



DOH Health Facility Guidelines 2019

## Part B – Health Facility Briefing & Design 420 Supply Unit



## Executive Summary

The Supply Unit, also known as Materials Management or Supply Chain Management, is responsible for purchasing, storage and deliveries of various supply within a healthcare facility. Supply may include equipment, bulk medical supplies, dry goods, consumables, intravenous fluids, drugs and flammable liquids.

The Supply Unit consists of functional areas including loading dock, goods receipt area, dispatch areas for stock awaiting collection, storages areas, offices and staff amenities. The Supply Unit may be located in a separate building on-site, but the preferred location is within the main building. Protection against inclement weather during transfer of supplies shall be provided. Fire protection and security are important considerations.

The Bulk Store of the Unit shall be located with ready access to the Loading Dock area. This area requires security and controlled access. The Bulk Store should be located within easy access to services/ goods lift for transportation of materials to the hospital units. The corridor should permit two-way traffic of bulky items and should be restricted access to public.

Loading Dock shall be a covered area for transport access to service Units for delivery or collection of goods and shall be zoned into clean and dirty areas. This may be shared between a number of Support Service Units (e.g. Catering Unit, Linen Handling, and Supply Unit).

The Schedules of Accommodation are provided using references to Standard Components (typical room templates) and quantities for typical units at Role Delineation Levels (RDL) 3 to 6. Users should follow the principles established in these guidelines if they wish to create units of different sizes and configurations.

Further reading material is suggested at the end of this FPU but none are mandatory.

Users who wish to propose minor deviations from these guidelines should use the **Non-Compliance Report (Appendix 4 in Part A)** to briefly describe and record their reasoning based on models of care and unique circumstances.

The details of this FPU follow overleaf.

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# 1. Supply Unit

## 1.1 Introduction

The Supply Unit shall provide for the following functions:

- Purchase and receipt of medical equipment by biomedical and non-medical engineering
- Storage of bulk dry goods, consumables, intravenous fluids and drugs
- Storage of emergency stock for the facility
- Storage of surplus hospital equipment, equipment awaiting repairs and surplus furniture stationery
- Deliveries to hospital units for regular restocking of unit-based supplies

Note: IV and Drugs are a part of Pharmacy Store which will be under separate management and not part of materials management.

### 1.1.1 Operational Models

The Supply Unit will generally operate during the day with limited entry provisions after hours.

## 1.2 Unit Planning Models

Supply Unit will consist of a number of rooms and areas for storing high volumes of goods as necessary. The rooms may vary in sizes depending on the items to be stored and the frequency of stock delivery. The storage areas may be centrally located within the Supply Unit with satellite storage rooms provided closer to the areas requiring specific stock items.

### 1.2.1 Functional Areas

The Supply Unit consists of the following Functional Areas:

- Loading Dock
- Goods Receipt area
- Dispatch areas for stock awaiting collection
- Storage areas which may include bulk stores, palletted supplies
- Staff areas including Offices, Workstations and access to Staff Change and Toilets

#### **Goods Receipt**

A dedicated Goods Receipt area shall be provided for the receipt, checking, sorting and temporary holding of incoming stock. The Goods Receipt will require off street unloading facilities. The Goods Receipt shall be located adjacent to the Loading Dock and with ready access to the Bulk Store.

Security for incoming stock will require consideration. Visual control of the area from the Store Manager's office is recommended to discourage dumping/leaving of deliveries without proper receiving by Stores personnel. The Goods Receipt may include a workstation with computer.

#### **Dispatch Area**

The Dispatch Area may be used to hold stores which are ready to be delivered to hospital units or stores that are ready to be collected by external contractors such as incorrect deliveries. It should be located with easy access to the Loading Dock.

### **Storage Areas (Bulk)**

The size of Storage Areas will be determined by the type of items to be stored and the frequency of stock delivery. Stocks are to be stored in heavy duty shelving or on clean pallets which should elevate the goods off the floor.

Cool room or refrigerators may be required for delivered items which have to be kept at cooler temperatures while awaiting delivery or pick-up to designated Units within the facility.

