



Above: The Liverpool Royal Infirmary building today.
Front cover: Sir Alfred Waterhouse's final plan for the third Liverpool Royal Infirmary.



LIVERPOOL ROYAL INFIRMARY

A HISTORY



THE UNIVERSITY
of LIVERPOOL

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DURING THE 1980S AND EARLY 1990S, MOST PEOPLE PASSING ALONG PEMBROKE PLACE, LIVERPOOL, HURRIED PAST THE LARGE, BOARDED UP BUILDINGS OPPOSITE DAULBY STREET. THE SHELL OF THE FORMER LIVERPOOL ROYAL INFIRMARY WAS A SIGHT WHICH GREW SADDER BY THE YEAR, AS WIND AND WEATHER TOOK THEIR TOLL AND NATURE TRIED TO RECLAIM THE BUILDINGS. THERE WAS NOTHING TO INDICATE WHAT A CENTRAL PART THE INSTITUTION HOUSED THERE USED TO PLAY IN THE LIFE OF THE CITY, OR THAT IT WAS ONCE AT THE CUTTING EDGE OF HOSPITAL DESIGN. INDEED, ONLY ARCHITECTURAL ENTHUSIASTS WOULD HAVE REALISED THAT THE BUILDINGS WERE DESIGNED BY SIR ALFRED WATERHOUSE, ONE OF THE MOST FAMOUS BRITISH ARCHITECTS OF THE 19TH CENTURY.

TODAY THE ARCHITECTURAL SPLENDOUR OF THESE HISTORIC BUILDINGS HAS BEEN RECAPTURED. IT IS NOW TIME TO COMMEMORATE AND CELEBRATE BOTH THE BUILDINGS AND THE INSTITUTION FORMERLY HOUSED THERE – LIVERPOOL'S THIRD INFIRMARY.

The Liverpool Royal Infirmary's two predecessors

Despite concerns over waiting lists, since the mid-20th century, free and expert hospital care has been something we take for granted in Britain. In the 19th century, things were different. Hospital care, where it was available, was provided by Poor Law hospitals and later by municipal hospitals, founded to treat infectious diseases. There were also voluntary hospitals – effectively charities, each co-ordinated by trustees responsible for attracting funds to support its building and running costs.

Liverpool's first Infirmary was a voluntary hospital, erected for "those in distress from all parts of the nation and Ireland". It was built in 1748 on Shaw's Brow – close to the site now occupied by St George's Hall. In 1824 this was replaced by a second Infirmary, situated on higher and healthier ground at the top of Brownlow Hill. Also a voluntary hospital, it was built in the classical style with large, light and airy interiors which its designer, John Foster, felt were suitable for a hospital.

Renamed the Liverpool Royal Infirmary following Queen Victoria's visit in 1851, the hospital endorsed significant innovations in medical services, particularly those resulting from the long professional association between William Rathbone VI and Florence Nightingale. In 1859, Rathbone set up the first district nursing service in the country, and in 1862 he established a School of Nursing to provide trained staff for both the Royal Infirmary and the district nursing service.



Engraving of the second Liverpool Royal Infirmary, built in 1824.

Rationale for a New Liverpool Royal Infirmary

By the 1860s Foster's classical monument was already badly overcrowded. It was clear that the hospital was ill-equipped to respond to the needs of Liverpool's growing population, let alone accommodate burgeoning medical services or participate as fully as it should in training new medics. The hospital's shortcomings were doubtless highlighted following Florence Nightingale's visit to Liverpool in 1858 to present papers to a meeting of the National Association for the Promotion of Social Science.

Through her wide experience of hospitals, Florence Nightingale had become aware of the connection between poor hospital design and the prevalence of hospital diseases like sepsis and fever. She promoted the development of the 'healthy hospital' which, through improved design and managerial remedies, would at least do the sick 'no harm'. That same year, the influential professional magazine 'The Builder' had also commented that in most hospitals, patients would have more hope of a cure lying in the open air than in hospital!

