

Covid-19 Modular Building Guidance Document



Table of Contents

1.0	Introduction	2
2.0	Procurement and Suppliers.....	2
3.0	Types of Unit Available	3
4.0	Examples of available stock.....	4
5.0	Case Study.....	7
6.0	General Technical Considerations	10
7.0	Indicative Costs per Unit	13
8.0	Legal Due Diligence	13
9.0	Support Team	14

1.0 Introduction

- 1.1. In response to Covid-19, NHS Property Services have issued this Technical Guidance document to support the procurement and implementation of modular units on the NHS estate.
- 1.2. The initiative provides an organisational framework which can be shared and used across NHS organisations to identify, procure and deliver modular healthcare facilities that match the evolving treatment requirements to combat the virus.
- 1.3. This guidance document will address the key requirements to implement modular build units for healthcare use. This has been done through assessing existing arrangements and engagement with suppliers to understand the key elements for delivery, such as:
 - What are the building requirements?
 - What are the utility services requirement?
 - What preparation works are required?
 - How to procure buildings?
 - What is the typical programme?
 - What additional advice from consultants may be needed?
- 1.4. The Guidance Document will also provide explanation and practical advice on procurement methods via the NHS Shared Business Services Modular Buildings Framework Agreement and Modular Building Solutions - Crown Commercial Services.
- 1.5. A full list of suppliers on these frameworks are set out in Appendix 1 with corresponding contact details.
- 1.6. Where immediate demand is required, NHS Property Services has a designated taskforce to re-purpose vacant property which can potentially provide vital healthcare space quicker than the provision of modular units. For support please contact Simon Taylor, Head of Portfolio Optimisation (simon.taylor@property.nhs.uk).

2.0 Procurement and Suppliers

- 2.1. Suppliers can be selected from the NHS Shared Business Services Modular Buildings Framework Agreement. The full list of suppliers with contact details can be found in appendix 1, the link to the webpage is www.sbs.nhs.uk/ica-modular-buildings
- 2.2. An alternative procurement framework is the Modular Building Solutions - Crown Commercial Services framework found here; <https://www.crowncommercial.gov.uk/agreements/RM6014>. A total of 24 suppliers across 7 lots. Lot 2 and 4 are specifically for purchase and hire of Healthcare Related Modular Buildings.

- 2.3. For support with procurement please contact Abdullah Omer (Abdullah.Omer@property.nhs.uk)
- 2.4. Procurement should demonstrate value for money via competitive tender. The commissioning NHS organisation should provide a technical briefing document to 3 or 4 suppliers.

3.0 Types of Unit Available

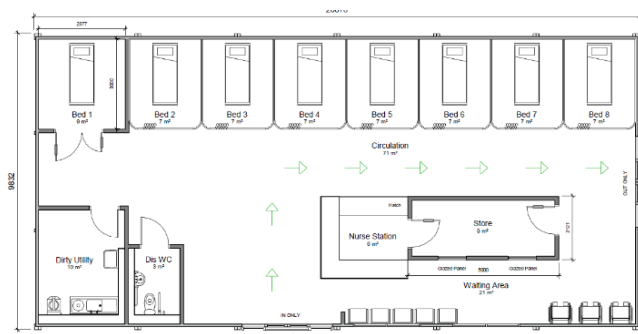
- 3.1. You may be required to be specific when enquiring about the modular units available, as the suppliers may have the corresponding design to match the requirement.
- 3.2. However, there are a range of generic units available, many meeting health technical requirements. Some examples of generic units are as follows:
 - Temporary GP Surgery
 - Standard Bedded Ward
 - Shell portacabin (for fit out by NHSPS for a GP surgery or other use as required)
 - Temporary Mortuary
 - Shower Block / Changing Facilities
 - Quarantining Areas
 - Triage Rooms
- 3.3. In addition, some suppliers have alternative bespoke solutions, including:
 - Operating Theatres
 - Imaging Facilities
 - Decontamination zones
 - Drive-thru testing vehicles
 - Cold Stores / Temporary Cooling Structures
- 3.4. The more bespoke options, including options with additional storeys, will have a longer programme to delivery. For example, the typical lead in for a lift is 6 - 8 months.
- 3.5. Please see section 4.0 for some case study examples.