If sterile items are to be stored in the Supply Unit, it is recommended that they are stored separately from non-sterile items. Sterile items are recommended to be stored in shelving which are 250mm minimum from the floor and not too close to the ceiling as per DOH requirements.

## **1.3 Functional Relationships**

### **1.3.1 External Relationships**

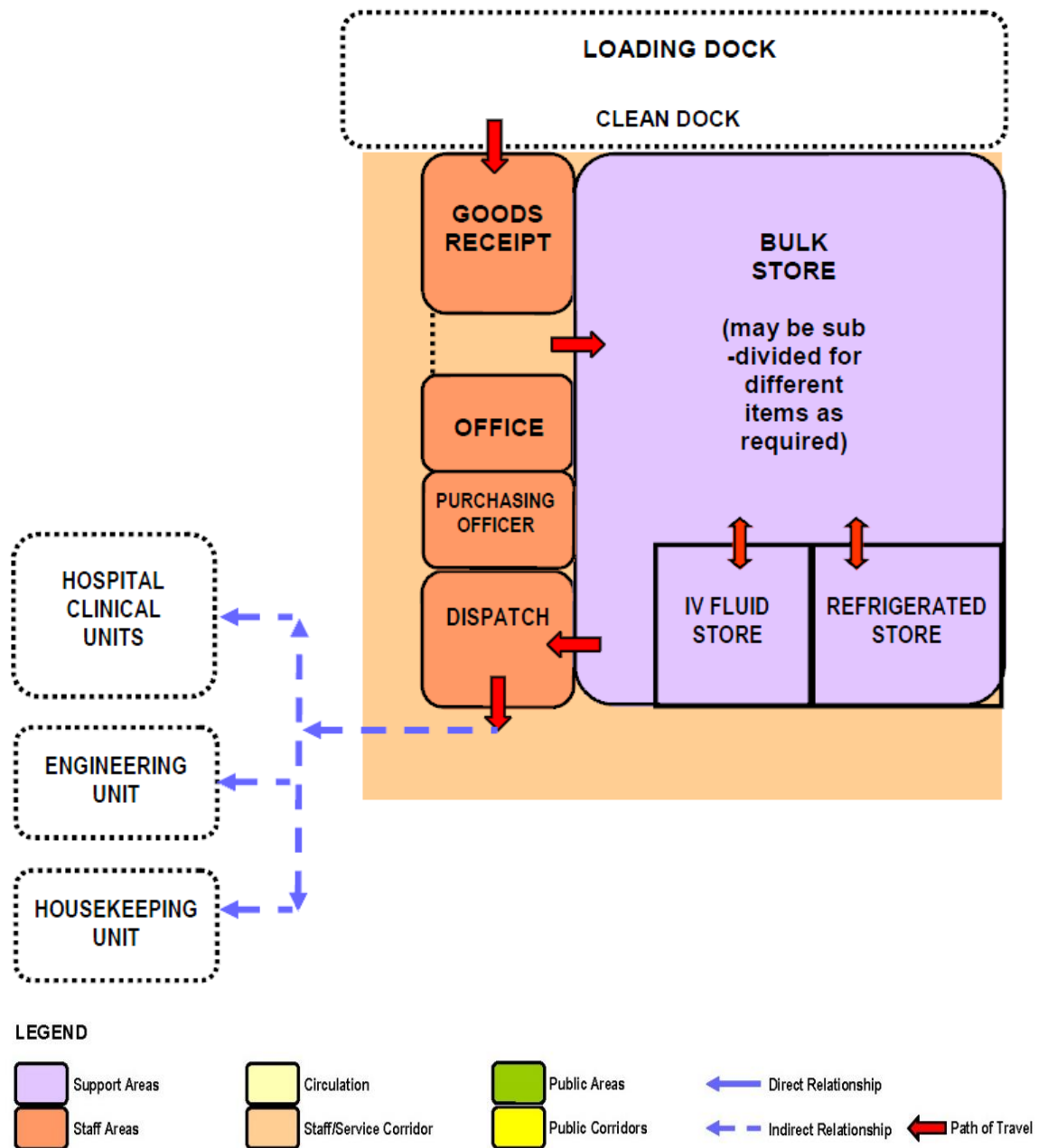
The Supply Unit may be located in a separate building on-site, but the preferred location is within the main building. A portion of the storage may be located off-site. Protection against inclement weather during transfer of supplies shall be provided. Fire protection and security are important considerations.