In 1882 the trustees reached the conclusion that the existing hospital was now only fit for their ancestors and should not be tolerated by Liverpudlians. They were determined to rebuild the Liverpool Royal Infirmary to a plan based on Florence Nightingale's guiding principles, and duly formed a reconstruction committee.

Staying in the same key location

There were many reasons for wishing to locate the new Liverpool Royal Infirmary close to the existing hospital. The area bounded by Brownlow Hill, Brownlow Street, Pembroke Place and Ashton Street had become a well-established medical 'quarter' – the site of not only the Liverpool Royal Infirmary but also the Lock Hospital, the new Lying-In (maternity) Hospital and the lunatic asylum.

More relevant, though, was the fact that in 1844 the Liverpool Infirmary School of Medicine had established itself in purpose-built premises adjacent to the existing Infirmary, half way down Dover Street – a listed building still standing today. This was where the Infirmary's future doctors were trained. In 1881, when the new University College opened for business, the School of Medicine was given the status of a College Faculty.

Another factor was the nurses' home, built in 1854 at the corner of Ashton Street and Dover Street – just behind the existing hospital. This housed nurses who worked in the Liverpool Royal Infirmary after training in Rathbone's School of Nursing.



1850 street map showing the location of the existing Infirmary and houses in the adjacent block, later purchased to make space for the new Infirmary.

It was clear that the new Liverpool Royal Infirmary would need a considerably larger site than that offered by the existing hospital. The reconstruction committee opted for the area bounded by Brownlow Street, the north side of Pembroke Gardens and Ashton Street – in other words, the block adjacent to the existing hospital.

At a town meeting in December 1882 the inadequacies of the existing hospital were publicised and a fund with a £100,000 target was set up to support the costs of building a new Infirmary. The Corporation of Liverpool was asked to extend the existing site to take in the adjacent block. This involved acquiring the deeds of numerous small properties on the east side of Brownlow Street, Pembroke Place and Pembroke Gardens, the road which marked the northern boundary of the existing hospital site.



The Board of Trustees' publicity flier, announcing the building of a new Liverpool Royal Infirmary.

Commissioning Sir Alfred Waterhouse

The reconstruction committee knew exactly who they would like to design the new Liverpool Royal Infirmary: Sir Alfred Waterhouse, the Liverpool-born architect and champion of high Victorian Gothic. Waterhouse had already designed several Liverpool buildings, including the North Western Hotel on Lime Street and the Prudential Assurance Buildings on Dale Street, and over his lifetime would design all the Prudential Assurance Buildings in the country. He was the 19th century equivalent to Sir Norman Foster, working on a series of prestigious, high-profile buildings including Pembroke and Girton Colleges, Cambridge; Balliol College, Oxford; and Owens College, Manchester. A few years after the Liverpool Royal Infirmary commission, he would also design University College Liverpool's Victoria Building, the anatomy department, now known as the Whelan Building and located in the University of Liverpool's main quadrangle, and the former chemistry department in Brownlow Street.

In February 1895 Waterhouse was formally commissioned to submit plans for the new Liverpool Royal Infirmary – primarily on grounds of his experience designing hospitals, and, since accommodation for 290 beds was required in a very limited space, his expertise in spatial planning and the massing of buildings.

Waterhouse's plans

Waterhouse submitted five provisional plans within nine days! He then spent the remainder of 1885 conducting further research and refining his plans. Florence Nightingale had already recommended the use of small 'pavilion' wards – ideally 16 feet high and no more than 30 feet wide – to help prevent hospital diseases. These pavilion-style wards would be well ventilated and spacious; the window space would not be less than one third of the total wall mass, and the windows would reach from two to three feet from the floor, to one foot from

the ceiling. There would be no more than two rows of beds, with a minimum of five feet headroom. Waterhouse consulted Florence Nightingale in December 1885, and through correspondence she succeeded in influencing some of his designs, most notably the height of the wards and the spacing of the beds.

