental Unit to the support out-of-hours activity of that Unit

Emergency Department

The Emergency Department (ED) is accessed from Foreland Road (Entrance B) by both ambulances and self presenting patients. The location of the department within the building enables efficient movement to and from diagnostic services and transfer to inpatient wards, while maintaining patient privacy and dignity. The ED waiting area benefits from views to the outside to improve the patient experience and provide a calming environment.

The Department also accommodates the Mental Health Transfer Bed and associated external garden area.

The ED entrance will be the only entrance to the building for patients, relatives and staff in the overnight period. Whilst there are parking spaces allocated both for ED, on call staff and SAS ambulance parking there will also be a connecting path from the main parking area to enable ease of access to and from the car park.

External to ED is the decontamination area for the erection of the decontamination tent in the event of a chemical contamination or other major contamination incident. This area is provided with the appropriate power and water services and containment facilities.

The Scottish Ambulance Service, NHS24 and the GP out of hours service are all co-located with the Emergency Department to form the Emergency Care Centre (ECC).

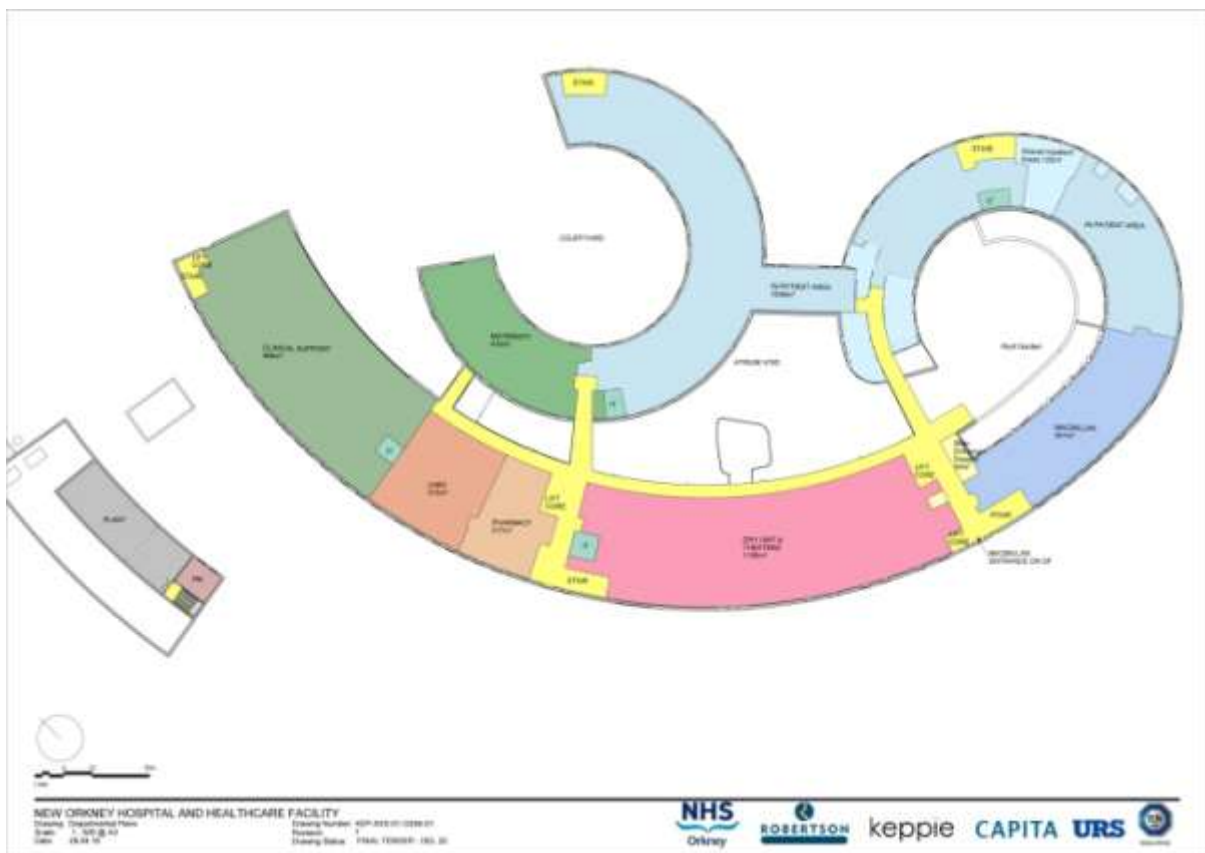
In Patient Areas

The public entrances to the inpatient areas are visible across the entrance hub void from the arrival points at the top of the main public stair and the public lift, to help orientate visitors. Public access to the inpatient areas is controlled by the ward reception area. Public, patient and FM flows are segregated by means of link bridges between the inpatient areas, theatre suite and FM routes.