### **1.3.2 Internal Relationships**

The Bulk Store is the primary storage area for all delivered supplies and store prior to distribution to various Hospital Units. It shall be located with ready access to the Loading Dock area. This area requires security and controlled access.

The Bulk Store should be located within easy access to services/ goods lift for transportation of materials to the hospital units. The corridor should permit two-way traffic of bulky items and should be restricted access to public.

### 1.3.3 Functional Relationship Diagram



## 1.4 Design Considerations

Loading Dock shall be a covered area for transport access to service Units for delivery or collection of goods and shall be zoned into clean and dirty areas. This may be shared between a number of Support Service Units (e.g. Catering Unit, Linen Handling, and Supply Unit).

### 1.4.1 Environmental Considerations

#### Natural Light/ Lighting

Windows are an important aspect of sensory orientation and psychological well-being of staff and should be provided in Offices where possible. Natural light is not required in storage areas; however, adequate lighting is required in storage areas to avoid shaded spots where accidents can occur.

### 1.4.2 Ergonomics/ OH&S

Consideration should be given to the need for manual handling devices such as dock levellers and lifters. A well-designed and equipped work area will eliminate injuries resulting from manual handling.

Refer also to **Part C - Access, Mobility, OH&S** of these Guidelines.

### 1.4.3 Safety and Security

All entrances and exits shall be secured. An intercom or call bell should be located at the dock entrance area to announce deliveries when doors are closed. Where required, concave directional mirrors along corridors and bends should be provided to avoid collision of oversized trolleys, motorised transporters and staff.

Design of the Supply Unit should ensure that storage areas are free from insects and vermin.

Flammable liquids and items must be stored in a room designed according to relevant international and local regulations

### 1.4.4 Finishes

Door & wall protection shall be installed to prevent damage to walls caused by all types of trolleys, lifting/transport equipment and movement of large items. Sturdy wall protection such as rubber or timber wall protection is recommended to withstand impacts from trolleys, pallet jacks and other bulky transporting equipment. Solid core door with stainless steel door and door frame protection is recommended to avoid chipping and breakage.

The following factors shall be considered:

- Aesthetic appearance
- Acoustic properties
- Durability
- Fire safety
- Ease of cleaning and compliant with infection control standards
- Suitable floor finishes with respect to slip resistance, movement of large equipment and lifting/ transporting equipment

For further details refer to Part C – Access, Mobility and OH&S and Part D – Infection Prevention and Control in these Guidelines.

### 1.4.5 Building Service Requirements

This section identifies unit specific services briefing requirements only and must be read in conjunction with **Part E - Engineering Services** for the detailed parameters and standards applicable.

#### Information and Communication Technology

The Supply requires reliable and effective IT / Communications service for efficient operation of the service. The IT design should address:

- Voice/ data cabling and outlets for phones, fax and computers
- Network data requirements and wireless network requirements in service areas of the facility
- CCTV surveillance if indicated

#### Heating, Ventilation and Air-conditioning

The Supply Unit should be air-conditioned to provide a comfortable working environment for staff and visitors. Exhaust should be provided in rooms for storing and recharging of pallet jacks, motorised transporters and other equipment depending on battery type to avoid build-up of noxious gases.

Refer to **Part E - Engineering Services** in these guidelines and to the Standard Components, RDS and RLS for further information.

#### 1.4.6 Infection Control

##### Hand Basins

Hand basins should be located in the Supply Unit for staff use.

Hand basins should comply with **Standard Components for Bay - Handwashing** and **Part D - Infection Prevention and Control**. Refer to the **Standard Components, RDS and RLS** of these guidelines for additional information.

In addition to handwashing facilities, antiseptic hand rubs should be located so they are readily available for staff use in work and circulation areas.