Waterhouse was an admirer of the circular ward concept, which he had inspected first hand at the Antwerp Civil Hospital, completed in 1884. The concept, considered to be the invention of Professor John Marshall FRS, was actively supported during the 1850s and 1860s by the editor of 'The Builder', George Godwin FRS. Marshall argued that circular wards provided light and ventilation from all directions, and extra headroom and floor space. This approach was expected to meet with Florence Nightingale's approval, as she considered ventilation to be a key factor in the 'healthy hospital'. However, she was not to be convinced that the greater diameter afforded by the circular walls would produce the necessary ventilation.

Though he made provision for pavilion-style 'Nightingale' wards, Waterhouse nonetheless incorporated two circular ward blocks in his plans. This was an invaluable device for providing the required accommodation and numbers of beds in the minimum space. This was badly needed: the Corporation of Liverpool had made available a block of land situated between Ashton Street, Pembroke Place, Brownlow Street and Pembroke Gardens, giving a space of 23,838 square yards for the new development. However, the two corner sites on the Pembroke Place side had not yet been purchased at the design stage. Only circular wards could be fitted in behind the two unavailable corner sites. In March 1887 the finalised plans were displayed at Agnew's Exchange Art Gallery in Dale Street.



A female patient (seated left), accompanied by doctors and nurses, in one of the circular ward blocks.

From plan to building

The invitation to tender attracted 15 bids to implement Waterhouse's plans. The winning tender was that of Messrs. Home and Green, who proposed to complete the building in 30 months at a cost of £107,500. The mayor, the bishop, members of the reconstruction committee and some 2,000 people watched the Earl of Derby lay the foundation stone on 28 October 1887. In practice, it took two years to complete the building at a final cost of £181,000 – somewhat over the £120,000 budgeted.

Waterhouse had packed a lot into the new hospital in the 23,838 square yards available to him. There were eight pavilion-style wards, roughly to dimensions approved by Florence Nightingale, and two blocks of circular wards. These were connected by a 7'6"-wide central staircase, a broad east-west corridor and a north-south corridor. The hospital's operating theatre was equipped with an overhead viewing gallery with room for 200 people, and close by was a lecture theatre. Waterhouse incorporated a station for horse-drawn ambulances, stables, a hay and harness store, a chapel for the patients' use, a mortuary and a chapel of rest, as well as space for the various utilities.

The exterior of the new hospital featured local grey bricks, with intricate detailing in Ruabon red bricks and terracotta, and a roof covered in Westmorland slate. Although the neo-Romanesque and Gothic mass and detailing of the new hospital's exterior harked back to a by-gone age, the interior incorporated state of the art technology. This included patented fireproof floors; a central heating system employing steam pipes and elegant circular radiators; an air circulation system driven by a 6hp engine; and a miniature train running on tracks from the kitchen, located at the top of the administration block, through the 'corridor' formed by the triangular roofspace, to deliver food to the various ward blocks. Unavoidably, Waterhouse also employed soon to be obsolescent technology: gas lights – (but no mantles) and coal fires in the wards which were used until gas fires were fitted after the second World War.

The internal walls were built of coloured, glazed bricks which were fireproof, hygienic and easily cleaned. They also facilitated creative designs, echoing the great Romanesque church interiors of southern France. The piece de resistance was the chapel, the centrepiece of this Victorian edifice, reflecting contemporary pre-occupation with the well-being of the spirit, as well as the body. Designed to accommodate 300 people, the chapel comprised a nave, two aisles, a small choir and an altar set into a polygonal apse. Columns, capitals and arcades were adorned with turquoise moulded glazed tiles in an abstract pattern, made by Burmantofts of Leeds, and this, together with the ceiling which featured delicate, painted stars, created a rather exotic interior. The windows were restrained in their use of stained glass, save one inserted subsequently. This depicted Florence Nightingale, a Rathbone District Nurse and a ward sister.