4.0 Examples of available stock

4.1. Portakabin

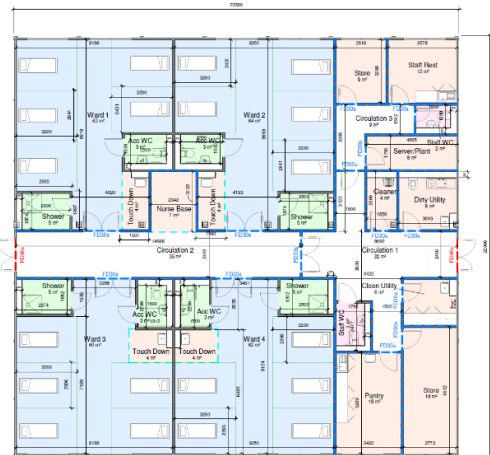
Portakabin offer 3 standardised ward solutions which can be delivered in 6 – 12 weeks from design freeze. These units include an 8 bed, 20 bed and 37 bed wards. They also offer turnkey GP surgery solutions.

4.1.1. Single Storey Standard Ward Units



1 Proposed Layout
1:75

8 bed ward – 6 week timeframe
from design freeze.
Internal layout = 187m²

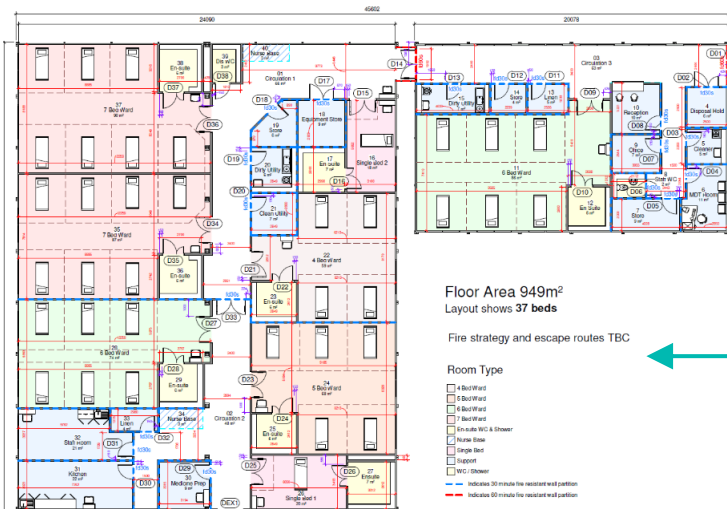


Internal Area 500m²

20 bed ward – 8 week timeframe
from design freeze.
Internal layout = 500m²

1 Proposed Layout
1:100

37 bed ward – 12 week timeframe
from design freeze.
Internal layout = 949m²



1 Ground Floor
1:100

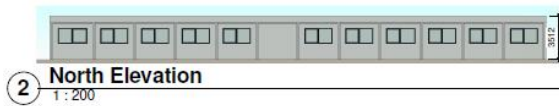
Floor Area 949m²
Layout shows 37 beds

Fire strategy and escape routes TBC

Room Type

- 4 Bed Ward
- 5 Bed Ward
- 6 Bed Ward
- 7 Bed Ward
- 8 Bed Ward
- 9 Bed Ward
- 10 Bed Ward
- 11 Bed Ward
- 12 Bed Ward
- 13 Bed Ward
- 14 Bed Ward
- 15 Bed Ward
- 16 Bed Ward
- 17 Bed Ward
- 18 Bed Ward
- 19 Bed Ward
- 20 Bed Ward
- 21 Bed Ward
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- 29 Bed Ward
- 30 Bed Ward
- 31 Bed Ward
- 32 Bed Ward
- 33 Bed Ward
- 34 Bed Ward
- 35 Bed Ward
- 36 Bed Ward
- 37 Bed Ward

