AUSTRALIAN FIRE
COMPETENCY STANDARDS

DECEMBER 1992

Level 5
FIRE SERVICE

COMPETENCY STANDARDS

The new Australian Vocational Education and Training System is promoting the adoption of competency based training in the workplace. The training is to be based on National Competency Based Standards developed by each industry. These standards are broad based functions that integrate a series of skills which will apply in a variety of contexts.

The attached standards are centred around the notion of competency. The competency is what is expected of workers in the effective performance of their activities. A competency is related to realistic workplace practices and is expressed as a work outcome.

The requirements of the National Training Board (NTB) can be met by writing statements within a defined format. This format has the following components:

• **Units of Competence** - this is a title that refers to a general area of competence. It provides a clear statement of what is required of a person in a particular function. Its key feature is that it should define a major skill area of an industry and should be related to realistic workplace activities.

• **Elements of Competence** - these define the skills associated with the broad competence of a unit. It is the basic building block of the system and its role is to provide further information on what is intended by the unit titles.

• **Performance Criteria** - these are statements which specify the required level of performance expected in the workplace. They guide an assessor in judging the quality of a performance.

• **Range Statements** - these are statements which place a defined competency in the context in which it will be applied. It gives more information about the circumstances in which it will be applied.
When described in this format competency standards will clearly describe a broad competency acquired by an industry, the types and skills which underlie the competence and the outcomes that need to be achieved to meet that competence. The final part of the component, the range statement, will say something about the context in which the competency should be achieved.

Competency standards are not training standards. Competency standards state what outcomes are acquired in the workplace while a training standard describes a method for getting there. Training standards are the means by which workers are prepared to achieve outcomes in the workplace.

Once finalised, the competency standards will provide a recognised reference point for developing competency based training. The standards will contribute to the processes related to accreditation of programs, formal assessment of individuals, certification, monitoring and review of the recognition of prior learning.

These competencies are based on current functions and technology in the fire services. They will need to be revised and updated as work practices and technology change.
UNIT (UNIT OF COMPETENCY)

A title refers to a general area of competence. It provides a clear statement on what is required of a person in a particular function.

The key features of units are as follows:
- it is transferrable and integrates a number of skills.
- it defines the major skill area of an industry.
- it should be related to realistic work place activities.
- it is not limited to a particular procedure or circumstance.
- successful achievement would normally require the use of several skills.

PERFORMANCE CRITERIA

The performance criteria are statements which specify the required level of performance expected in the workplace. They guide an assessor in judging the quality of a performance. The key features of performance criteria include that each criterion should:
- be as precise as possible.
- describe evidence that is observable.
- describe only essential aspects of performance.
- refer to the product where practicable.
- describe aspects of work organisations and the overall work role.
- avoid specifying procedures or methods.

AUSTRALIAN FIRE SERVICES COMPETENCY STANDARDS

UNIT: OPERATE INSTALLED FIRE SUPPRESSION SYSTEMS

LEVEL:

Monitor & control hydraulic fire suppression systems

- Installed hydraulic systems are maintained and controlled to assist in fire suppression.
- Installed hydraulic systems are controlled to minimise water damage, while providing sufficient supply to combat fire conditions.
- Hydraulic systems are secured by the attending fire personnel to prevent unauthorised tampering.
- Operation of Hydraulic Systems complies with the Australian standards and Fire Service procedures.
- Notify relevant supervisors of any discrepancies.
- Hydraulic Systems are recommissioned after operation.
- Hydraulic Systems Plans are interpreted to determine area of operation.

RANGE STATEMENT

Hydraulic Systems include:
- Wet & Dry sprinklers and drencher installations
- Hydrants - internal and external
- Boosters and fittings
- Staging and jacking pumps
- Hose reels
- Primary and secondary water supplies
- Heat activated sprinkler heads

Operation of these systems may include:
- Fire Service procedures
- Australian standards
- Manufacturers specifications

RANGE STATEMENT

The role of the range statement is to place the competency in the context in which it will be applied. It gives more information about the circumstances in which it will be applied. It will generally take account of contextual requirements. Examples of these requirements include:
- legal/regulatory - legislation such as OH&S
- technical equipment systems - the range of equipment
- processes and procedures - requirements arising from recognised procedures
- clients - clients with special characteristics and needs
- environments - particular locations such as remote areas
- quality assurance - the range of applications arising from particular quality assurance systems
# Level Five Units

<table>
<thead>
<tr>
<th>Unit</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td><strong>Unit 1</strong></td>
<td>Plan and participate in the upgrading and development of equipment</td>
</tr>
<tr>
<td><strong>Unit 2</strong></td>
<td>Manage the research, development and procurement of equipment</td>
</tr>
<tr>
<td><strong>Unit 3</strong></td>
<td>Plan and control emergency responses</td>
</tr>
<tr>
<td><strong>Unit 4</strong></td>
<td>Plan and co-ordinate fire prevention activities</td>
</tr>
<tr>
<td><strong>Unit 5</strong></td>
<td>Administer fire service policy, procedures and practices</td>
</tr>
<tr>
<td><strong>Unit 6</strong></td>
<td>Develop and use formal communication</td>
</tr>
<tr>
<td><strong>Unit 7</strong></td>
<td>Manage organisational training and development programs</td>
</tr>
<tr>
<td><strong>Unit 8</strong></td>
<td>Prepare, present and evaluate training programs</td>
</tr>
<tr>
<td><strong>Unit 9</strong></td>
<td>Liaise with commerce, industry and the community</td>
</tr>
<tr>
<td><strong>Unit 10</strong></td>
<td>Lead and motivate all personnel</td>
</tr>
<tr>
<td><strong>Unit 11</strong></td>
<td>Organise and co-ordinate work and teams</td>
</tr>
<tr>
<td><strong>Unit 12</strong></td>
<td>Manage financial and physical resources</td>
</tr>
<tr>
<td><strong>Unit 13</strong></td>
<td>Manage human resources</td>
</tr>
<tr>
<td><strong>Unit 14</strong></td>
<td>Plan and manage change</td>
</tr>
<tr>
<td><strong>Unit 15</strong></td>
<td>Develop, implement and evaluate policies</td>
</tr>
</tbody>
</table>
### UNIT: 1 - PLAN AND PARTICIPATE IN THE UPGRADING AND DEVELOPMENT OF EQUIPMENT

<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
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</thead>
<tbody>
<tr>
<td>1.1 Identify future areas for equipment upgrading</td>
<td>• A complete and accurate identification can be made of the future requirements for the upgrading and development of equipment.</td>
</tr>
</tbody>
</table>

### RANGE STATEMENT

Equipment - used in the control and suppression of emergencies, fire safety activities, human resource development, administrative and communication functions, and may include:

- vehicles and apparatus
- machinery
- hand tools
- training aids and kits
- radio and telecommunication equipment
- computer equipment
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
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</thead>
<tbody>
<tr>
<td>1.2</td>
<td>Initiate, undertake and guide analysis and research on new equipment</td>
</tr>
<tr>
<td></td>
<td>• Analysis and research methodologies used are appropriate to the equipment and the objectives of the program.</td>
</tr>
<tr>
<td></td>
<td>• The outcomes of research and analysis are documented and utilised.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Equipment - that used in the control and suppression of emergencies, fire safety activities, human resource development, administrative and communication functions and may include:

- vehicles and apparatus
- machinery
- hand tools
- training aids and kits
- radio and telecommunication equipment
- computer equipment
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</table>
| 1.3        | - Guidance is given to other Fire Service personnel to facilitate a participative approach towards formulating practical and creative design and modification of firefighting appliances.  
- Facilitation and group decision-making processes are utilised to ensure an effective and task orientated approach towards problem-solving and decision-making.  
- Design of firefighting appliances increases the maximum efficiency and effectiveness of firefighting capabilities and accounts for requirements of OH&S.  
- Firefighting appliances are designed that comply with Fire Service policy on performance and handling specifications. |

**RANGE STATEMENT**

Appliances - vehicles which have been purpose built, or specially modified, to perform specific incident response functions and includes any machinery or apparatus fitted to them.

Facilitation techniques may include group dynamics such as:  
- group problem-solving processes  
- consensus decision-making processes  
- brainstorming  
- nominal group techniques  
- technical advice.
### AUSTRALIAN FIRE SERVICES COMPETENCY STANDARDS

**LEVEL 5**

**UNIT: 2 - MANAGE THE RESEARCH, DEVELOPMENT AND PROCUREMENT OF EQUIPMENT**

<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Carry out new vehicle assessment</td>
</tr>
<tr>
<td></td>
<td>- New vehicles are assessed according to the Fire Service standard assessment format.</td>
</tr>
<tr>
<td></td>
<td>- Recommendations are made and details are provided of the analysis, together with a summary of the vehicles efficiency and capabilities.</td>
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<tr>
<td></td>
<td>- Vehicles are assessed to meet or exceed minimum performance specifications prescribed by the Australian Standards Association and comply with Road Transport Authority regulations.</td>
</tr>
</tbody>
</table>

### RANGE STATEMENT

Vehicles - sedans, station wagons and heavy vehicles of various configurations with single axle or multi-axle drives.
<table>
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<tr>
<th>ELEMENT</th>
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</thead>
<tbody>
<tr>
<td>2.2</td>
<td>Implement procurement procedures</td>
</tr>
<tr>
<td></td>
<td>• Information for the procurement of equipment is efficiently and effectively assessed and applied.</td>
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<tr>
<td></td>
<td>• Correct purchasing procedures are adhered to.</td>
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<tr>
<td></td>
<td>• Procurement procedures are analysed in a current budgetary and policy context.</td>
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<tr>
<td></td>
<td>• An honest and fair approach is maintained toward each manufacturer/tenderer.</td>
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</tbody>
</table>

**RANGE STATEMENT**

Purchasing policies, procedures and procurement guidelines are established by the Fire Service.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
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</thead>
</table>
| 2.3 Evaluate new equipment | • New equipment is evaluated using comparative analysis techniques against existing equipment.  
• Recommendations summarising the equipment's advantages and disadvantages, together with cost details, are recorded in a standardised report format.  
• Equipment is evaluated using pre-determined criteria, to ensure the Fire Service can perform its roles, at a level which satisfies its statutory responsibilities. |

**RANGE STATEMENT**

Equipment - that used in the control and suppression of emergencies, fire safety activities, human resource development, administrative and communication functions may include:

- vehicles and apparatus  
- machinery  
- hand tools  
- training aids and kits  
- radio and telecommunication equipment  
- computer equipment  
- rescue and safety equipment.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
</table>
| 3.1 Plan and implement response of resources to emergencies. | • Response to incidents are planned utilising the pre-incident plans as developed by sub levels and communicated to the necessary personnel, ensuring that sufficient resources are organised to deal effectively with the incident.  
• Procedures for establishing response to incidents are followed according to Fire Service incident response procedures and relevant award conditions. |

**RANGE STATEMENT**

Incidents - events which constitute an emergency to which the Fire Service responds with personnel and equipment, such as:

- fires
- explosions
- rescues
- hazardous material incidents
- other emergencies

and which threaten to damage or injure life, property or environment.
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<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
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</thead>
</table>
| 3.2 Organise shift, staff and equipment to respond to emergencies. | - Necessary staff and equipment are organised and arranged to ensure sufficient and appropriate resources to control the incident in a minimal time.  
- Organisation of resources is in accordance with Fire Service and OH&S procedures.  
- Organisation of staff meets shift rostering requirements and complies with Fire Service operational staff awards.  
- Rostering activities are conducted minimising overtime and penalty payments. |

**RANGE STATEMENT**

- Necessary staff includes both uniformed firefighting personnel and civilian support staff working 'shift work' and 'day work'.
- Equipment may include all firefighting and emergency equipment.
### ELEMENT

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<tr>
<th>Command and control major incident</th>
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### PERFORMANCE CRITERIA

- Major incidents are commanded and controlled to ensure effective co-ordination of all firefighting activities.
- Command is undertaken according to Fire Service incident command and OH&S procedures to ensure maximum efficiency and minimum damage to the environment, property, equipment and personnel.
- Incident scenes are secured to facilitate functional command organisations at major incidents.
- Effective liaison is achieved with other emergency services, agencies and local government bodies to ensure an effective, co-ordinated approach to the incident and complies with incident response arrangements determined by the state government legislation (state disaster plan and Sub Plans).
- Major incident procedures including evacuations, fireground strategies are followed.
- Public safety is maintained by providing timely and accurate warnings of developing dangers, utilising the media and public address facilities.
- Successful conclusion to the incident is achieved, initiating command directions which are derived by disseminating and prioritising a range of information and data.
- Command and control functions are carried out without exceeding the bounds of authority and powers bestowed under the Fire Service Act and relevant laws, acts and regulations, at both state and Federal levels and protects Fire Service personnel from legal action which may occur as a result of the Fire Service actions.
- Strategies and tactics are chosen which are expedient and appropriate to the incident.
- Decision-making processes are performed expediently and effectively in hostile and fast changing environments that meet changing needs.

### RANGE STATEMENT

Major incidents - emergency events that are sufficiently large or protracted enough to involve multiple firefighting teams and require an incident controller to control and co-ordinate the various functions.

Command and Control functions are applied to all Fire Service personnel and personnel representing other agencies and services depending on state disaster plans arrangements.
<table>
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<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
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</table>
| 3.4 Monitor incident responses and procedures | - Resourcing is performed in line with Fire Service procedures and objectives ensuring OH&S standards are maintained.  
- Methods and procedures of operation are monitored regularly and refined in consultation with Fire Service procedures and other emergency services objectives.  
- Operation performance is maximised to ensure the safety of lives and minimum damage.  
- Effectiveness of operational communications is maintained and monitored to ensure all communications are accurate, succinct and timely.  
- Review and refinement of resources and procedures are conducted by recognising observable trends and changes in the community, which may influence strategic positioning of equipment and modification of pre-determined responses.  
- Refinement of responses and procedures is communicated to all personnel, clearly, to ensure effective implementation. |

**RANGE STATEMENT**

Resourcing - is the deployment of personnel and equipment to incidents and varies according to the size and nature of the incident. Resourcing levels can be pre-determined or set to meet an emerging event.
<table>
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<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
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</thead>
<tbody>
<tr>
<td>3.5</td>
<td>Allocate and re-schedule work</td>
</tr>
<tr>
<td></td>
<td>• Work is allocated to personnel, based on prepared work priorities, level and competency of personnel and equipment available.</td>
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<tr>
<td></td>
<td>• Sufficient information is provided to personnel to ensure that operational objectives and methods are clearly understood.</td>
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<tr>
<td></td>
<td>• Operations are re-scheduled where necessary to ensure that objectives are met.</td>
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</table>

**RANGE STATEMENT**

Competency standards are established through internal and external training.
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<tr>
<th>ELEMENT</th>
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<tbody>
<tr>
<td>3.6</td>
<td><strong>Demonstrate flexible approach while maintaining operational objectives</strong></td>
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<tr>
<td></td>
<td>• A management style is demonstrated that adapts to changing priorities and circumstances, while remaining focused on goals and objectives.</td>
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<tr>
<td></td>
<td>• Decision-making and problem-solving techniques which overcome obstacles is displayed.</td>
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</table>

**RANGE STATEMENT**

Management style is dichotomous and is divided into:

• that which is applied under emergency response where orders are given which must be obeyed under Fire Service regulations; and
• that which aligns to general industry perception of management styles.
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<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
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</table>
| 3.7 Conduct or co-ordinate the debrief of incidents | • Debriefing sessions are conducted maintaining a positive and constructive approach.  
• Participants involved in incident are debriefed to ensure that they are all aware of the necessary details of operation and the evaluation of the performance of these operations.  
• Participants are sufficiently debriefed to minimise any psychological trauma etc  
• Relevant information is disseminated to assist with refinement of equipment, response and procedures.  
• Debriefs are conducted to validate and help determine training strategies. |

**RANGE STATEMENT**

Debriefs - post-incident discussion session, conducted both formally and informally, to groups of varying sizes who have recently been involved at an incident. Debriefs can be internal or involve representatives from other participating agencies and services.
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<tr>
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<tr>
<td>3.8</td>
<td>Conduct or co-ordinate combined drills</td>
</tr>
<tr>
<td></td>
<td>• Drills are conducted within the Fire Service to gain and share information on the most effective and efficient procedures for incident response.</td>
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<tr>
<td></td>
<td>• Combined drills are co-ordinated with other emergency services and agencies to enhance co-operation and understanding between the Fire Service and other emergency services and agencies and to test local and state level disaster plan and sub plans arrangements.</td>
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<tr>
<td></td>
<td>• Drills are conducted in compliance with training schedules to help meet organisational training requirements.</td>
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</tbody>
</table>

**RANGE STATEMENT**

Drills - training activity sessions both practical and technical conducted with Fire Service personnel. They may include personnel from other services or agencies or the general public, particularly in areas where the Fire Service has cause to operate in conjunction with other groups such as:

- multi-agency responses
- evacuation of hospitals and other institutions
- special needs groups
<table>
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<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
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<tbody>
<tr>
<td>3.9</td>
<td>Conduct or co-ordinate fire investigation.</td>
</tr>
<tr>
<td></td>
<td>• Fire investigators are assisted by timely notification to investigate a fire.</td>
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<tr>
<td></td>
<td>• Fire investigation is carried out to identify the cause and circumstances of fire.</td>
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<tr>
<td></td>
<td>• Relevant information is recorded in the form of reports that may be presented in a court of law.</td>
</tr>
<tr>
<td></td>
<td>• Scene of fire is effectively secured preventing contamination of evidence and destruction of fire scene to expedite the investigation process.</td>
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<tr>
<td></td>
<td>• Crime scenes are identified and relevant information communicated to police.</td>
</tr>
<tr>
<td></td>
<td>• The State Coroner is assisted in his enquiries by accurate information and professional advice relative to fire behaviour patterns, which can lead to the recall of faulty products or changes to government legislation.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Fire investigation - all fires where the cause is not readily known and includes scenes of explosions and the occurrence of malicious false alarms.
# Australian Fire Services Competency Standards

**Level 5**

## Unit: 4 - Plan and Co-Ordinate Fire Prevention Activities

<table>
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<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
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</thead>
<tbody>
<tr>
<td>4.1</td>
<td>Inspet and report on specific risks within fire district</td>
</tr>
<tr>
<td></td>
<td>• Districts are comprehensively inspected to accurately identify fire risks.</td>
</tr>
<tr>
<td></td>
<td>• Fire risks are recorded and communicated to the appropriate authority.</td>
</tr>
<tr>
<td></td>
<td>• Structures which must comply with fire safety regulatory requirements are inspected to verify compliance following Fire Service format.</td>
</tr>
<tr>
<td></td>
<td>• Reports on specific risks are comprehensive and include sufficient information to determine the level of pre-determined responses.</td>
</tr>
</tbody>
</table>

## Range Statement

Risk includes structures or sites which pose a special risk to life or property in the event of fire, or by the nature of their construction, history, layout or processing, pose a greater risk of fire occurring such as:

- hospitals and public buildings
- high-rise structures
- airports
- petro-chemical plants
- bushfire areas
- electrical installations etc
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
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</thead>
<tbody>
<tr>
<td>4.2</td>
<td><strong>Assess, interpret and apply information about the legal and regulatory framework relevant to fire protection and fire safety</strong></td>
</tr>
<tr>
<td></td>
<td>• Legal and regulatory information is efficiently and effectively assessed and applied in the appropriate situation.</td>
</tr>
<tr>
<td></td>
<td>• All Acts and Regulations are continually updated to include modifications advised to the Fire Service.</td>
</tr>
<tr>
<td></td>
<td>• Information is communicated to all levels within the Fire Services enabling Fire Services to meet statutory responsibilities.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Regulatory framework includes all local, state and Federal government acts, regulations, standards and codes of practice, including those set by the Australian Standards Association, which relate to the range of fire safety activities undertaken by the Fire Service.
<table>
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<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
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</thead>
<tbody>
<tr>
<td>4.3</td>
<td>Advise and liaise with industry and local governments on fire safety</td>
</tr>
<tr>
<td></td>
<td>• Accurate and up to date advice is imparted in a clear, concise and confident manner to industries and local government.</td>
</tr>
<tr>
<td></td>
<td>• Opportunities to explain and promote the organisation's work are taken up.</td>
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<tr>
<td></td>
<td>• The purpose of fire safety activities are understood and accepted by the groups and the highest possible level of mutual responsiveness is achieved.</td>
</tr>
<tr>
<td></td>
<td>• Advice is given that accurately reflects the organisation's objectives and policies and is delivered according to Fire Service guidelines.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Advise and liaison - a range of advice and information is provided covering:

- hazard abatement practices
- evacuation procedures
- personal safety and fire survival
- fire safety practices and legislation
- installed fire protection requirements

Information is disseminated by:

- conducting exercises
- giving lectures
- addressing special interest groups
- providing reports and recommendations both in writing and at presentations
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<th>ELEMENT</th>
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</thead>
<tbody>
<tr>
<td>4.4</td>
<td>Co-ordinate fire safety activities</td>
</tr>
<tr>
<td></td>
<td>• Fire safety activities are co-ordinated in line with Fire Service objectives, ensuring that the activity effectively communicates fire safety practices, in accordance with Fire Service and legal requirements.</td>
</tr>
<tr>
<td></td>
<td>• Fire safety activities are conducted regularly which maintain the Fire Service profile in the community at a high level and identify potential risks before they have an impact on the community.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Fire Safety activities refers to a range of tasks undertaken by the Fire Service including:

• inspection of building plans
• representation on standards committee
• hazard abatement programs
• inspection of installed fire suppression systems
• advice on community safety
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<tbody>
<tr>
<td>4.5</td>
<td>Assess and predict problems in relation to fire safety</td>
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<tr>
<td></td>
<td>- Problems are assessed and accurately diagnosed at an early stage and appropriate cost effective solutions are identified and communicated.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Fire safety problems can include:
- compartmentation
- means of egress
- distance of travel for egress
- pressurisation
- smoke movement

Solutions to problems are based on:
- Building Codes of Australia
- local and state government requirements
## AUSTRALIAN FIRE SERVICES COMPETENCY STANDARDS

**LEVEL 5**

### UNIT: 5 - ADMINISTER FIRE SERVICE POLICY, PROCEDURES AND PRACTICES

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<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
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<tbody>
<tr>
<td>5.1</td>
<td>Monitor the administration of Fire Service policy, procedures and practices</td>
</tr>
</tbody>
</table>

- All activities undertaken adhere to the requirements stipulated in Fire Service policy, procedures and practices.
- Activities not adhering to Fire Service policy and procedures are identified and corrected, using the appropriate method including the use of direct notification, counselling and disciplinary action.
- Procedures, practices and policy that cannot be efficiently administered are identified and recommendations for change are made that will assist with efficiency of the Fire Service operations.