The central staircase in the new Liverpool Royal Infirmary.



Opening for business

The opening ceremony was performed by the Duke of Clarence & Avondale, Queen Victoria's grandson, from whom one of the wards took its name. The first patients were admitted to the new Liverpool Royal Infirmary on 13 November, 1889 and a commemorative ball was held in Liverpool's St George's Hall.

The opening marked the beginning of a period of considerable rivalry between the new hospital and the other two Liverpool hospitals – the Royal Southern and the Northern. In 1908 Sir Henry Burdett rated the Liverpool Royal Infirmary the best in the country for operating facilities, equipment in the wards, nursing services and auxiliary services like bacteriology, pathology, x-ray and massage.



The opening of the new outpatients' department on 6 March 1911, performed in the central hall by the Earl of Sefton.

The first major extension

As the demand for hospital services in Liverpool increased, the original Waterhouse buildings were extended. The most pressing need was for a separate outpatients' department: by 1908 the number of outpatients visits had risen significantly from the 17,330 outpatients recorded in 1897. Accordingly, a new fund was set up and, since Waterhouse had died in 1905, another Liverpool architect, J. Francis Doyle of Harrington Street, was commissioned to design the new outpatients' department. This was to be located on the corner of Brownlow Street and Pembroke Place, one of the two corner sites which had not been available to Waterhouse. The remaining houses on this site were finally purchased in 1908.

Working in what is regarded as the Waterhouse style, Doyle designed a 2-storey building, plus basement. The invitation to tender was advertised on 13 March, 1909 and the foundation stone was laid by the Earl of Derby on 7 July, 1909. The building was completed in under 20 months, leaving the trustees with a £6,000 deficit, of which £5,000 was made up by the Corporation of Liverpool.

The outpatients' department featured a large central hall which rose from the ground floor to roof level, forming an atrium. The central hall was overlooked by a narrow gallery running around the walls at first floor level. At its north and south ends, supporting the gallery above were four Doric-style columns, clad in cream and green ceramic tiles. The central hall, to be used as the outpatients' principal waiting room, was also finished in green and cream ceramic tiling; internal doors and arched window openings were picked out in green ceramic tiles. The central hall was light and well-ventilated, as were the various waiting, preparation and treatment rooms which had external walls featuring large sash windows. The building was opened by the Earl of Sefton on 6 March, 1911. Within a year, the new outpatient department recorded over 82,000 outpatient visits.

Keeping the hospital going

As a voluntary hospital, the Liverpool Royal Infirmary was managed by a board of trustees, who faced increasing problems raising the funds to keep the new hospital going, let alone finance the capital projects demanded by ongoing medical advances and the needs of a growing population. By 1900, for instance, the cost of running the hospital was over £14,000 per year, a figure which increased by leaps and bounds, particularly in years like 1906, when an infantile diarrhoea epidemic with a 50% mortality rate swept through the city.

The hospital was famous for the colourful events it organised to raise funds, including elegant and well-attended balls. Patrons could also buy pre-paid tickets for treatment, rather like today's book tokens, to donate to poorer citizens needing hospital care, and on one Sunday every year all congregations in Liverpool made a special collection for the Liverpool Royal Infirmary. Medical societies also donated funds, and from 1913 the National Insurance Act led to some funding from insurance companies being channelled to hospitals. Despite this there were many years when the hospital ran up a significant deficit. By 1922 it had an accumulated debt of £22,978.

In 1948 the Liverpool Royal Infirmary was transferred to state management under the National Health Service. From that date, new developments were subject to some restriction since the long-term plan was to integrate The Liverpool Royal Infirmary and all the other local hospitals under the United Liverpool Hospitals Board, and rationalise new developments. In the event, however, the Liverpool Royal Infirmary had a lifespan of only thirty more years after the creation of the National Health Service.