The inpatient areas have been designed to provide a modern, calming environment that improves the patient experience and adds therapeutic value, thus aiding the healing process. The arrangement of the inpatient areas allows a flexible approach to bed utilisation, able to respond to changing clinical demand.

The inpatient single bedrooms will deliver a high level of privacy and dignity, enabling patients to be alone when they feel like it and to have a private conversation with a clinician or a visitor. Patients can choose to have visual privacy by closing the interstitial blinds in the observation window to the corridor and by closing the vistamatic vision panel in the door. Visibility from the bedrooms into the corridor is facilitated by large observation windows in each room, preventing patients in single rooms from feeling isolated.

Staff bases and touchdown spaces for each cluster of bedrooms has been provided with two touchdown spaces, one on each side of the central corridor, to ensure good observation of all bedrooms. These spaces are supported by centrally located staff bases.



First Floor Block Diagram

The inpatient therapy area is located to maximise the rehabilitation aspect of an inpatient stay. This includes an inpatient therapy area and an activities of daily living kitchen area for kitchen practice, where it is not possible to do this in a patient's own home in the initial stages of the patient journey. The therapy area is supported by views to an external garden deck area to improve patient experience and environment. Patients can also be escorted to the ground floor therapy garden area to enjoy the change in environment or for active rehabilitation.



Artist's Impression. In Patient Bedroom

Maternity Unit

Public access to the Maternity Unit is via a bridge link which is a short distance from the lift core. The link bridge arrives in the heart of the ward, with the entrance to the inpatient area monitored and controlled by the midwives' base. A separate private bridge offers a discreet route between the Maternity Unit and the Theatres. Access from this bridge will be via a secure door to prevent unauthorised entry to the Maternity Unit. Newborn infants will be cared for in a secure environment with restricted access to neonatal areas and the delivery suite. Maternity day treatment spaces and inpatient areas are segregated to minimise cross flow of patient types and to reinforce security.

The single rooms in maternity are positioned so they can be used by the inpatients area in periods of peak demand whilst still ensuring the remainder of the Maternity Unit is zoned and kept secure to maintain the security and privacy of mothers and babies.

Cancer and Palliative Care Unit

The Cancer and Palliative Care Unit is adjacent to the inpatient unit. This arrangement of the inpatient areas allows a flexible approach to bed utilisation. The Cancer and Palliative Care Unit is provided with its own dedicated, private entrance at ground level with dedicated parking spaces. This external entrance accesses into a dedicated lobby. From here patients and/ or visitors to the unit can take the lift or the stairs up to the Unit. On arrival from the stair or lift, the entrance to the Unit is immediately accessible.

All four of the Unit's bedrooms have direct access, via patio doors, to external balcony space. The external area will be finished in timber decking or paving units. Garden planters will provide visual and olfactory stimulation as well as screening and privacy for patients, while the orientation of the space will provide shelter from the elements

Theatre and Day Unit

The integrated Theatre and Day Unit suite is provided in well ordered accommodation. The departmental arrangement facilitates pre and post-operative and inpatient and day case patient flow segregation as well as the segregation of clean and dirty FM flows. The design has a robust 'red line' system, bringing staff in through the private corridor to the changing rooms and boot change/ footwear wash before entering the main theatre corridor. The staff rest room, within the theatre complex, is located centrally to allow staff to return quickly to the theatres in case of emergency

High Dependency Unit (HDU)

The High Dependency Unit has been planned to provide excellent visibility and observation of the two HDU bedrooms with support accommodation nearby. The location within the building ensures a high level of privacy for patients while maintaining integration with the main inpatient area. The dedicated HDU staff base is located opposite the HDU bedrooms with sight lines into each room via a glazed screen. This location offers excellent observation of the bedrooms

Pharmacy

The Pharmacy Department is located on the first floor, next to a lift core and stairwell. This location ensures that it is able to be secured whilst offering a robust service across Primary and Secondary Care with easy access to inpatient and Theatre areas. In order to meet emerging guidance a Consulting Booth has been included so patients can receive confidential advice on their medication.