### RANGE STATEMENT

Fire Service policy, procedures and practices include standard operational and administrative procedures, as well as training standards and regulations pertaining to dress codes, discipline conduct of service, vehicle and equipment application and usage.
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</thead>
<tbody>
<tr>
<td>5.2</td>
<td>Monitor construction of Fire Service buildings</td>
</tr>
</tbody>
</table>

- The construction of Fire Service buildings is monitored to ensure they comply to Fire Service requirements.

- Financial and time constraints are met.

- The Firefighter’s Union is consulted at regular intervals so that industrial requirements relating to firefighters living and working conditions in the new building are satisfied.

**RANGE STATEMENT**

Fire Service buildings - those structures built to carry out the functions of training centres, fire stations, communication centres and offices.
<table>
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<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
</table>
| 5.3 Control and monitor maintenance program | • The maintenance program is monitored to ensure that objectives and priorities are adhered to.  
• The maintenance program runs to schedule and satisfies the OH&S requirements for the workplace.  
• Maintenance activities are monitored and unsatisfactory work is identified and reported to the appropriate authority for rectifying. |

**RANGE STATEMENT**

Maintenance programs may include:

• plant and equipment  
  - minor  
  - major  
  - fleet  
• buildings  
  - station  
  - office  
  - headquarters  
  - training  
• refurbishments  
• recurring maintenance
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.4 Assist in the planning of Fire Service buildings</td>
<td>• Assistance given to the plan of Fire Service buildings is in line with the most effective utilisation of space, consistent with Fire Service policy, economic rationality and relevant legislation.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Planning process may include:
- chair working parties
- identify needs and objectives
- site availability/suitability
- community needs
- logistical support
- preparation of recommendations
- environmental impact study
<table>
<thead>
<tr>
<th><strong>ELEMENT</strong></th>
<th><strong>PERFORMANCE CRITERIA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>5.5</td>
<td>Co-ordinate and organise general administration</td>
</tr>
<tr>
<td></td>
<td>• General administration procedures are maintained to ensure the objectives of programs are met, in line with Fire Service policy.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

General administration may include:

- record-keeping
- updating budgets
- correlating and filing
- obtaining quotes
<table>
<thead>
<tr>
<th><strong>ELEMENT</strong></th>
<th><strong>PERFORMANCE CRITERIA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>5.6</td>
<td>- The Orders are continually updated to ensure that information is current, accurate and clear and meets the requirements of Fire Service policy.</td>
</tr>
<tr>
<td></td>
<td>- Updating of information should include new reforms and legislation and the future plans of the Fire Service.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

The Standing Orders are issued periodically and reviewed as required.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
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</thead>
<tbody>
<tr>
<td>5.7</td>
<td></td>
</tr>
</tbody>
</table>
| Develop, review and apply innovative and responsive administration practices | • Administration practices are continually developed and reviewed to ensure streamlining of administrative processes while maintaining a clear, precise, format.  
• Decisions that are made and actions that are taken are recorded in an accurate manner.  
• Mechanisms to monitor and ensure effective resource utilisation are continually put in place.  
• Workplace processes and procedures are kept under review and revised as necessary. |

**RANGE STATEMENT**

Formats utilised may include:

- maintaining fuel records
- staff disposition
- leave arrangements
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.8</td>
<td>Assess relevant management information system</td>
</tr>
<tr>
<td></td>
<td>• Relevant management information systems are assessed to plan, monitor and evaluate workplace operations.</td>
</tr>
<tr>
<td></td>
<td>• Management information systems are standardised across the organisation.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Management information systems may include:

- computer data bases
- personnel files
- training and course assessments
- files
- notes and memos
### ELEMENT

| 6.1 | Write Fire Service directives and orders |

### PERFORMANCE CRITERIA

- Fire Service directives and orders are written according to Fire Service procedures and written clearly, concisely and free from jargon.

- Superseded directives and orders are identified for removal from the system.

### RANGE STATEMENT

Directives and orders are written according to the Fire Service procedures.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.2</td>
<td>Chair meetings and working parties</td>
</tr>
<tr>
<td></td>
<td>• Meetings are chaired according to formal meeting procedures and protocol.</td>
</tr>
<tr>
<td></td>
<td>• Participative processes are encouraged to achieve realistic outcomes.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Formal meeting procedures and protocol include:

- notification of meeting
- minute taking and circulating
- preparation of agendas
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
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</thead>
<tbody>
<tr>
<td>6.3</td>
<td></td>
</tr>
</tbody>
</table>
|         | Prepare and present formal submissions on policy and operational issues | • Submissions are concisely written following Fire Service procedures.  
|         |                      | • All relevant aspects of the topic are covered, arguments are soundly based and clearly expressed, inclusions justified and consequent recommendations confidently advocated. |

**RANGE STATEMENT**

Submission topics may include:

- the effects of the Service on the community
- forward planning
- implementation of new programs
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
</table>
| 6.4 Provide advice on policy to local and state governments | - Advice provided is accurate and relevant to the inquiry and according to Fire Service policy.  
- Relationships of trust and mutual understanding are formed between the Fire Service and outside bodies.  
- Research is carried out and findings communicated in an accurate manner. |

**RANGE STATEMENT**

Advice on policy may include:
- ministerial enquiries  
- fire safety aspects of community development
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
</table>
| 6.5 Assist in Fire Service publications | • Assistance is given to ensure effective production of Fire Service publications, to ensure they meet the requirements of the organisation and create and promote interest.  
• Publications are produced within stipulated financial and time constraints. |

**RANGE STATEMENT**

Publications may include:

• annual report  
• Chief Officer’s report  
• promotional pamphlets  
• fire safety information  
• Fire Service career information  
• technical journals
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
</table>
| 6.6     | • Informal communication and decision-making channels are effectively used to achieve desired outcomes.  
|         | • Appropriate workplace communication processes, both formal and informal, are implemented and maintained. |

**RANGE STATEMENT**

Networking with Fire Service personnel assists with:

- maintaining channels of communication
- input into the decision-making processes

without contravening the chain of command.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
<th>RANGE STATEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.7 Edit and disseminate letters and correspondence are edited and prepared to communicate the intended message in a concise style that conforms to Fire Service policy and is submitted within the agreed time frame.</td>
<td>Correspondence should be:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• in plain English</td>
<td>• free from jargon</td>
</tr>
<tr>
<td></td>
<td>• easily understood</td>
<td>• grammatically correct</td>
</tr>
<tr>
<td>ELEMENT</td>
<td>PERFORMANCE CRITERIA</td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>---------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>6.8</td>
<td>Liaise and consult with senior management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Management is consulted to identify operational</td>
<td></td>
</tr>
<tr>
<td></td>
<td>requirements and instructions.</td>
<td></td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Maintain chain of command in accordance with Fire Service Procedures.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1 Report on training matters</td>
<td>• Reports on training related matters, are prepared and provided to management and training personnel, in accordance with Fire Service policy and procedures.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Training matters may include:

- curriculum development
- organisation of external courses
- budgetary constraints
- staffing levels and expertise
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
</table>
| 7.2 Advise on trends and practices | - Information bank on training techniques and trends, as well as training literature, is maintained.  
- Training programs are based on current and future needs. |

**RANGE STATEMENT**

Information concerning trends and practices are obtained from:

- training authorities
- recognised publications
- seminars and conferences
- associations
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
</table>
| 7.3 Maintain training programs | • Training programs are planned and evaluated in accordance with Fire Service goals.  
• Training activities are managed to ensure compliance with government policies and regulations.  
• Training activities are managed to take account of training reform policies, including training subsidy schemes and the Training Guarantee Act. |
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.4</td>
<td>Plan and authorise training expenditure</td>
</tr>
<tr>
<td></td>
<td>• Training budget is prepared and written in accordance with enterprise budget limits.</td>
</tr>
<tr>
<td></td>
<td>• The cost effectiveness of training operations is assessed against Fire Service policies and plans.</td>
</tr>
<tr>
<td></td>
<td>• Training budgets are prepared for each training program.</td>
</tr>
<tr>
<td></td>
<td>• Records are kept of all training expenditure and costs according to Fire Service procedures and standards and in accordance with legal requirements.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Budgetary formats may include:
- zero base budgeting
- program budgeting
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.5</td>
<td>Assist in the formulation of training policy</td>
</tr>
<tr>
<td></td>
<td>• Training policy is formulated and updated to take into account the changing organisational requirements.</td>
</tr>
<tr>
<td></td>
<td>• Training policy contains researched material on various trends, including major reforms in human resource development.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Policy formulation may include:

- trends and changes
- direction
- staff requirements
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.6</td>
<td>Promote training</td>
</tr>
</tbody>
</table>

- The benefits of training to both the individual and the organisation are publicised widely within the Fire Service at all levels.
- Information on planned training events and programs is made widely available in the workplace.
- Reports on training developments, products and services are provided to management as required.