Christmas at Liverpool Royal Infirmary, 1904.

The last days of the Liverpool Royal Infirmary

It was the lack of space which sounded the hospital's death-knell. A new nurses' home had been built on the remaining corner site, bounded by Pembroke Place and Ashton Street. Temporary and permanent extensions had already been built on every conceivable patch of land.

The decision was taken to build a new Royal Liverpool University Hospital on a site directly opposite, between Pembroke Place and Prescot Street. Work started in 1966 and the closure of the Liverpool Royal Infirmary was scheduled for 1972. However, the University Hospital was not completed until May 1978. The new hospital then took over the work of the Southern and Northern Hospitals, which were also closing, as well as patients from the Liverpool Royal Infirmary.

The Dean of Liverpool held a memorial service in the Infirmary chapel on 18 November, 1978, whereupon the chapel organ, pews and stained glass windows featuring Florence Nightingale, a Rathbone District Nurse and a ward sister were removed. The windows were taken across the road to the Royal Liverpool University Hospital. The last patient left the Liverpool Royal Infirmary on 17 December, 1978. Parts of the building continued to provide a few ancillary services, but the bulk was boarded up and handed over to the Works Department of the Liverpool Area Health Authority. It was vacated completely in 1981.



The Liverpool Royal Infirmary chapel, looking towards the altar into the body of the chapel.

The empty years

Between 1978 and 1994 there were seven different proposals for redevelopment of the site – four of which involved partial or full demolition of the buildings, despite their Grade II listed building status, awarded in 1975. However, developers seemed to be deterred by the closely packed, badly deteriorated buildings designed for a very specific purpose and proposals tended not to progress to plans. The Liverpool Area Health Authority considered housing its new Women's Hospital in the former Liverpool Royal Infirmary, but it, too, was deterred by the bad condition of the buildings and doubts about the feasibility of adapting them to meet the requirements of modern medicine.

Collaboration between the University of Liverpool and the North West Regional Health Authority

In 1992 the University of Liverpool and the North West Regional Health Authority joined forces and devised a joint scheme for the redevelopment of the site. This entailed retaining all the structures designed by Waterhouse and Doyle's outpatients' department, and demolishing all other structures, including the original nurses' home, which was structurally unsafe and contained no architectural features of note.

Restoring and refurbishing the buildings

By the time the University took ownership of the site, the buildings were in an advanced state of dereliction and decay, due largely to water penetration. The site was difficult to secure and easy access via a fire escape resulted in almost all the lead being removed, as well as a large proportion of the green Westmorland slates. This was compounded by insufficient maintenance to gutters and rain water pipes.

The joint scheme provided for the reinstatement of Dover Street, which had been built over, as well as roof and other structural repairs, restoration of external brick and terracotta work through chemical cleaning and repointing, and replacement of missing or damaged terracotta. Internally, it provided for restoration of glazed brick and tiled walls, staircases and archways, particularly in the former chapel.

Local conservation officers recognised that the buildings had to be made fit for use in the 21st century. In offices and seminar rooms in the former outpatients' department, the ceramic tiles have been preserved behind adaptable false walls. High ceilings are concealed by lower suspended ceilings clad in special echo-reducing material. Heating and ventilation pipes are discreetly positioned in the void above the suspended ceilings. The original sash windows have been repaired, unobtrusive secondary glazing fitted to diminish traffic noise and air conditioning installed.

To meet regulatory requirements, new staircases and liftshafts have been installed; new entrances have been created, and in the former outpatients' department, the entrance has been reorientated to Brownlow Street to fit in a ramp for disabled access.

The former Liverpool Royal Infirmary today

Today, those buildings which have been refurbished to date house a primary healthcare facility for the Regional Health Authority, and the University of Liverpool's Foresight Centre, which provides outside organisations with access to the University's technological and professional expertise in a uniquely appealing environment.