An Emergency Drug store will be located in the Inpatient area to provide secure storage for medicines to meet the clinical needs of the hospital out with normal hours.

Laboratory

The laboratory offers accommodation which will ensure the delivery of a specified range of biochemistry, haematology, microbiology and blood transfusion services from a single secured area. Staff, patients or public dropping off samples will report to a sample reception area off the external corridor.

A separate Point of Care Test area will be located in the Emergency Department and provide out of hours access for clinicians wishing to run tests within the agreed scope delegated to them.

Clinical Support

An open plan shared working space within the clinical support area of the building will allow for the co-location of a variety of office based staff as well as hospital and community care teams who often provide care or services to the same patient or group of patients. This co-location will, for example, encourage and enhance the sharing of information to support care and service delivery across and between teams. A range of spaces for confidential meetings and work are provided within this area which is on the first floor of the building. The ground floor accommodates more office space and a range of meeting and conference facilities which can also be used by health related and other community groups after hours and at weekends. There is limited parking adjacent to the building to support ease of access by public either reporting to meet with staff who are based in the area or for out of hours access to the meeting rooms. The Boards Major Emergency Response Centre is located in the main conference room.

Information and Communication Technology (ICT)

ICT provision incorporates a strong ICT backbone which includes full Wi-Fi coverage, Cat 6A cabling infrastructure and additional allowances of blown fibre optic cabling. Resilience is provided by feeding data points from two separate network nodes. This strong spine will be capable of accommodating the implementation of healthcare ICT innovation such as asset and people tracking together with any future expansion of the system. Server and node rooms are appropriately located to ensure overall coverage of the building.

Central Decontamination Unit (CDU); Endoscopy Decontamination Unit (EDU)

The CDU/EDU design, layout and flows have benefited from detailed review by Health Facilities Scotland. NHS Orkney's activity and throughput levels within the CDU/EDU are low when compared to a mainland Board but its isolation renders transport of clean and dirty instruments from and to an out of Board area facility impracticable. The flows of both clean and dirty instruments and endoscopes have been mapped to ensure limited cross-over of clean and dirty flows and with public flows.

Facilities Management (FM)

Soft FM services provided by NHS Orkney include domestic, portering, stores, grounds maintenance, waste collection, medical physics, laundry and other in house FM services all of which will be provided and managed from FM offices within the FM suite on the ground floor of the building. The provision of patient meals and catering for the restaurant will be provided from a bespoke kitchen designed to support the catering provision required for an island facility, which for Orkney is predominantly 'cook and serve'. Food will be decanted and served at ward and department levels from bulk food service trolleys. The ground floor restaurant will serve staff and visitors and the soft seating area will have vending machines.

External Areas

External to the main FM area are waste compounds, grounds storage and the piped medical gases and vacuum compound. .

Energy Centre

The Energy Centre is external to the main building The primary power source for the new facilities is electricity, powering heat pumps, with oil fired boiler plant as the backup system to provide resilience and to ease any operational spikes. The main plant is twin air to water heat pumps which are externally mounted and in essence extract heat from the air and using electrical heat pump technology, transfer that heat to circulating water. Each of the external units is connected to internally mounted water to water heat pumps which distributes the heated water through a second heat pump cycle. This increases the temperature of the circulating water to normal heating system levels which then feeds the heating and hot water demands of the building.

Future Expansion Zones

The design solution addresses the briefed requirement for expansion.



Artist's Impression Expansion Zones

Both GP practices are located in the 'Horseshoe' element of the building which has been left open. The form could be extended towards its opposite end to provide additional accommodation. This accommodation would provide good views, orientation and outlook for the rooms within. The staff changing, multi Faith and IT

areas make up the other section of the ground floor horseshoe and as with the GP's accommodation, could expand with the regular structural grid pattern being extended. This zone of the building also offers adaptability and flexibility without expansion, as the staff changing area has the ability to be re-provided elsewhere, to allow overall development of the area for more clinical services to be provided.

The 'Hoop' and 'Tail' sections of the building also offer flexibility at the ground floor. The facade and edge of the building can be expanded and 'pushed' out to increase capacity.

The flexibility of extending the accommodation beyond the current building line to the south elevation could be utilised in the future to support the expansion in departments such as Radiology, where continual and rapid development of technology and services require flexibility across the building. Other areas on the 'hoop' and 'tail' can be treated in the same way, extending the accommodation outwards to provide rooms with light and view, moving the support accommodation, where required, to the inner line of the building.