**RANGE STATEMENT**

Publicising training involves:

- internal minutes and memos
- Fire Service magazines and newsletters
- external pamphlets and newsletters
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.7 Co-ordinate operational</td>
<td>• Promotional assessments are co-ordinated for potential officers to ensure that they are familiar with required promotional requirements, according to the established time frames.</td>
</tr>
<tr>
<td>promotional assessments</td>
<td></td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Promotional requirements may include:

• completing and passing set exams
• past experience
• qualifications
• completion of externally recognised training courses
• specific Fire Service requirements
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
</table>
| 7.8     | Co-ordinate volunteer training school/programs | • Volunteer training school programs are co-ordinated to provide training, in line with listed competencies, to enable volunteers and nonpermanent firefighters to obtain the necessary skills and knowledge, to perform the identified activities.  
• The program/training is delivered to the plan and within budget allocation. |

**RANGE STATEMENT**

Volunteer training may encompass:

• accredited TAFE training  
• specialist in-house Fire Service training  
• motorised equipment training  
• first aid firefighting equipment training  
• basic rescue techniques
## UNIT: 8  - PREPARE, PRESENT AND EVALUATE TRAINING PROGRAMS

### ELEMENT

<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
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</thead>
<tbody>
<tr>
<td>8.1</td>
<td></td>
</tr>
</tbody>
</table>
| Identify training and development needs | • Training and development needs of the Fire Service are accurately identified by using valid and reliable needs assessment techniques.  
• Programs are assessed against organisational objectives and include a cost of training measured against benefits.  
• Information about strengths and weaknesses of existing program is provided to senior management. |

### RANGE STATEMENT

Development needs may be determined from:

- skills audits
- assessments
- performance deficiencies
- operational requirements
- technological changes
<table>
<thead>
<tr>
<th><strong>ELEMENT</strong></th>
<th><strong>PERFORMANCE CRITERIA</strong></th>
</tr>
</thead>
</table>
| 8.2 Design and develop training | • Training programs are developed and designed to meet Fire Service training needs and to maximise individual learning and skill development.  
• Training programs contain suitable assessment methods, appropriate mix of theory and skill and are in line with identified competencies. |

**RANGE STATEMENT**

Training design is based on the systems approach. This includes:

- identifying needs
- setting objectives
- designing training
- conducting training
- evaluating training
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
</table>
| 8.3 Organise training resources | • Training resources, including equipment and facilities, are arranged to support the learning opportunities specified in the training objectives.  
• Any special training resources required to support key learning points are obtained or developed. |

RANGE STATEMENT

Training resources may include:
• internal sites, facilities and equipment  
• external sites, special hazards, expertise and personnel
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.4</td>
<td>Deliver and evaluate training programs</td>
</tr>
<tr>
<td></td>
<td>• The presentation, training and evaluation methods are appropriate to trainee's background and aptitudes and for the competencies to be developed.</td>
</tr>
<tr>
<td></td>
<td>• Training equipment and materials are used appropriately.</td>
</tr>
<tr>
<td></td>
<td>• Advice and feedback are provided to facilitate group and individual learning.</td>
</tr>
<tr>
<td></td>
<td>• Practice opportunities are provided according to the specific learning situation and the training objectives.</td>
</tr>
<tr>
<td></td>
<td>• Trainees are able to demonstrate acquired competencies on-the-job.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Evaluation of trainees is in accordance with Fire Service procedures.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.5</td>
<td><strong>Assess trainee's competence</strong>&lt;br&gt;• Trainee's performance is measured against competency requirements and learning outcomes.&lt;br&gt;• Feedback given to trainees on their assessment and provisions made for suitable remedial action based on assessment outcome.&lt;br&gt;• Assessment results are recorded in accordance with established Fire Service procedures.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Evaluation of trainees is in accordance with Fire Service procedures.
# AUSTRALIAN FIRE SERVICES COMPETENCY STANDARDS

## UNIT: 9 - LIAISE WITH COMMERCE, INDUSTRY AND THE COMMUNITY

<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.1</td>
<td>Represent the Fire Service in public forums and community functions.</td>
</tr>
<tr>
<td></td>
<td>- The Fire Service message is imparted accurately and in a clear, concise and confident manner.</td>
</tr>
<tr>
<td></td>
<td>- Opportunities to explain and promote the Fire Service’s work are taken up.</td>
</tr>
<tr>
<td></td>
<td>- Accurate technical information is provided as required and a record is kept of each event.</td>
</tr>
</tbody>
</table>

## RANGE STATEMENT

The Fire Service message includes information about:

- Fire Safety guidelines and policies
- Public education
- Community awareness
<table>
<thead>
<tr>
<th>PERFORMANCE CRITERIA</th>
<th>ELEMENT</th>
<th>Liase with media at incidents 9.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information that is provided to the media at incidents is accurate and strategically communicated, to meet needs of the appropriate medium.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire Service is presented in the best possible image to the public.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>During fires and emergency situations confidentiality of information is maintained, where appropriate.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A media liaison officer will be appointed at major incidents according to Fire Service procedures.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<p>| RANGE STATEMENT | |
|-----------------| |
| Information which may be confidential includes: | |
| - Industrial processes and procedures | |
| - Personal details concerning death or injury | |
| - Security matters | |</p>
<table>
<thead>
<tr>
<th><strong>ELEMENT</strong></th>
<th><strong>PERFORMANCE CRITERIA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>9.3</td>
<td>Organise special promotions</td>
</tr>
<tr>
<td></td>
<td>• Special promotions are organised to explain and demonstrate activities of the Fire Service.</td>
</tr>
<tr>
<td></td>
<td>• Promotions are organised demonstrating basic public relation concepts and techniques.</td>
</tr>
<tr>
<td></td>
<td>• Promotions should convey Fire Service message, ensuring they are accurately and strategically communicated to target audiences through methods appropriate to each circumstance.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Special promotions may include:

- state and local shows
- career promotions
- marches and ceremonies
- Fire Safety Week
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
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</thead>
<tbody>
<tr>
<td>9.4</td>
<td>Liaise and promote activities within the Fire Service</td>
</tr>
<tr>
<td></td>
<td>• The purpose and activities of individual areas within the Fire Service are understood and accepted by the rest of the Service.</td>
</tr>
<tr>
<td></td>
<td>• The highest possible level of mutual co-operation is achieved.</td>
</tr>
<tr>
<td></td>
<td>• Innovation in the work group is publicised throughout the organisation.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Publicity is disseminated by:

- *internal minutes and memos*
- *Fire Service magazines and newsletters*
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.5</td>
<td>Prepare and implement a marketing plan</td>
</tr>
<tr>
<td></td>
<td>• The marketing plan that is appropriate to the activities of the Fire Service accurately identifies the Fire Service target audiences and their needs.</td>
</tr>
<tr>
<td></td>
<td>• Promotional strategies effectively explain and link the activities of the Fire Service to the satisfaction of those needs.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Marketing plan will consider:

- client's needs
- strategic plan
- new equipment
- new services
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.6</td>
<td>Prepare and issue media releases on operational matters</td>
</tr>
<tr>
<td></td>
<td>- Media releases are accurate, relevant and timely and meet the needs of Fire Service policy.</td>
</tr>
<tr>
<td></td>
<td>- Pre-prepared media releases are scrutinised before release</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Releases are scrutinised for:

- confidentiality
- security
- accuracy
<table>
<thead>
<tr>
<th><strong>ELEMENT</strong></th>
<th><strong>PERFORMANCE CRITERIA</strong></th>
</tr>
</thead>
</table>
| 9.7 Identify and build rapport with stakeholders | • A complete and accurate identification can be made of individuals and groups within the community who have a vested interest in the operations of the Fire Service.  
• Relationships, trust and mutual understanding are formed between the Fire Service and these individuals and groups. |

**RANGE STATEMENT**

• Other stakeholders may include:  
  - equipment suppliers  
  - community groups  
  - insurance industry  
  - general public  
  - state and local governments
## UNIT: 10 - LEAD AND MOTIVATE ALL PERSONNEL

<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
</table>
| 10.1 Instruct and direct personnel | • Instructions and directions are communicated to personnel through the use of simple, concise language.  
• Communication is clear, unambiguous and in line with identified needs.  
• Communication is maintained to emphasise work directions and to keep employees focused on objectives and goals |

### RANGE STATEMENT

Instruction and direction of personnel must adhere to EEO guidelines.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
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</thead>
<tbody>
<tr>
<td>10.2</td>
<td>Delegate responsibility appropriately</td>
</tr>
<tr>
<td></td>
<td>• Delegate tasks to individuals with appropriate authority, trust, training, monitoring and support.</td>
</tr>
<tr>
<td></td>
<td>• Tasks are delegated which are within the competency and confidence of individuals.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Delegation of work must adhere to EEO guidelines.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.3</td>
<td>- Individuals and teams are encouraged to provide innovative approaches to achieving work objectives and goals in a way that recognises and supports individual skills and knowledge.</td>
</tr>
<tr>
<td></td>
<td>- Work group initiatives are promoted in a way which acknowledges the importance of individual team member's contributions.</td>
</tr>
<tr>
<td></td>
<td>- Individuals are encouraged by exemplary role models.</td>
</tr>
<tr>
<td></td>
<td>- Feedback is encouraged from workers.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Personal development is encouraged by providing additional training opportunities.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.4</td>
<td>- Problems are solved and decisions are made to ensure optimum efficiency of operations and in line with management objectives.</td>
</tr>
<tr>
<td></td>
<td>- Staff are involved in important decisions which affect the workplace and are encouraged to contribute in a two-way communication process, to ensure effective decisions and resolution to the problems.</td>
</tr>
<tr>
<td></td>
<td>- Consultative mechanisms are developed, implemented and maintained.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Participative work practices are encouraged.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.5</td>
<td>• Feedback is given to individuals on their performance, in a regular manner, which reinforces achievements.</td>
</tr>
<tr>
<td></td>
<td>• Individual performance problems are addressed in a constructive and timely manner leading to improved performance.</td>
</tr>
<tr>
<td></td>
<td><strong>RANGE STATEMENT</strong></td>
</tr>
<tr>
<td></td>
<td>Feedback will be confidential.</td>
</tr>
<tr>
<td>ELEMENT</td>
<td>PERFORMANCE CRITERIA</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>10.6 Undertake counselling interviews</td>
<td>• Counselling interviews which improve performance are undertaken where appropriate.</td>
</tr>
<tr>
<td></td>
<td>• Staff are provided with frank and open feedback.</td>
</tr>
<tr>
<td></td>
<td>• Counselling interviews are conducted in accordance with Fire Service procedures.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Security will be maintained on records of counselling interviews.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.7</td>
<td>Set clear performance goals and objectives</td>
</tr>
<tr>
<td></td>
<td>• Performance goals and objectives are set to meet organisational objectives.</td>
</tr>
<tr>
<td></td>
<td>• Performance goals are achievable and realistic.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Objectives are established to reflect business/strategic plans.
## AUSTRALIAN FIRE SERVICES COMPETENCY STANDARDS

### LEVEL 5

### UNIT: 11 - ORGANISE AND CO-ORDINATE WORK AND TEAMS

<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
</table>
| 11.1 Allocate and re-schedule work | • Work is allocated to employees based on prepared work priorities, competencies of personnel and equipment available.  
• Sufficient information is provided to employees appropriate to the individual, to ensure the work objectives and methods are clearly understood.  
• Where necessary, work activities are allocated to individuals to provide suitable learning opportunities for their skill development.  
• Work re-scheduled where necessary to ensure work program objectives are met. |

### RANGE STATEMENT

Work program objectives include:

• change of priorities during incidents and emergencies  
• programs and projects working to a timeframe
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.2</td>
<td>Apply a team approach to management</td>
</tr>
<tr>
<td></td>
<td>• Staff are performing as a team, where team harmony is developed and maintained throughout operations by ensuring issues and conflicts affecting individuals and teams are resolved.</td>
</tr>
<tr>
<td></td>
<td>• Specific strengths and weaknesses of different individuals are identified and utilised for the attainment of work group outcomes and the job satisfaction of all individuals.</td>
</tr>
<tr>
<td></td>
<td>• Managers are able to employ management styles appropriate to needs of work groups.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Team building can be facilitated by:

- passing on information to all team members
- providing constructive feedback
- team has input into goal setting
- mutually agreed allocation and distribution of tasks

Managers conduct regular staff meetings.
<table>
<thead>
<tr>
<th><strong>ELEMENT</strong></th>
<th><strong>PERFORMANCE CRITERIA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>11.3</td>
<td>Allocate work to meet job and people requirements</td>
</tr>
<tr>
<td></td>
<td>• Work is allocated to take account of the needs of the job, the individual and team goals, individual strengths and work preferences.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

When allocating work the following should be considered:

• skill levels  
• seniority level  
• size of the task/job  
• development opportunities/requirements
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.4</td>
<td>Determine status of pending work</td>
</tr>
<tr>
<td></td>
<td>• Status of pending work is determined, in order of priorities, taking into account the needs of the Fire Service and availability of resources.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Work is prioritised according to:

- decision made by most senior officer
- availability of resources
- emergency/routine situation
- available information
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
</table>
| 11.5 Monitor work performance and work progress | • Work is performed in line with Fire Service operational requirements and objectives, ensuring that safe work practices are maintained.  
• Methods and procedures of work are monitored and refined in consultation with management and staff.  
• Work performance rates are maintained, with delays minimised, to ensure objectives are met.  
• Deficient work performance and progress is rectified upon identification and counselling. |

**RANGE STATEMENT**

Work is performed and monitored in accordance with Fire Service procedures and practices.
<table>
<thead>
<tr>
<th><strong>ELEMENT</strong></th>
<th><strong>PERFORMANCE CRITERIA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>11.6</td>
<td>Participate and supervise the specified program to meet its objectives.</td>
</tr>
<tr>
<td></td>
<td>• Specific programs are supervised and participated in, to ensure an outcome.</td>
</tr>
<tr>
<td></td>
<td>• Management techniques and plans are adopted which are appropriate to the attainment of specific objectives.</td>
</tr>
<tr>
<td></td>
<td>• Mechanisms to monitor and ensure effective utilisation are in place.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Management techniques may include:

- chairing meetings
- meeting formats
- minute keeping
- setting goals and objectives
- project management
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
</table>
| 11.7 Organise self and work | • Activities are undertaken in a manner which makes best use of available time and resources.  
                              • The improvement of workplace efficiency and effectiveness is consciously worked toward.                                      |

**RANGE STATEMENT**

Time management may include:

- delegation
- telephone techniques
- use of a diary
- open-door management
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.8</td>
<td>Participate as a member of a team</td>
</tr>
<tr>
<td></td>
<td>• Provide contribution to the project, as well as lead and motivate the rest of the team, providing a strong support for team members.</td>
</tr>
<tr>
<td></td>
<td>• Management structure and style are maintained appropriate to the task or project.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Ensure effective use of the chain of command is maintained at all times.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
</table>
| 11.9 Co-ordinate workflows and staff | - Workflows and staffing are co-ordinated in ways that minimise unproductive time.  
- Individual staff abilities are used and improved work skills are developed.  
- A positive and supportive environment is provided for staff and individuals. Team work methods are consistent with the Fire Service culture. |

**RANGE STATEMENT**

Input concerning workflows is sought from:

- immediate ranking officer
- subordinates
- peers
- specialist
<table>
<thead>
<tr>
<th><strong>ELEMENT</strong></th>
<th><strong>PERFORMANCE CRITERIA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>11.10</td>
<td>Evaluate differences amongst staff</td>
</tr>
<tr>
<td></td>
<td>• Specific strengths and weaknesses of different individuals are identified and utilised for the attainment of work group outcomes and the job satisfaction of the individual.</td>
</tr>
<tr>
<td></td>
<td>• Staff are performing as a team or moving towards effective team performance.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

EEO guidelines must be adhered to.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
</table>
| 12.1 Prepare capital and recurrent estimate budget | • A capital and recurrent budget estimate is prepared, to ensure that the necessary funds to operate a section/station/department for a fiscal year, are accurately determined.  
• The budget details organisational requirements, together with supporting evidence. |

**RANGE STATEMENT**

Budgetary requirements will comply with Fire Service budgetary policies and procedures.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
</table>
| 12.2 Administer financial budget | • Budget is administered according to financial policies and to ensure effective resource usage.  
• Financial information is analysed and accurately used to achieve planned priorities.  
• Spending will be monitored on a regular basis. |

**RANGE STATEMENT**

Financial budget administration will comply with Fire Service budgetary policies and procedures.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.3</td>
<td>Implement program and performance budgeting</td>
</tr>
<tr>
<td></td>
<td>• Program and performance budgeting is implemented in accordance with organisational policies.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Performance budgeting is implemented in accordance with Fire Service budgetary policies and procedures.
<table>
<thead>
<tr>
<th><strong>ELEMENT</strong></th>
<th><strong>PERFORMANCE CRITERIA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>12.4</td>
<td>Use a management information system</td>
</tr>
<tr>
<td></td>
<td>• The management information system is used to provide timely and accurate information, which can be used to assess problems and develop solutions, in relation to services and operations.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

A management information system includes:

- computer data base
- files
- filing system
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.5</td>
<td>Control maintenance of fleet vehicles and equipment</td>
</tr>
<tr>
<td></td>
<td>• The maintenance of fleet vehicles and equipment is controlled and monitored to ensure it is maintained within budget constraints and to Fire Service specifications and guidelines.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Control and maintenance of fleet vehicles and equipment is controlled by Fire Service policies and government regulations.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.6</td>
<td>Authorise the supply of uniforms and equipment</td>
</tr>
<tr>
<td></td>
<td>• Uniforms and equipment are supplied to specified Fire Service standards.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

The supply of uniforms and equipment is governed by Fire Service policy and award conditions.
<table>
<thead>
<tr>
<th><strong>ELEMENT</strong></th>
<th><strong>PERFORMANCE CRITERIA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>12.7 Manage maintenance of district property and appliances</td>
<td>• District property and appliances are appropriately maintained, to ensure maximum operational effectiveness, within the constraints of budget allocation.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Maintenance of property and appliances may involve:

• day-to-day requirements
• periodic schedules
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.8 Monitor the maintenance of resource directories and inventories</td>
<td>• Resource directories and Fire Service inventories are appropriately maintained to ensure that they contain accurate and up to date information.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Resource directories and inventories include:

- available training aids
- staff disposition
- listing of minor equipment
- equipment disposition
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.9</td>
<td>Co-ordinate committees to draft specifications for Fire Service supplies</td>
</tr>
</tbody>
</table>

- Committees are co-ordinated, in line with meeting procedures, to draft specifications for Fire Service supplies.
- Specifications detail future requirements for the effective operation of Fire Service activities.

**RANGE STATEMENT**

Fire Service supplies may include:

- appliances and equipment
- uniforms and protective clothing
- foam suppliers
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.10</td>
<td>Maintain staff roster system</td>
</tr>
<tr>
<td></td>
<td>• Staff roster must meet minimum specifications to ensure adequate staffing availability for response to emergencies.</td>
</tr>
<tr>
<td></td>
<td>• Staff roster system provides an accurate indication of working times for staff.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Roster system must adhere to Fire Service operating procedures and:

- EEO guidelines
- award conditions
# ELEMENT PERFORMANCE CRITERIA

<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
</table>
| 13.1    | • Accurately forecast and plan skills and abilities requirements for the future.  
|         | • Forecasts to contain contingency plans for changes in circumstances. |

## RANGE STATEMENT

Advice for planning is sought from:

- immediate section heads
- policy-making sections
- training sections
<table>
<thead>
<tr>
<th><strong>ELEMENT</strong></th>
<th><strong>PERFORMANCE CRITERIA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>13.2</td>
<td>Manage performance appraisal</td>
</tr>
</tbody>
</table>

- Performance appraisal system is managed to ensure that it provides agreed measures of performance for personnel and the means of addressing identified shortcomings in the work process and in skills and knowledge.

- The system will effectively monitor staff performance and identify training and development needs.

- Performance standards and indicators are established and reviewed regularly, to match the requirements of the organisation and identify individual strengths and weaknesses.

**RANGE STATEMENT**

Confidentiality of the performance appraisal is maintained.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.3</td>
<td>Apply team approach to work management</td>
</tr>
</tbody>
</table>

- Staff are performing as a team displaying cohesion and shared values and deployed effectively to meet organisational requirements.
- Manager is able to employ a management style appropriate to the needs of the work group.

**RANGE STATEMENT**

To effectively meet the organisational requirements:

- group must understand and acknowledge objectives
- group dynamics must be controlled and monitored.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.4</td>
<td>Interview, recruit and select staff</td>
</tr>
<tr>
<td></td>
<td>• Appropriate interview selection and recruitment procedures are followed, and the best available people are selected for positions.</td>
</tr>
<tr>
<td></td>
<td>• Promotions, transfers and selections are made with satisfactory, justified and documented reasons.</td>
</tr>
<tr>
<td></td>
<td>• Account should be taken of career paths and plans which utilise the best available talent and provide smooth transitions for staff from one job role to the next.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Recruitment procedures must adhere to:

- Fire Service procedures
- government guidelines
- EEO guidelines
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.5</td>
<td>• Awards and agreements are interpreted correctly and appropriately applied.</td>
</tr>
<tr>
<td></td>
<td>• Policy regarding industrial relations is communicated to all levels of personnel.</td>
</tr>
<tr>
<td></td>
<td>• Awards and union agreements are understood, interpreted and administered.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Awards consist of:

- industrial awards
- policies as established by Fire Service
- government industrial relations policies.
<table>
<thead>
<tr>
<th><strong>ELEMENT</strong></th>
<th><strong>PERFORMANCE CRITERIA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>13.6</td>
<td>Resolve employee grievances and complaints</td>
</tr>
<tr>
<td></td>
<td>• Grievances and complaints are resolved to the satisfaction of the parties, without the need for reference to an outside arbitrator and resolved prior to attendance with the Industrial Relations Commission.</td>
</tr>
<tr>
<td></td>
<td>• Where possible industrial disputes are resolved with minimal cost and loss of productivity.</td>
</tr>
<tr>
<td></td>
<td>• Managers recognise the legitimate role of unions in the workplace and maintain effective consultative processes.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

- Industrial Democracy and participative practices will be adhered to.
- EEO policies, as adopted by the Fire Service, must be adhered to.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.7</td>
<td>Produce career and succession plans</td>
</tr>
<tr>
<td></td>
<td>- Career and succession plans are produced, which utilise the best available talent and provide training to assist smooth transition for staff, from one job role to the next.</td>
</tr>
<tr>
<td></td>
<td>- Information on competencies required for each level is communicated to staff.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Information can be communicated by:

- meetings
- conference
- internal minutes/memos
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.8</td>
<td>Establish performance indicators for work groups and individuals</td>
</tr>
<tr>
<td></td>
<td>• Performance standards and indicators are established and reviewed regularly, to match the requirements of the organisation and to identify the individual's strengths and weaknesses.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Performance indicators are established to ensure optimum efficiency of the individual and equipment.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.9</td>
<td>Assess and apply information about the principles of OH&amp;S, EEO and Industrial Democracy and Freedom of Information</td>
</tr>
<tr>
<td></td>
<td>- Information is assessed and accurately applied, in the appropriate circumstances.</td>
</tr>
<tr>
<td></td>
<td>- The working environment is equitable and safe and conforms to the requirements of government policy.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Adherence to these principles contribute to ensuring:

- discriminatory practices are minimised
- safe working practices are adhered to
- equitable access to information is available
- input from all workers is encouraged
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
</table>
| 13.10 Administer and investigate disciplinary actions and procedures. | • Disciplinary actions are investigated, to decide on the necessary procedures and to ensure accurate information to the satisfaction of the Chief Fire Officer.  
• Disciplinary procedures are undertaken correctly and appropriately, to maintain acceptable performance and behavioural standards.  
• Procedures are followed to the satisfaction of the Chief Fire Officer.  
• Evidence is presented at disciplinary hearings. |

RANGE STATEMENT

Disciplinary actions are determined by:

• relevant Fire Service procedures  
• legislation  
• acts and ordinances
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.11</td>
<td>• Training and development needs of staff are accurately identified.</td>
</tr>
<tr>
<td></td>
<td>• Plans for staff development are in place and being followed through.</td>
</tr>
<tr>
<td></td>
<td>• Staff are encouraged to acquire new skills and develop existing ones.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Staff development needs are governed by chosen career paths
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.12</td>
<td>Investigate injuries/claims</td>
</tr>
<tr>
<td></td>
<td>- Claims and injuries are investigated to statutory requirements and organisational procedures and findings are accurately documented.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Injuries/claims are investigated according to OH&S policies, as determined by Fire Service policies, legislation and award conditions.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
</table>
| 14.1 Promote change within the Fire Service | • Change is promoted as an opportunity for improving individual and organisational effectiveness.  
• Staff are encouraged to adopt changes which make improvements in individual and organisation effectiveness.  
• Opportunities and threats presented by change are identified and appropriate responses are planned.  
• Staff are involved in designing and implementing change. |

**RANGE STATEMENT**

Changes can be as a result of changes to:

- technology
- procedure
- policy
- government legislation
- staffing levels
- finance
- staff
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2</td>
<td>Initiate change where necessary</td>
</tr>
<tr>
<td></td>
<td>• Change is managed in a planned and constructive manner.</td>
</tr>
<tr>
<td></td>
<td>• Senior management support is obtained for proposed initiatives for bringing about improvement in work procedures.</td>
</tr>
<tr>
<td></td>
<td>• Consultative processes are initiated where practical.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Changes can be as a result of changes to:

- technology
- procedure
- policy
- government legislation
- staffing levels
- finance
- staff
### ELEMENT PERFORMANCE CRITERIA

<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
</table>
| 14.3 Implement proposed changes | - Implementation of change is managed in a way which maximises the benefits of change and minimises the negative side effects.  
- The organisational benefits of change are acknowledged and supported.  
- The impact of the change is fully assessed and implications for the workplace are made known.  
- Clear instructions are provided to ensure change processes are effective. |

### RANGE STATEMENT

Implementation of changes will take account of:

- Fire Service policy
- Government legislation
- Award conditions
- Future direction
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
</table>
| 14.4 Forward plan activities | - Activities and projects are actioned in line with overall planning processes.  
- Plans are regularly updated to incorporate changing circumstances.  
- Specific review and feedback processes are implemented to track performance against plans. |

**RANGE STATEMENT**

Ensure input from other stakeholders is obtained.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.5</td>
<td>• Effective contributions are made to the development of forward planning for the Fire Service.</td>
</tr>
<tr>
<td></td>
<td>• Contributions are consistent with the corporate mission goals and objectives of the Fire Service.</td>
</tr>
<tr>
<td></td>
<td>• Contributions account for activities in the workplace.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Consideration towards the planning process must be given to:

• drafting of the business plan
• organisational objectives
• future directions
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.6</td>
<td>Assist in the preparation and implementation of Fire Service operational plans</td>
</tr>
<tr>
<td></td>
<td>• Plans are prepared which incorporate the views of others and contribute to the overall performance of the organisation.</td>
</tr>
<tr>
<td></td>
<td>• Fire Service operational plans are tightly linked to corporate plans.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Operational plans may include:

- pre-incident plans
- hazard assessment plans
- response priority
- resource allocations
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PERFORMANCE CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.7</td>
<td>Implement corporate objectives and plans</td>
</tr>
<tr>
<td></td>
<td>- The Fire Service corporate objectives and plans are translated into the activities and projects of the Fire Service.</td>
</tr>
</tbody>
</table>

**RANGE STATEMENT**

Corporate plans and objectives are implemented at sectional level taking into consideration:

- OH&S policies
- EEO policies
- award guidelines
- Fire Service procedures
### AUSTRALIAN FIRE SERVICES COMPETENCY STANDARDS

**LEVEL 5**

**UNIT: 15 - DEVELOP, IMPLEMENT AND EVALUATE POLICIES**

<table>
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| Assess and apply Fire Service policy and procedures | - Information on Fire Service policy is assessed and applied correctly.  
- Staff are aware of and understand the importance of applying Fire Service policy initiatives. |

**RANGE STATEMENT**

Staff have access to Fire Service policy, via:

- staff minutes and memos
- Standing Orders
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<tr>
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<td>Prepare formal submissions on policy and operation issues</td>
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<td></td>
<td>• Submissions are concisely written, following correct procedures.</td>
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<td>• All relevant aspects are covered, arguments are soundly based and clearly expressed, with conclusions justified and consequent recommendations confidently advocated.</td>
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<td>Submissions can cover:</td>
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<td>• equipment/resource allocation</td>
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<td>• revision of policy</td>
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<td>• hazard identification and reduction</td>
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**RANGE STATEMENT**

Policy advice can include information concerning:

- equipment/resource allocation
- revision of policy
- hazard identification and reduction
- changes to work practices, where the need has been identified
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<td>Represent the Fire Service in interpretation of policy to outside bodies</td>
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<td>• Fire Service is represented in the best possible manner to external organisations, ensuring the policies are correctly interpreted and applied.</td>
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**RANGE STATEMENT**

External organisations include:

- community groups
- associated industries
- government departments and organisations
- other agencies
Investigation Procedure Flow Chart 1

Issue arises

Complaint dismissed

Step 2
Complaint is received by Issue Resolution Registrar
Complaint assessed

Formal Resolution

Step 1
Issue resolved through Informal resolution

Within 7 days

Step 2
Complaint is received by Issue Resolution Registrar
Complaint assessed

Step 3
Issue Resolution Registrar appoints Review Officer

Within 7 days

Step 4
Review Officer determines process required
Report prepared including findings

Within 28 days (or as soon as reasonably possible)

Step 5
Issue Resolution Registrar receives report

Step 6
MFB Authorised Person receives the Report and determines response to findings

Complaint is not substantiated

Within 7 days

MFB advises response to relevant parties (disciplinary/remedial action?)

Document outcome; monitor resolution
Investigation Procedure Flow Chart 2 (Senior Management)

- **Issue arises**
  - Complaint dismissed
  - Complaint is received by Issue Resolution Registrar / inappropriate conduct is witnessed
    - Complaint assessed
      - Inappropriate for MFB Director Corporate Governance or Executive Manager Health and Safety to act as Issue Resolution Registrar?
        - Yes
          - Member of SSA Panel appointed as Issue Resolution Registrar
        - No
          - Formal Resolution
  - Step 2
    - Issue Resolution Registrar appoints member of SSA Panel as Review Officer
  - Step 3
    - Review Officer determines process required
      - Within 7 days
      - Within 28 days (or as soon as reasonably possible)
    - Report prepared including findings
  - Step 4
    - Issue Resolution Registrar receives Report
      - Within 7 days
    - MFB Authorised Person (Director Corporate Governance, CEO or nominee of the President of the Board) receives the Report and determines response to findings
      - Within 7 days
      - Complaint is not substantiated
        - Within 7 days
          - MFB advises response (disciplinary/remedial action?)
            - Document outcome; monitor resolution
  - Step 1
    - Issue resolved through informal resolution

22 March 2010
DESIGN & DELIVERY MANUAL FOR NEW & REFURBISHED FIRE STATIONS
REVISION HISTORY

Note that all issued documents are to have a ‘Revision’ reference number or date attached to it.

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<td>- Dan Di Donato MFB Property Services</td>
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Protocols

Protocols for the control of the documents within this manual
The Manager, Property Services Department is the controller for the distribution of this document.
All changes or revisions to individual documents are to have a revision number or date attached to it.
Prior to the internal distribution of any document, the Property Services Department is to be issued with an advance copy containing the revision number or date. The revision number/date of the document is to be updated on the contents page at each issue.
The Property Services Department will be the responsible party for the maintenance of the manual.
The Property Services Department will be the responsible party for the issue to external parties of the documents within this manual.

For issue to external consultants and contractors
It is advised that the current content page be issued with the issue of any of the documents within this manual ie a partial issue of the Design and Delivery Manual. Recipients of the document/s will then be able to see the extent of the reference documents available for review and the currency of the documents.

Document issued for tender purposed
Consultants and contractors who have previously been engaged by the organisation and are familiar with the procedures and protocols may not be issued with the full set of Design and Delivery Manual documents. External consultants and contractors may request updates of documents where the revision numbers do not match that previously issued.

Amendments to the fire station design guide
It is envisaged that changes, clarification of omissions discrepancies, reformatting to this manual will be ongoing for a period of time after the adoption of the manual.

To ensure operational continuity, from time to time changes, in particular, to improve occupational health and safety aspects of the design manual may occur with approval at the fire station design steering committee as it has representation from the UFU, OH&S, Operational representatives from the various Zones and relevant departments. However changes approved can only occur if does not affect the intent of this design manual.
Acknowledgments

The Metropolitan Fire & Emergency Services Board has produced this New Fire Station Delivery Manual. However, a number of other organisations have contributed significantly to its production:

Primary technical consultants
StrataPNA Architects
BRT Consulting Engineers
Tony Green, Tony Green Architects
Peter James, Sustainable Built Environments

Continual improvement policy

In the interests of maintaining quality and accuracy, this Manual will be periodically reviewed and revised, taking into account current best practices and building performance information.

Feedback

Feedback on this document is welcome and should be addressed to:

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Use by external agencies

Other Government Departments are encouraged to utilise these Principles and Guidelines in design and construction activities. It is anticipated they will also be of benefit to building professionals such as architects, engineers, project managers and construction contractors.
Preface

The Metropolitan Fire & Emergency Services Board continues to successfully build, operate and maintain Fire Stations. To assist in the delivery of new Fire Stations the MFB have in recent years employed a “New Fire Stations Consultants Briefing” document, the latest edition of which is presented here and has been given the working title “Design and Delivery Manual for New & Refurbished Fire Stations (2010)”. Whilst compliance with purpose, accommodation, and functional requirements are a given it has been the integration of energy and sustainability targets that have been the focus of this document.