4.1.2. Temporary GP Surgery



Total floor area - 469m²

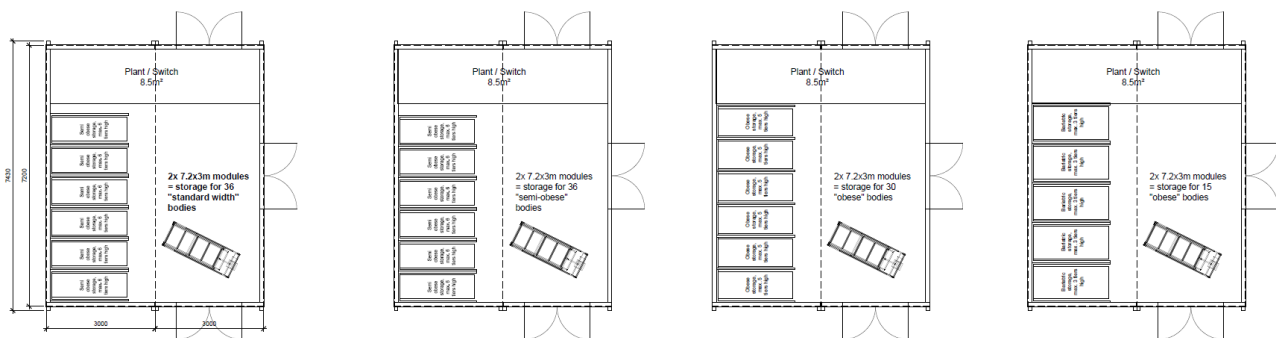
*Fire Strategy to be confirmed at full quote stage



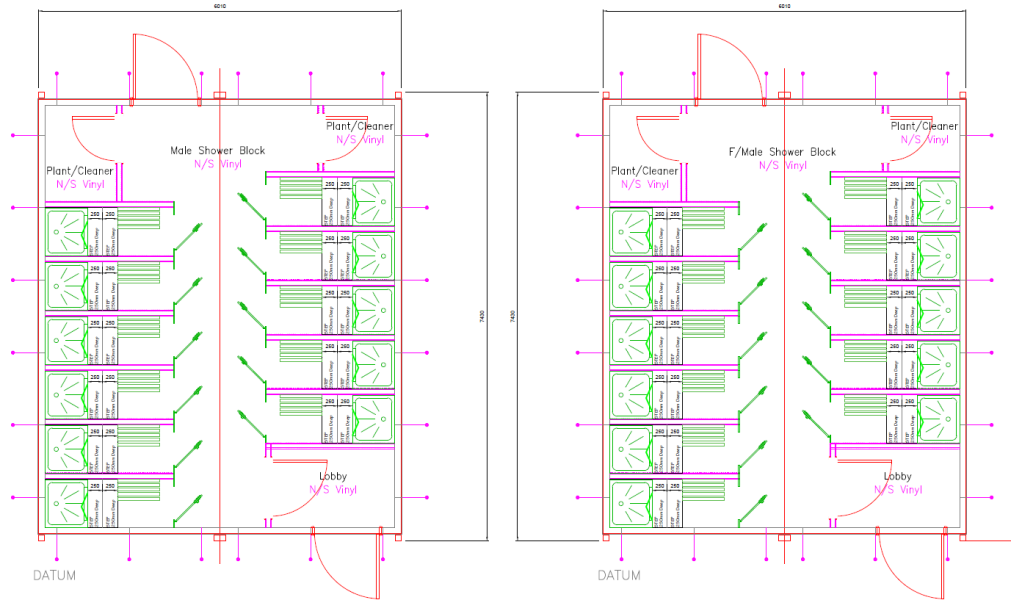
4.2. Premier Modular

Premier Modular have similar ward designs with 24, 36, 40, 44 and 52 bed options in development. Additionally, they can provide temporary mortuaries and shower blocks for staff.

4.2.1. Temporary Mortuary



4.2.2. Temporary Shower Block



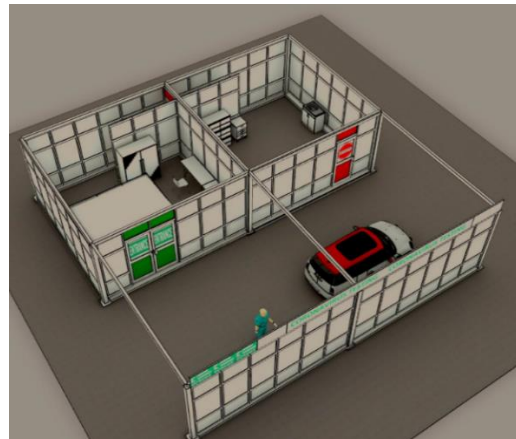
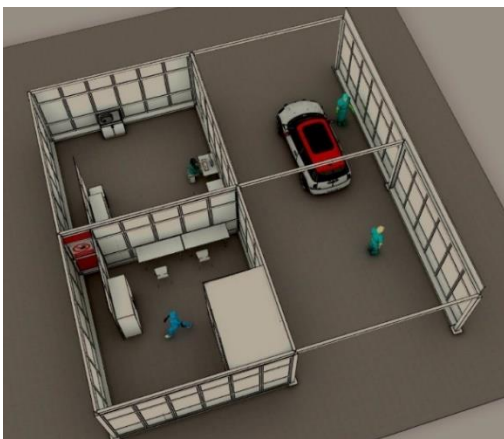
4.3. Showplace (not on the SBS Framework)

Showplace do not sit on the SBS Framework; therefore, specialist procurement advice will be required.

