

# COMMERCIAL CASE: THE BUILDING

## APPENDIX 05- SPACE PLANNING IN 3Ts

### 1. CALCULATION OF NHS SPACE REQUIREMENTS

The calculation of space in NHS developments is guided by the Health Building Note (HBN) series, volumes of which are published from time to time by the Department of Health for the NHS in England. The devolved administrations also publish similar documents – in many cases they are the same.

Each HBN is produced by a panel of NHS clinicians, managers and private sector advisers and is a statement of guidance to the NHS based on good practice in how clinical and support departments within healthcare facilities can operate and the levels of accommodation which are required. These schedules of accommodation contain the types of rooms which should be provided and the recommended sizes for each one, based upon custom and practice and in some cases on ergonomic research.

As noted above, the HBN series are guidance for the NHS and are not mandatory. However, NHS organisations are expected to take cognisance of this guidance when planning new developments or refurbishments and to tailor the guidance to local circumstances and operational practice.

It should also be noted that HBNs are not always available for all departments in a hospital development. In those cases, NHS bodies may develop their own operational policies and schedules of accommodation and can interpolate other HBNs to achieve this.

In some cases, older HBNs provide schedules of accommodation based on a series of particular scenarios: for example, HBN 12 which deals with Outpatient Facilities in acute hospitals identifies Outpatient Department which may have 6 or 12 consulting/examination rooms and builds up the schedule of accommodation around this figure. However, if as a result of local calculations a particular outpatient functions requires 5 or 8 consulting/examination rooms, then an interpolation of the guidance for 6 or 12 is required to arrive at a suitably endowed outpatient suite for 5 or 8 rooms.

### 2. CALCULATION OF 3Ts SPACE REQUIREMENTS

In the case of 3Ts, the Trust has used the health planning experience of Cyril Sweett health planners, who have over 20 years of advising NHS organisations on the development of such matters, to draw up draft schedules of accommodation based on the clinical functions identified as part of the overall redevelopment. These were based on the Trust's assessment of the level of facilities required (numbers of beds, imaging rooms, consulting/examination rooms, etc).

These were then compared directly to space guidance where this existed explicitly, or an interpretation of the guidance was provided.

The overall summary area total for each schedule of accommodation (as compared with the HBN or the interpretation of that guidance) was then used as a target figure for that particular clinical or support department.

The schedules were reviewed by the Trust team to ensure that the overall totals fit within the Trust's ability to afford the development. Once the overall total for each department was agreed within the project team, the Trust team and Cyril Sweett discussed and agreed the detail with wider user groups for each of these departments. These user groups were composed of clinicians (in the widest sense), managers and facilities management staff. The expectation was that each user group would tailor the draft schedules to local practice whilst remaining within the target total provided. Any variance from this is required to be agreed by the Trust Programme Director as part of a carefully managed change management process.

When the schedules were agreed with each clinical and support service user group, these were then provided to the Design Team to commence drawing up:

- 1:500 scale plans which showed the inter-relationship between different departments both within the two stages of 3Ts, but also to ensure that there was coherence across the site when linked to the existing estate which lay out with the planned development;

- 1:200 scale plans of how rooms would be arranged within each of the departments, and;
- 1:50 scale plans of the furniture and equipment within each room.

### 3. FINAL SIZE OF THE PROPOSED FACILITIES

It is the process of identifying and agreeing the 1:200 scale process which was key in driving the scale of the building when compared to the schedules of accommodation. The schedules of accommodation include the circulation (corridors etc) within departments but exclude the circulation between departments themselves and the hospital streets – the primary circulation routes around the facility for patients and visitors. During the design development, a tight change management process controlled increases and decreases in space required as the operational requirements of particular departments were fleshed out and explored in greater detail. This tight change management process will continue during the remaining design work stages.

The final shape of the building was determined by:

- how the departments within the building fit together to meet the clinical adjacencies determined by the patient care pathways, and;
- external factors (discussions with statutory bodies etc);
- the overall context of the site (adjacency of other buildings etc).

It is the interplay between the internal and external factors (the building being designed inside out and outside in) which yields the final shape and form of the building.

The building shape went through more than twelve iterations between 2009 and 2012 when planning permission was achieved.

In the 3Ts development, the final drawn area is very close to the schedules of accommodation generated. The difference between the theoretical space required under the HBNs ('Briefed Target Area') is 53,410.4m<sup>2</sup> and the actual drawn area is 54,583.1m<sup>2</sup> (this excludes inter alia engineering plant rooms, energy centre, engineering ducts, underground car park and the corridors between departments).

The difference between the two areas is 1,172.7m<sup>2</sup> which is a 2.2% variance. This is comprised of:

- additional circulation space required on the wards to meet the building shape: in the redesign of the building in 2009, the "three finger" solution was adopted as it was felt that this contributed to the breaking down of the scale and mass of the Stage 1 building as the design moved away from the taller octagonal tower which was the July 2009 solution. In order for the maximum number of patient rooms to be afforded views, these rooms were placed on the outside east, west and south elevation of every "finger" – in order to achieve an efficient movement of patients, staff and supplies through the wards and across each floor, two circulation corridors have been provided to each floor. This was particularly marked in the CIS ward on Level 6 where only one ward was to be provided on that floor, but the building form dictated that the ward needed to take up one and a half fingers with some resulting inefficiency;
- the adjustment of the entrance space for the Stage 2 building to meet town planning comments brought the new entrance drum forward, resulting in a larger space generated behind it;
- the adjustment of the south east corner of the Stage 1 building to meet town planning comments – this had an impact on three floors of the building in this area.

### 4. SCHEDULE OF ACCOMMODATION DEVELOPMENT

The early versions of the Schedules of Accommodation were produced by specialist health planners Cyril Sweett based on the design briefs from the users. Several iterations were required due to changes in the building shape arising from the Local Authority planning process:

- Version 6.3.1 (produced by Cyril Sweett 25<sup>th</sup> June 2010) reflected the original design brief and the "hexagon" building shape.
- Version 7.0 (produced by Cyril Sweett 30<sup>th</sup> July 2010) reflected the Trust's efforts to make the design brief cost-effective by removing non-clinical office accommodation.

- Version 8.0 (produced by BDP on 16<sup>th</sup> December 2010) reflected the revised 1:500s arising from the change in building shape from the “hexagon” to the “finger” design for the wards and was the basis for the 1:200 redraw process
- Version 9.1 (produced by BDP on 4<sup>th</sup> July 2011) reflected the signed-off 1:200 drawings and is the latest version of the schedules.