The main aim sought to be achieved in the compilation of this Design and Delivery Manual for New & Refurbished Fire Stations (2010) has been to provide integrated Energy Performance Improvements and Integrated Sustainability Advice. In previous versions of this document an Energy Brief had been provided in an appendix and sustainability advice had been given its own dedicated section. However, in this current version it has been the intention to integrate these items into each of the consultants’ design briefs.

Inclusion of design features that enhance the energy and sustainability performance of Fire Stations have developed gradually over the last decade. However, it is understood that this Design and Delivery Manual for New & Refurbished Fire Stations (2010) represents the first concerted attempt to consolidate the experience and lessons learnt to date, and to attempt to provide benchmarks and targets for energy and sustainability performance. The main omission of this document is that there is a considerable amount of energy data, design lessons and maintenance/operational cost data and feedback that has not yet been collated and reviewed and that would add valuable input.
1.0 GENERAL

1.1 GENERAL HOUSE RULES FOR WORKING ON A MFB SITE

1.1.1 Shutting Down Plant and Services

Any significant interruption to basic services, such as water, power or communication, the contractor much complete a Permit – to – work Approval Form and have it signed off by an approved facilities staff member.

1.1.2 Rubbish Housekeeping

Contractors and sub-contractors must clean up the work area as work proceeds. Housekeeping must be regular and ongoing, every day. No rubbish is to be left on site or in MFB rubbish bins.

1.1.3 Dust and Liquids

Strict control of dust and liquids when working on an MFB site is compulsory. Discuss your plans to control these major problems with the nominated MFB representative.

1.1.5 Water

When roof, wall or floor penetration is necessary, suitable waterproof tarpaulins are required depending on weather conditions. Roofing must always be reinstated before completion of the days work.

1.1.6 Chemicals

The MFB requires that all chemicals must be cleared and approved prior to use and Materials Data Sheets provided.

No lead based pain is allowed to be used on any MFB site.

1.1.7 Site Security

Contractors whilst working on MFB premises are subject to the State Crimes Act and other stringent legislation. To conform to this legislation the following applies:

The use of MFB computers and other allied equipment is forbidden.

The use of telecommunications monitoring and/or recording equipment on site is forbidden.

The unauthorised removed of MFB property including paperwork relating to MFB workings and activities is strictly forbidden. Paper in the “shredder” bin falls within category.

Data and confidential documents relating to MFB projects are to be kept secure at all times.

Have arrival and departure entered in occurrence book (stations) attendance books at other (admin) sites.

Do not leave the site unless MFB staff are present (if working in stations) station must not be left unsecured.

1.1.8 Fire Safety

In the event that the fire fighters get called out to an emergency, all contractors must follow the directions of the on-duty Station Officer at a Fire Station and/or fire wardens at an Administration Building. Do not leave the fire station un-locked.

Contractor Pass must be worn at all times
Notify the on-duty Station Officer or nominated MFB representative of entrance and departure. Site must
remain secure at all times.

Within the MFB buildings
NO smoking
NO cameras
NO arc welding
NO explosive powered tools
USE hot work permits where required
CLEAN up work area as work proceeds
REGISTER / COMMUNICATE entry and exit times via the nominated MFB representative

Within the Fire Station
NO solvent based paints
NO water or dust
NO contractors can park their cars on site without prior approval

This document should be read in conjunction with Metropolitan Fire and Emergency Service Board Contractors
OH&S Induction Booklet. All contractors and their staff are required to complete an induction prior to working on
an MFB site.

A Fire Station is considered a Fire Fighters home while they are on duty and contractors are required to treat
the building as such, taking into account discretion and courteous behaviour when entering or working in area’s
such as living areas and private areas such as bedrooms and bathrooms.

Contact Numbers
If you are unsure about some of your works or have a question, please contact the Project Manager or
Supervisor who is running the project.

Or call the Help Desk 03 9665 4444 (external) or Extension 4444
Or call Emergency Control Victoria on 03 9665 4300

1.2 OVERVIEW AND USER GUIDE FOR DESIGN DELIVERY MANUAL FOR NEW &
REFURBISHED FIRE STATIONS

1.2.1 User Guide
This Design and Delivery Manual is divided into 9 Sections:

Each Discipline in the Design Team is required to make themselves familiar with all relevant sections directed
to them.

1.2.2 Purpose
The Design and Delivery Manual for New & Refurbished Fire Stations is a practical guide to assist the entire
Project Team in the delivery of new Fire Stations and refurbishments to existing operational Fire stations. It is
intended for use with new fire stations regardless of size, cost, complexity and source of funds.

Its purpose is to integrate current best practice and policy initiatives in the areas of design, construction,
operation, maintenance and environmental sustainability into the planning, design and construction processes
for all new capital works. Moreover, this document focuses on “learning from the past” in that it integrates key
recommendations and lessons learnt which arose from a previous report that analysed historic energy
performance data of the 47 Metropolitan Fire Stations and from several site energy audit surveys.

Requirements for alterations and additions to existing fire stations are more flexible and subject to change.
Compliance should be specific or as intended in this document.
1.2.3 Objectives

The objectives of Design and Delivery Manual for New & Refurbished Fire Stations are:

(i) To deliver buildings which reflect all current policy initiatives of the MFB.
(ii) To deliver buildings, which meets all the accommodation requirements of the MFB as identified by the Brief
(iii) Produce an “intelligent” building solution that will deliver:-
   (a) Lower building operating and lifecycle costs
   (b) Improve the environmental sustainability of the building and achieve sustainability targets in the following areas:
      • Management
      • Energy
      • Indoor Environmental Quality
      • Water
      • Materials
      • Land Use and Ecology
      • Emissions
      • Social
   (c) Improved flexibility of building services performance, tailored to occupant needs and the building owner’s requirement to eliminate energy wastage
   (d) A clear reflection of the MFB’s role in the community
   (e) A clear reflection of the MFB’s concern for the environment
(iv) Provide a building design which is achievable within a clearly established project budget and which proceeds to documentation and construction within that budget.
(v) To enable a cycle of continual improvement with respect to the delivery of new Fire Stations and to enable the continual revision and improvement of this Delivery Manual in the pursuit of the former mentioned aim.

1.2.4 An Introduction to the MFB

1.2.4.1 MFB Profile

The Board is constituted under the Metropolitan Fire Brigades Act 1958 (“the Act”). The organization’s name and role changed along with its Board and management structure following amendments to the Act in 1997. The MFB Board’s role of protecting life and property from fire in the Metropolitan Fire District (“MFD”) was broadened to deal with a greater range of emergencies and to encompass more aspects of community safety and emergency prevention activities.

The Board has approximately 1500 professional fire fighters manning 47 (as of 1st September 2000) strategically located fire stations around the MFD and other operational departments. They are aided by approximately 240 support staff (technical and administrative employees). Assets in the MFD comprise property valued at close to $200 billion, vital community infrastructure and, during the working day, around 3 million people within the MFD.

The Board is accountable to the Minister for Police and Emergency Services and is mainly funded by contributions from the State Government (12.5%), Local Government (12.5%) and insurers (75%). Funding from fee for service and other internal means also contribute to the Board’s overall budget requirements.

The Office of the Emergency Services Commissioner establishes and monitors standards to be used by all emergency services agencies.
1.2.4.2 MFB Mission and Corporate Policy Statements

CORPORATE ACTION PLAN

(Note: To be amended to include latest action plans as an attachment to the Brief)

Recently the MFB formulated a new Corporate Action Plan covering the period 2002 to 2005 that has the following key elements.

Our Mission –

“Protecting Our Community.”

To protect our community from those risks for which the government has given us the responsibility of addressing, not just by responding to emergencies but firstly by preventing them and helping our community to be prepared for such emergencies.

Our Goal –

“Saving lives, preventing injury and protecting the community and the environment.”

Our Objectives –

Initiative – showing initiative in our community safety activities and services

Response – providing an appropriate response to all calls for assistance and advice (each other and the community)

Professionalism – being professional in everything we do

The Corporate Action Plan will be implemented without loss of focus or capability in delivering the existing firefighters response capabilities and thus represents a significant broadening of the fire-fighters duties and training requirements.

SERVICES PROVIDED AND ACTIVITIES UNDERTAKEN BY THE BOARD INCLUDE:

The continuous protection from fire and other emergencies in Melbourne’s major Metropolitan area and providing assistance in the CFA/MFB mutual aid areas.

Rapid and effective emergency response services including:
Suppression of all types of fires
Urban Search and Rescue
High Angle Rescue
Road Accident Rescue
Emergency Medical Response (EMR) First Responder
On request, to emergencies on water in Port Phillip Bay
Industrial accidents and hazardous material handling and storage incidents.
Assisting other combat agencies in emergencies.
A range of community awareness, education and safety programs on fire and emergency prevention and preparedness.
Extensive technical input into the development of Australian Standards, Codes of Practice and Regulations affecting community safety and influence on related strategic direction and government policy.
Conducting building code related inspections of fire detection and suppression systems in buildings; industrial, commercial, public, sporting and entertainment facilities; and high-risk sites to ascertain compliance.
Development of fire safety and emergency plans for major events.
Fire investigation and cause analysis, and the provision of data to the community and external authorities.
Reviewing and inspecting the dangerous goods handling and storage practices of major hazardous materials sites.
Advice to the community, including councils and industry, on fire detection and suppression systems. Representation on councils for fire prevention planning and community risk management.

Attendance and participation with local councils in municipal emergency management planning exercises.

 Provision of expertise, technical advice and skills acquisition services to interstate and international organizations.

Commercial training, Consultancy services and the sale of fire safety services and equipment.

The Board has developed a Community Safety Program, which expands on the current community safety activities and makes greater use of the Board’s human and physical resources.

1.2.5 Project Philosophy

1.2.5.1 What Is A Fire Station?

Essentially a fire station is a complex building system, integrating workplace with accommodation, information technology, security systems, public accessibility and garaging for the Brigade’s primary “workhorses” - the fire trucks.

It must provide a pleasant, healthy, living environment whilst withstanding extremely hard wear, 24 hours-a-day / every day of the year.

In addition to being inherently durable, a fire station must be arranged to:

Ensure safe and easy and immediate access between living quarters and the appliance bay;

Segregate the public areas of the building from operational areas;

Provide for movement flow of fire fighters from living quarters to the appliance bay, separated by a suitable Personal Protective Equipment (PPE) changing area which enables fire fighters to put on or remove protective clothing prior to entering the living quarters;

Provide safe and secure access to plant areas for maintenance works; (v) Set a community example for fire engineering;

Provide a non-load bearing layout of interior walls. Fire stations will undergo changes to their layout over their lifespan and their design must adapt easily to those changes. The following should be taken into account:

- Changes to communications technology
- Population shifts causing alterations to the level of services required c) Changes in award conditions for fire fighters
- Developments in fire fighting technology
- Changes to appliance types and sizes (fire trucks)
- Changes to environmental demands
- Possible requirements for resale and change of use at the end of its useful life as a fire station.

