

17.0 Engineering & Maintenance Unit

17.1 Introduction

17.1.1 General

All facilities, no matter how large or small, will require environmental support services in the form of:

- Maintenance services
- Engineering
- Cleaning services
- Waste disposal
- Gardening services
- Storage

17.1.2 Description

A Maintenance Service shall be provided. It may be in-house or contracted, with an on-call repair service. The complexity of the services provided by the facility will dictate the nature and extent of the Maintenance Service required. The Maintenance Service is provided to effect preventative maintenance and repairs to all elements of the facility, from the building fabric to items of specialist equipment.

Areas that require a 24 hour per day, 7 day per week 'on-call' maintenance service are:

- Medical gases and suction systems
- Lifts
- Fire systems
- Bio-electronic equipment
- Any life-support systems
- Emergency power systems
- Boiler plant
- Telecommunications systems including PA, EWIS and Nurse Call

The potential life threatening nature of the failure of any of the above systems justifies a 24 hour service.

17.2 Planning

17.2.1 Functional Areas

The Engineering and Maintenance Unit may consist of the following Functional Areas dependent on the Operational Policy and service demand:

- Workshop areas which may include separate areas for carpentry, mechanical, plumbing and electrical services
- Storage areas for all specialty services/trades including paint, gardening and flammable liquids
- Office area for administrative and clerical activities
- Staff amenities which may be shared

ELECTRONICS WORKSHOP

A separate workshop may be provided specifically for the storage, repair and testing of electronic and other medical equipment. The amount of space and type of utilities will vary with the type of equipment involved and types of service and maintenance contracts used.

ENGINEER'S OFFICE

If on-staff, an Engineer's Office shall be provided with file space and provision for protected storage of facility drawings, records and manuals.



GARDENER'S FACILITIES

A room or shed shall be provided for the storage of all the necessary gardening equipment and material. Depending upon the size of the grounds team provision of a Head Gardener's office, hand-washing facilities, toilet and showering facilities should be considered.

STORAGE AREAS

A storage room shall be provided for the storage of building maintenance supplies. Storage for solvents and flammable liquids shall comply with relevant statutory requirements.

WORKSHOP AREAS

A general maintenance Workshop shall be provided for repair and maintenance. Sufficient space is required for a workbench, drill press, angle grinder, stainless steel trough, tool peg board, storage cabinets. Floor space is also required for the standing of equipment during repairs. Adequate lighting, power and ventilation are required. Note: If Maintenance Services are externally contracted, then a Workshop is not required. Maintenance workshops incorporating carpentry, metal fabrication, plumbing, refrigeration or other noise generating trades shall be acoustically isolated from non-maintenance areas. Please refer to Part C, 9.2 "Acoustic Solutions for Healthcare Facilities"

17.2.2 *Functional Relationships*

The Engineering & Maintenance Unit should be located on the ground floor to facilitate delivery and despatch of heavy items of equipment. Access to a loading dock is desirable. The Unit will require ready access to all areas of the hospital and in particular, to plant rooms and areas. Depending on the size of the Unit and the Operational Policy, considerable noise and fumes may be generated by the Unit and care should be taken in locating the Unit relative to other units such as Inpatient Accommodation Units.

17.3 Components of the Unit

17.3.1 *Standard Components*

The Engineering and Maintenance Unit will consist of Standard Components. Provide Standard Components to comply with details in Standard Components in these Guidelines. Refer also to Standard Components Room Data Sheets.



17.4 Schedule of Accommodation

17.4.1 Engineering & Maintenance Unit Generic Schedule of Accommodation

The following Generic Schedule of Accommodation is for a typical Engineering & Maintenance Unit in a Level 4 Hospital with 120 Beds and a range of diagnostic and treatment facilities. This schedule assumes that all services are provided in-house.

Note: For maximum functionality, some of the workshop areas should be combined into one large area.

ROOM / SPACE	Standard Component				Level 4 Qty x m2	Remarks
FLAMMABLE LIQUID STORE	yes				1 x 2	Or Steel Cupboard
GARDENING STORE	yes				5 x 5.5 optional	
OFFICE - SINGLE PERSON 12M2	yes				1 x 12	If Engineer on staff
PAINTER'S STORE	yes				1 x 9 optional	
PLAN FILE - STORAGE	yes				1 x 12 optional	
WORKSHOP - CARPENTRY	yes				4 x 6.5 optional	Including storage
WORKSHOP - MECHANICAL	yes				4 x 6.5 optional	Including storage
WORKSHOP - PLUMBING	yes				4 x 6.5 optional	Including storage
DISCOUNTED CIRCULATION					15%	