Showplace provide specialist modular healthcare units that would directly assist in the effort against Covid-19. These units are easily erectable and can be delivered in approximately a week:

- Drive-thru testing
- Decontamination zones
- Quarantining Areas

4.3.1. Drive thru testing unit

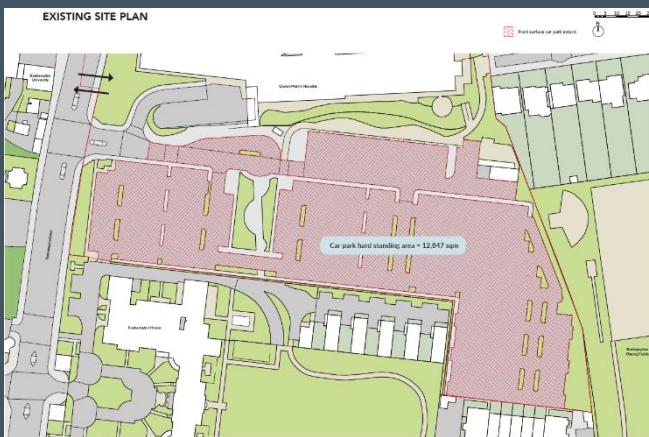


5.0 Case Study

5.1. NHS Property Services Development Team have undertaken some initial design work on 13 healthcare sites across London. The was to test some of the practicalities of implementing modular units. The sites were selected by the Portfolio Optimisation Team who have been working closely with the local STPs in considering locations which would most benefit from the study. Provision of car parking space was also a key requirement.

5.2. Four different options were tested on each site: drive-thru, 8 bed ward, 20 bed ward and a Hot Hub. An example of this work is set out below, with the remaining included in appendix 3. Please contact Adam Dyer (adam.dyer@property.nhs.uk) if you would further information on any of the studies.