The placement of antiseptic hand rubs should be consistent and reliable throughout facilities. Antiseptic hand rubs are to comply with **Part D - Infection Prevention and Control**, in these guidelines.

Antiseptic Hand Rubs, although very useful and welcome, cannot fully replace Hand Wash Bays, both are required.

For further information related to Infection Control refer to **Part D – Infection Prevention and Control** in these Guidelines.

### 1.5 Standard Components of the Unit

Standard Components are typical rooms within a health facility, each represented by a Room Data Sheet (RDS) and a Room Layout Sheet (RLS).

The Room Data Sheets are written descriptions representing the minimum briefing requirements of each room type, described under various categories:

- Room Primary Information; includes Briefed Area, Occupancy, Room Description and relationships, and special room requirements)
- Building Fabric and Finishes; identifies the fabric and finish required for the room ceiling, floor, walls, doors, and glazing requirements
- Furniture and Fittings; lists all the fittings and furniture typically located in the room; Furniture and Fittings are identified with a group number indicating who is responsible for providing the item according to a widely accepted description as follows:

Group	Description
1	Provided and installed by the builder
2	Provided by the Client and installed by the builder
3	Provided and installed by the Client

- Fixtures and Equipment; includes all the serviced equipment typically located in the room along with the services required such as power, data and hydraulics; Fixtures and Equipment are also identified with a group number as above indicating who is responsible for provision



- Building Services; indicates the requirement for communications, power, Heating, Ventilation and Air conditioning (HVAC), medical gases, nurse/ emergency call and lighting along with quantities and types where appropriate. Provision of all services items listed is mandatory

The Room Layout Sheets (RLS's) are indicative plan layouts and elevations illustrating an example of good design. The RLS indicated are deemed to satisfy these Guidelines. Alternative layouts and innovative planning shall be deemed to comply with these Guidelines provided that the following criteria are met:

- Compliance with the text of these Guidelines
- Minimum floor areas as shown in the schedule of accommodation
- Clearances and accessibility around various objects shown or implied
- Inclusion of all mandatory items identified in the RDS

The Supply Unit contains Standard Components to comply with details in the Standard Components described in these Guidelines. Refer to Standard Components Room Data Sheets and Room Layout Sheets.

## 1.6 Schedule of Accommodation

The Schedule of Accommodation (SOA) provided below represents generic requirements for this Unit. It identifies the rooms required along with the room quantities and the recommended room areas. The sum of the room areas is shown as the Sub Total as the Net Area. The Total area is the Sub Total plus the circulation percentage. The circulation percentage represents the minimum recommended target area for corridors within the Unit in an efficient and appropriate design.

Within the SOA, room sizes are indicated for typical units and are organised into the functional zones. Not all rooms identified are mandatory therefore, optional rooms are indicated in the Remarks. These guidelines do not dictate the size of the facilities, therefore, the SOA provided represents a limited sample based on assumed unit sizes. The actual size of the facilities is determined by Service Planning or Feasibility Studies. Quantities of rooms need to be proportionally adjusted to suit the desired unit size and service needs.

The Schedule of Accommodation are developed for particular levels of services known as Role Delineation Level (RDL) and numbered from 1 to 6. Refer to the full **Role Delineation Framework (Part A - Appendix 6)** in these guidelines for a full description of RDL's.

The table below shows alternative SOA's for role delineations from RDL 3 to 6 of varying sizes.

Any proposed deviations from the mandatory requirements, justified by innovative and alternative operational models may be proposed and record in the **Non-Compliance Report** (refer to **Part A - Appendix 4**) with any departure from the Guidelines for consideration by the DOH for approval.