SHARED AREAS

ROOM / SPACE	Standard Component				Level 4 Qty x m2	Remarks
BAY - CLEAN-UP	yes				1 x 3	
STAFF ROOM	yes				1 x 30	
TOILET - STAFF	yes				2 x 2	

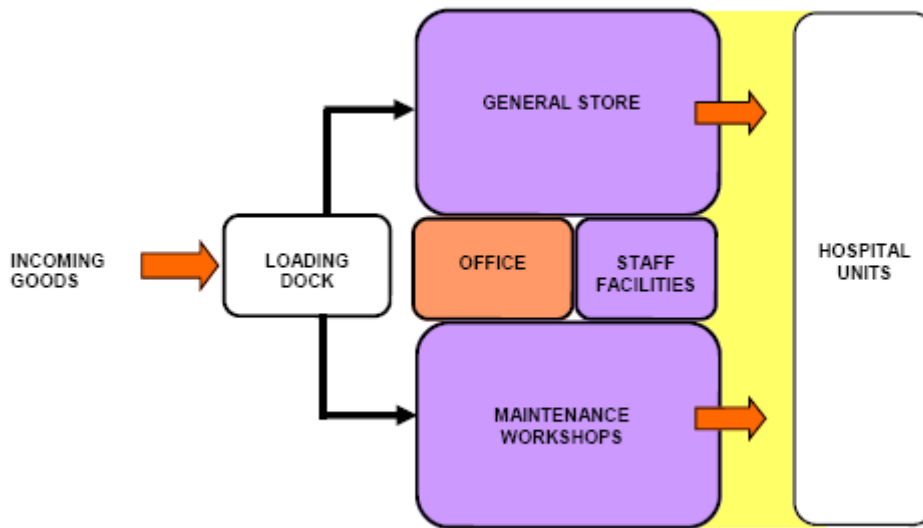
Please note the following:

- Areas noted in Schedules of Accommodation take precedence over all other areas noted in the FPU.
- Rooms indicated in the schedule reflect the typical arrangement according to the Role Delineation.
- Exact requirements for room quantities and sizes will reflect Key Planning Units identified in the service plan and the policies of the Unit.
- Room sizes indicated should be viewed as a minimum requirement; variations are acceptable to reflect the needs of individual Unit.
- Office areas are to be provided according to the Unit role delineation and staffing establishment.
- Staff and support rooms may be shared between Functional Planning Units dependant on location and accessibility to each unit and may provide scope to reduce duplication of facilities.



17.5 Functional Relationship Diagram

17.5.1 Engineering & Maintenance Unit Functional Relationship Diagram



17.6 References and Further Reading

- Australasian Health Facility Guidelines. (AusHFG Version 3.0), 2009; refer to website www.healthfacilitydesign.com.au
- Guidelines for Design and Construction of Health Care Facilities; The Facility Guidelines Institute, 2010 Edition.
- Design Guidelines for Hospitals and Day Procedure Centres, Department of Human Services Victoria, 2005
- Health Department Western Australia, Private Hospital Guidelines, 1998.



The Indian Health Facility Guidelines recommends the use of **HFBS** “**Health Facility Briefing System**” to edit all room data sheet information for your project.

HFBS provides edit access to all HFG India standard rooms, departments, and more than 40 report templates.

HFBS Health Facility Briefing System



Briefing Module

The Health Facility Briefing System (HFBS) has numerous modules available via annual subscription. It suits healthcare Architects, Medical Planners, Equipment Planners Project Managers and Health Authorities.

Use the HFBS Briefing Module to quickly drag in health facility departments or pre-configured room templates from the HFG standard, edit the room features such as finishes, furniture, fittings, fixtures, medical equipment, engineering services. The system can print or download as PDF more than 100 custom reports including room data sheets, schedules, and more...

To learn more about the HFBS web-based Healthcare Briefing and Design Software and to obtain editable versions of the “Standard Components” including Room Data Sheets (RDS) and Room Layout Sheets (RLS) offered on the HFG website, signup for HFBS using the link below.

Get Started Now:
hfbs.healthdesign.com.au

- ✓ HFG India Room Data Sheets and Departments are instantly editable in the HFBS software available online in the HFBS India Domain.
- ✓ You can access hundreds of report templates to print your HFG India room data in HFBS.
- ✓ HFBS has a onetime free 3 day trial available to all new users – signup for the HFBS India Domain today.

Get Started Now:
hfbs.healthdesign.com.au



HFBS

Health Facility Briefing System

hfbsinfo.com | techsupport@healthdesign.com.au