Queen Mary's Hospital, Roehampton



a) Drive-thru Testing



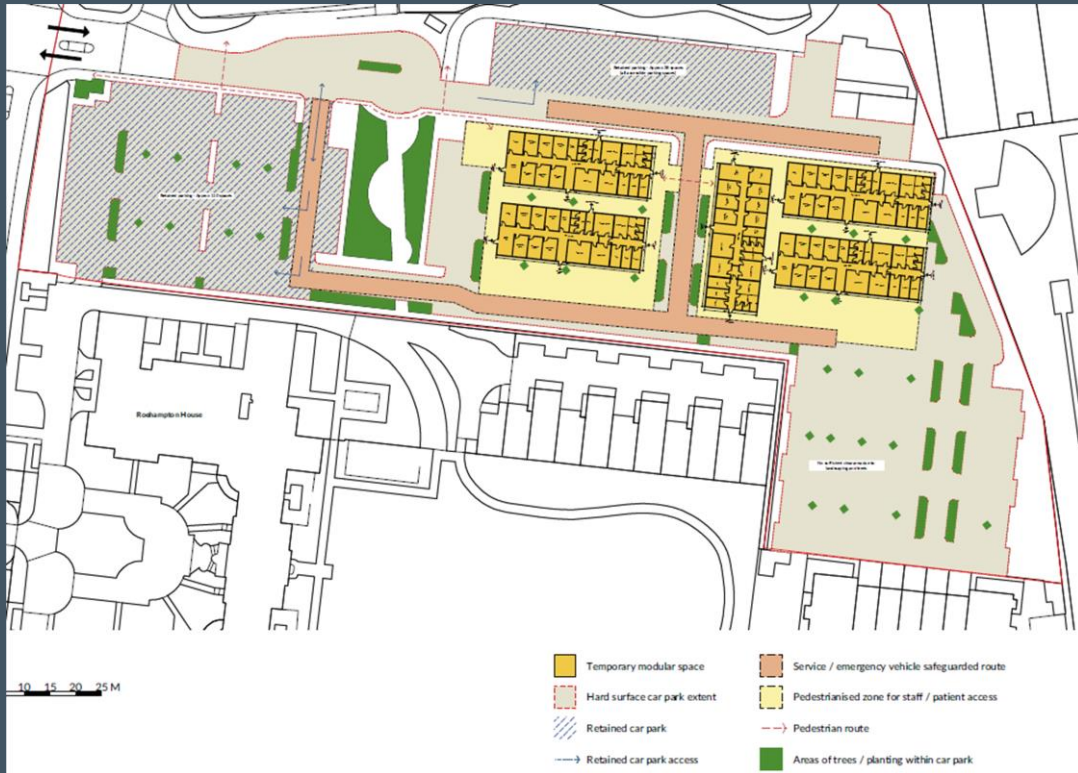
b) 8 Bed Ward



c) 20 Bed Ward



d) Hot Hub



Indicative Cost and Timescales per option:

Requirement	Minimum Monthly Hire Period	Weekly Hire Rate per Building	Budget Install Costs per Building	Implementation Timescales
7 bay Drive-Thru	3 months or 12 months	£875 (3 months) £350 (12 months)	£1,000	1 to 2 weeks
14 x 8 Bed Wards	12 months	£10,500	£35,000	6 to 10 weeks
5 x 10 Bed Wards	12 months	£25,200	£70,000	6 to 10 weeks
5 x Hot Hub	12 months	£13,200	£50,000	12 to 14 weeks

6.0 General Technical Considerations

6.1. Prior to siting modular units there are a range of technical requirements that need to be considered.

Consideration	Comments
<p>Planning</p>	<p>The government have published amended town planning regulations which extend permitted development rights allowing for <u>temporary</u> emergency development to be undertaken by a local authority or health service body^[1] enabling the erection of temporary buildings to address coronavirus without a requirement to submit a planning application.</p> <p>The key component is:</p> <p>Permitted development</p> <p>A. Development by or on behalf of a local authority or health service body on land owned, leased, occupied or maintained by it for the purposes of:</p> <ul style="list-style-type: none"> (a) preventing an emergency; (b) reducing, controlling or mitigating the effects of an emergency; or (c) taking other action in connection with an emergency. <p>“emergency” means an event or situation which threatens serious damage to human welfare in a place in the United Kingdom. This includes development needed in response to the coronavirus pandemic.</p> <p>Limitations:</p> <p>There are some limitations to the permitted development rights and it’s important that you consider these, as development will not be automatically permitted. Please refer to the separate planning guidance document for further detail of when planning permission will be required.</p> <p>Please also be aware of the following conditions when undertaking your development:</p> <ol style="list-style-type: none"> 1. If the developer is not the local planning authority, the developer must, as soon as practicable after commencing development, notify the local planning authority of the development; <p>This means you are required only to notify the local planning authority about the development on a site as soon as practicable after commencing development. We expect this will be by e-mail or in writing.</p>

	<ol style="list-style-type: none"> 2. The permitted development right is time limited and will cease to have effect after 31 December 2020. Should the facilities be required beyond 31 December 2020 a planning application will need to be submitted. 3. In addition, any buildings, plant, machinery, structures or erections are to be removed before the expiry of a period of 12 months beginning with the date on which the use of the land ceases for the purposes of the right. 4. Within the same period, the land is required to be restored to its condition before the development took place, or, if the developer is not also the local planning authority to such other state as may be agreed in writing between the local planning authority and the developer <p>NHSPS Town Planning team can provide support - Town.Planning@property.nhs.uk</p> <p><small>[1] "health service body" means— (a) the National Health Service Commissioning Board; (b) the Care Quality Commission(4); (c) a clinical commissioning group established under section 14D of the National Health Service Act 2006(5); (d) Health Education England(6); (e) the Health Research Authority(7); (f) the Health and Social Care Information Centre(8); (g) the Human Fertilisation and Embryology Authority(9); (h) the Human Tissue Authority(10); (i) Monitor(11); (j) the National Institute for Health and Care Excellence(12); (k) a Special Health Authority established under section 28 of that Act(13); (l) an NHS trust in England as defined in section 25 of that Act; (m) an NHS foundation trust in England, as referred to in section 30(1) of that Act(14); (n) a company formed under section 223 of that Act(15) and wholly owned by the Secretary of State.</small></p> <p><small>NHS Property Services confirm that NHS Property Services meet the definition of a 'Health Service Body' by being a company formed under section 223 of the National Health Service Act 2006, and wholly owned by the Secretary of State.</small></p>
<p>Ground conditions</p>	<ul style="list-style-type: none"> • Even, levelled, tarmacked car parking surfaces are most ideal for locating the units. • If the intended site is not an existing level hard standing or car park, the ground would need to be levelled and stabilised with some form of surfacing. • Most conditions would require Geotextile membrane and at least 100mm layer of sub-base type material. <ul style="list-style-type: none"> ○ <i>Sub-base is a specific blend of crushed 20-30mm aggregate with smaller 5mm aggregate and sand so that it can be closely compacted and knits together.</i> • Paving slab bedded on concrete substrate required for 'feet' of the modular building.
<p>Site area</p>	<ul style="list-style-type: none"> • Most modular units come in multiples of 36m², as that is the standard prefabricated module size, with some additional space needed for ramps to make them DDA compliant (each modular section is equivalent to roughly 3 car parking spaces) and fire separation from other buildings.
<p>Services Required</p>	<ul style="list-style-type: none"> • Drainage connections