### 1.6.1 Supply Unit

ROOM/ SPACE	Standard Component Room Codes	RDL 3 Qty x m <sup>2</sup>			RDL 4 Qty x m <sup>2</sup>			RDL 5 Qty x m <sup>2</sup>			RDL 6 Qty x m <sup>2</sup>			Remarks
<b>Supply Areas</b>														
Dispatch Area	NS	1	x	8	1	x	12	1	x	20	1	x	20	
Goods Receipt	gre-d similar	1	x	8	1	x	8	1	x	12	1	x	20	
Loading Dock - Clean	lodk-d similar	1	x	*	1	x	*	1	x	*	1	x	*	*External space which may be shared with other Back of House Services. Area as required.
Store - Bulk	stbk-20-d similar	1	x	50	1	x	100	1	x	100	1	x	150	Size according to requirements.
Store - IV Fluids	stgn-14-d similar stgn-20-d similar	1	x	10	1	x	20	1	x	20	1	x	30	May be delivered direct to Pharmacy Unit
Store - Refrigerated	stgn-8-d similar	1	x	5	1	x	5	1	x	10	1	x	10	Optional; recommended but requirement depends on operational policy. May be located as refrigerator bay within Store - Bulk.
<b>Support Areas</b>														
<b>Note 1</b>														

ROOM/ SPACE	Standard Component Room Codes	RDL 3 Qty x m <sup>2</sup>			RDL 4 Qty x m <sup>2</sup>			RDL 5 Qty x m <sup>2</sup>			RDL 6 Qty x m <sup>2</sup>			Remarks
Office - Single Person	off-s12-d							1	x	12	1	x	12	For Supply Unit Manager
Office - Single Person	off-s9-d	1	x	9	2	x	9	1	x	9	1	x	9	For Purchasing Manager
Office - 2 Persons Shared	off-2p-d							1	x	12	1	x	12	For Purchasing Officers. Quantity depends on operational policy
Office - Workstation	off-ws-d	1	x	5.5	2	x	5.5	2	x	5.5	4	x	5.5	For Purchasing Officers or Supply personnel. Quantity depends on operational policy
Property Bay - Staff	prop-3-d similar	2	x	3	2	x	3	2	x	6	2	x	6	Separate for Male & Female. May be shared as central amenities
Toilet - Staff (Male/ Female)	wcst-d	2	x	3	2	x	3	4	x	3	4	x	3	May also be shared but preferably provided within the unit
<b>Sub Total</b>		<b>107.5</b>			<b>186</b>			<b>230</b>			<b>309</b>			
<b>Circulation %</b>		<b>20</b>			<b>20</b>			<b>20</b>			<b>20</b>			
<b>Area Total</b>		<b>129</b>			<b>223.2</b>			<b>276</b>			<b>970.8</b>			

Note 1: Offices to be provided according to the number of approved full-time positions within the Unit

Please note the following:

- Areas noted in Schedules of Accommodation take precedence over all other areas noted in the Standard Components
- Rooms indicated in the schedule reflect the typical arrangement according to RDL
- All the areas shown in the SOA follow the No-Gap system described elsewhere in these Guidelines
- Exact requirements for room quantities and sizes shall reflect Key Planning Units (KPU) identified in the Clinical Service Plan and the Operational Policies of the Unit
- Room sizes indicated should be viewed as a minimum requirement; variations are acceptable to reflect the needs of individual Unit
- Offices are to be provided according to the number of approved full-time positions within the Unit

## 1.7 Further Reading

In addition to Sections referenced in this FPU, i.e. **Part C- Access, Mobility, OH&S**, **Part D - Infection Prevention and Control**, and **Part E - Engineering Services**, **Part G-Acoustics** readers may find the following helpful:

- Health Building Note 00-01 General Design Principles, Department of Health (UK), 2013 refer to: <https://www.gov.uk/government/publications>
- International Health Facility Guideline (iHFG) [www.healthdesign.com.au/ihfg](http://www.healthdesign.com.au/ihfg)
- Ministry of Health UAE, Unified Healthcare Professional Qualification Requirements, 2017, refer to website: <https://www.haad.ae/haad/tabid/927/Default.aspx>
- The Facility Guidelines Institute (US), Guidelines for Design and Construction of Hospitals, 2018. Refer to website: [www.fgiguilines.org](http://www.fgiguilines.org)
- The Facility Guidelines Institute (US), Guidelines for Design and Construction of Outpatient Facilities, 2018. Refer to website: [www.fgiguilines.org](http://www.fgiguilines.org)