	<ul style="list-style-type: none"> • Power supply • Water supply • Medical gases supply (if required)
<p>Typical Programme <i>(based on Paragon Space at Weybridge Hospital)</i></p>	<ul style="list-style-type: none"> • Modules in stock can be mobilised in 2 weeks. • New build is up to 16 weeks. <ul style="list-style-type: none"> ○ Up to Design freeze: 1-2 weeks ○ Materials procurement: Steel (and other materials such as external door / windows) procure: 2 weeks ○ Factory: 8-10 weeks ○ On site: 3-4 weeks • This could improve if the construction industry slows down over next few months. • Some suppliers may have existing stock available – which may be quicker subject to specific enquiries. • This model assumes delivery can be made with suitable access for crane machinery to the area to lift in the units.
<p>Additional Personnel</p>	<ul style="list-style-type: none"> • Specialist services could include: <ul style="list-style-type: none"> ○ Architect ○ M&E consultant ○ CDM / Principle Contractor • Specialist input may be required, for support on appointing and procurement specialist services please contact Conor Doyle (conor.doyle@property.nhs.uk) or Adam Dyer (adam.dyer@property.nhs.uk)
<p>Compliance</p>	<ul style="list-style-type: none"> • Some providers will be able to provide HTM compliant units, however when these are not available, additional works may be required to ensure compliance. If required please contact Junior Moka (junior.moka@property.nhs.uk) for support.

7.0 Indicative Costs per Unit

6.1. Standard Units Rental Costs Only (indicative costs as supplied by Portakabin – April 2020):

- **Portacabin shell** = £15 per m² per week
- **Temporary GP Surgery/Health Centre** = £20 per m² per week
(this cost is for 52 weeks and will decrease with the length of lease, e.g. 104 weeks = £12 per m² and 260 weeks = £7.50 per m²)
- **Standard Bedded Ward** = £45 per m² per week
(this cost is for 52 weeks and will decrease with the length of lease, e.g. 156 weeks = £20 per m² and 260 weeks = £15 per m²)

6.2. Standard Units Including Delivery, Installation and Ground Works Estimate:

- **Standard Bedded Ward** = £55 per m² per week
- **Temporary GP Surgery/Health Centre** = £30 per m² per week

6.3. These costs may be reduced by competitive tendering.

6.4. Units can also be purchased, with costs generally increasing when more bespoke units are required. Bespoke costs will need to be established with the individual supplier (prices provided from the CCS Framework mentioned in section 2.0).

- **Temporary GP Surgery** = £1,525 per m²
- **Primary Care Centre** = £1,700 per m²
- **Modular 24 Bed Ward** = £1,550 per m²
- **Intensive Care Ward** = £1,800 per m²

The above costs exclude ground works, service connections, installation, delivery, CDM and Principle Contractor roles. For a detailed breakdown of these costs please see appendix 2 – CCS Pricing

8.0 Legal Due Diligence

7.1. In situations where modular buildings are required to be located on land owned by and/or leased to another party it is advisable to put in place a licence agreement to secure the use of the land for the required time period and to recognise the responsibilities of the parties for insurance, reinstatement and operational costs.

7.2. A brief licence agreement template is attached in Appendix 2 for adaptation as required in the circumstances.

9.0 Support Team

Team mailbox

NHSPSModular@property.nhs.uk

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