1.2.5.2 Preferred Public Image

The MFB continues to enjoy the community’s high regard. This is in part due to the MFB’s prime function, fire fighting and rescue with the connotations of heroism, bravery and chivalry, which that entails.

It also stems from a number of broader qualities which the MFB is keen to promote. These qualities and their possible implications on building design are as follows:-

The building should respect its adjacent environment. The MFB are a part of the community it operates within, friendly, not aloof from the community.

The building should appear open and inviting. The MFB invites community participation and enquiries. It offers information and lectures as part of public awareness leading to public safety.

Even when the building is securely locked up, the public access and appliance bay must be immediately obvious, welcoming and accessible. The MFB is always there and ready to help with a “door is always open” policy.
The building should be of durable, good quality materials, without extravagance and be clearly representative of the 21st century. The MFB is a modern and efficient organisation, which uses state-of-the-art technology as a provider of services of excellence.

The building should exhibit a strong sense of environmentally sustainable design with the best use of passive and active energy conservation systems and practices. The MFB is a permanent body with a vested interest in personal health and environmental sustainability.

A fire station should be a clear expression of its function. It should be easily identifiable as belonging to a family of buildings without being a stereotype (as some popular fast food stores). It should not be able to be confused with a factory or commercial building.

The MFB is an active and energetic organisation. It does not sit and wait for emergencies to happen. It is constantly drilling, training and maintaining equipment. The MFB is made up of people. Windows and large glass doors should provide a view to activity inside and the large “shiny red trucks”.

1.2.5.3 Internal Organisation & Image

The internal planning and environment of a fire station should clearly reflect two distinct characteristics of the MFB.

The MFB is a hierarchical, although not elitist, organisation.

- It is clearly ordered with the station officer in control of the fire fighters.
- It is disciplined but friendly without the regimentation characteristics of the armed forces.

The fire station is a home to the officers and fire fighters.

1.2.5.4 Design Life

The MFB expects that a new fire station will have a service depreciation life of 40 years. Refurbished buildings have an expected depreciation life of 25 to 30 years, depending on the scale of refurbishment.

The service life is expected to include at least one major internal refurbishment to bring a station up to the standards applicable at the time.

Equipment is expected to have a 25-year life. The building should be designed against a life cycle which takes into account the following:-

- Expected design life of the building fabric
- Equipment life spans
- Expected internal refurbishment cycles
- Maintenance costs
- Cost of staffing the facility
- Operational costs

1.3 SITE ISSUES & BUILDING SPECIFICATION REQUIREMENTS

1.3.1 Title and Survey Information

The MFB will provide the Architect with complete Title information and a levels and features survey at a scale of 1:100 prepared by a licensed surveyor.

1.3.2 Adjoining Development Information

The MFB will provide or support the Architect with the production of adjoining development information whenever available. Proposed site layouts shall show all relevant adjoining development information and reflect any site planning or layout implications which result from the adjoining developments. Site plans should show
any adjoining development information as pertaining to local council for the assessment of town planning submissions.

1.3.3 Geotechnical Report

The MFB will provide the Architect with a Geotechnical report for the site based on the Australian Standard AS1726-1993. The architect and the civil sub-consultant may request additional bores/tests and the like to suit their specific requirements.

Comment by ESD Engineer will also be required on the suitability of the site for geothermal bore holes (for the potential installation of heat sink pipes to work in conjunction with a heat pump for the provision of heating and cooling to the building).

1.3.4 Contamination Report

Where considered necessary to do so or where required by the EPA, the MFB will arrange for a site contamination assessment report to be carried out and a copy of the report made available to the Architect. The report will be carried out in accordance with Australian Standard AS 4482.1-2005 "Guide to the investigation and sampling of sites with potentially contaminated soil, Part 1- Non-volatile and semi-volatile compounds.

1.3.5 Site Services Availability

The MFB will provide the Architect with details of all services available to the site as far as identifiable, through a detailed feature & services survey:-

e.g. electricity, gas, water, telephones, sewer, stormwater, etc.

Together with relevant capacities, connection points, pipe sizes, pressures, locations and depths. Where the provided information is not adequate the architect shall organise the required actions to obtain this information. The MFB will also provide any 'as built' drawings where available for existing buildings which are being refurbished.

1.3.6 Landscaping

To be in keeping with the conceptual items.

To assist in moderating the local micro-climate and complementing the building aesthetics.

Use of deciduous trees to promote shade in summer and sunlight in winter.

To provide dense perimeter “noise buffer” to assist reduction of “road noise”.

To be a low maintenance installation where possible as gardening is mainly carried out on a volunteer basis by fire fighters.

To incorporate low water use planting and water efficient water irrigation system.

Hard elements in the landscape design to be durable and low maintenance.

Inclusion of seating areas provided with sun shading.

1.3.7 Traffic Engineering

The MFB will engage traffic engineers to provide, after the production of conceptual site master planning, specific swept path diagrams of the appliances intended to be stationed at the fire station being designed or refurbished. The traffic engineers shall also check the general configuration of the site layout for car parking and any additional on-site operational vehicles intended to be stored at the station. In addition, the traffic engineers shall liaise with Vic Roads or local authorities regarding any changes to road conditions as generated by the movement of emergency vehicles on and off site.

Ready access to and from the site for MFB vehicles in any traffic conditions is fundamental to the successful operation of the proposed fire station. The MFB will engage and provide the services of a traffic engineer to carry out any necessary traffic studies for the site in order to assist the Architect to plan appropriately road access/ egress and for anticipated traffic flow.
1.3.8 Planning Policy

The MFB shall engage a town planning consultant to prepare and co-ordinate a town planning application submission if required. The town planning consultant shall co-ordinate the production of this submission with other consultants who are directly engaged by the MFB and principle consultant.

Sites selected for use as fire stations vary in zoning. Generally re-zoning is not required.

Fire stations are generally built in an industrial or residential zone and are a Class 3 and 7a under the BCA. If re-zoning of land is required in order to allow a fire station to be constructed, then the preparation of the re-zoning application is handled by a planning consultant selected and engaged by the MFB.

Careful consideration must be given to the following issues:

24 hour active occupation
24 hour call-out
lighting levels
noise levels
building scale
construction materials
landscaping

1.3.9 Planning Overlays

The site shall be carefully assessed for any existing planning overlays (e.g. heritage overlay, design development overlay) within the relevant Municipality’s Planning Scheme as the overlay may impact on the fire station planning and design.

1.3.10 Traffic and Public Transport Study

The design supports the reduction of transport-related greenhouse gas emissions of at least 10% in line with the Victorian Greenhouse strategy.

1.3.11 MFB Planning and Parking Requirements

1.3.11.1 External areas to be provided are:

Drill yard
Car parking
Barbeque area
Landscaping

1.3.11.2 Access and circulation

Drive-through facilities are essential (i.e. appliance enters the appliance bay from the rear or drill yard end and when exiting the building drives forward out onto the street.

1.3.11.3 Public approach

The public entrance (and approach) must be clearly obvious both day and night. For occasions when appliances are out on call and the station is locked, the emergency ‘phone to contact MFB central control must be prominently located.

1.3.11.4 Requirements for specific site areas:

(a) Drill yard
Used for training exercises such as ladder practice etc. and combined exercises with appliances from other stations.

Size: (to be maximized considering site constraints)
- 2 Bay – 800m2
- 3 Bay – 1200m2
- 4 Bay – 1300m2
- 5 Bay – (1400m2) If Identified as Hub Station 1500m2 *
- 6 Bay – 1500 m2

Location: Usually accessed from drive-through route. Direct relationship to Appliance Bay
Refer to Station Drill Yard Layouts & Sizes advice in Section 9

(b) Car parking

Used for S.O.’s and firefighters cars.

Size: Minimum No. of spaces to be provided as follows:
- 2 Bay – minimum 10 spaces
- 3 Bay – minimum 14 spaces
- 4 Bay – minimum 20 spaces

Wherever possible, provide 1 space for public use and 1 space for disabled use; refer to section 9.1 for site specific accommodation requirements.

Jockey parking is not acceptable.

Location: In secure area at the back of fire station.

Direct access to fire fighters and officers’ quarters for staff spaces.

Consideration shall be made to the collection of rain water runoff from the car park; pollution/oil traps and possible incorporation of rain water retention tanks.

(c) Barbeque area

Used by fire fighters and S.O.s.

Location: Close and over looked from fire fighters’ mess.

Provision of sun shading (shade cloth not acceptable) and weather protection if in an exposed position.

Glazed or sheltered spaces alongside or within the envelope providing access to light and fresh air. Can also be used to provide heating in winter.

(d) Perimeter fence

Refer to Section B - Appendix B: Minimum Fencing Requirements and Associated Drawings of the MFB Fire Station Security Standards

The default perimeter fence shall be corrugated steel fence 2.0m high unless dictated by other site and planning constraints. Ensure that solid fencing is adequately braced against lateral loads.

1.3.12 Fire Calls

Calls may occur at any time

All calls come and go to a centralized emergency service call centre and from there are directed automatically to individual stations.

Details of the call type, location and appliance to be taken are printed out by computer system in the Dispatch Alcove. An alarm sounds and the fire fighters promptly respond to the call.

The Station Officer attending the call collects the print out. If the call is at a building with an automatic alarm, the Officer also collects the relevant keys from the Dispatch Alcove key safe before joining the fire fighters on the appliance.
The Turnout System is fully automatic so that when crews are out, the station will be completely locked. An external telephone near the public entrance will link directly to the call centre to deal with any further calls.

1.3.13 The Public

Members of the public may enter a fire station for a number of reasons:
To notify the station of an incident
To make informal inquiries
To attend a group lecture or visit to the station (e.g. boy scouts, school groups)

The public enters the fire station through an entrance lobby, (which is overlooked and supervised by the Station/SO’s office). Depending on the nature of their visit, they may be directed either to the Station/SO’s office or the appliance bays. The public is rarely, if ever, allowed into the officer or fire fighters accommodation quarters.

The following areas are considered to be “public spaces” for the purposes of disability access:
Entry Foyer
Multi-Purpose Room
Visitor / disabled toilet
Dispatch Alcove (so people can access the appliance bay)
Appliance bay

The rest of the station building is considered to be private. A member of the public or a visitor by invitation may be taken through these areas. However, an employee will always escort them.
1.4 STRATEGIC DELIVERY PRINCIPALS

1.4.1 Project Environmental Sustainability Targets

The MFB is committed to implementing sustainable design practices. In order to meet this objective, Architects and sub-consultants are required to consider the four inter-related tenets of environmental sustainability at all stages of a building’s life:

Bio-diversity – protect and restore ecological diversity, health and functionality
Resources – optimize their use, especially non-renewable resources
Pollution – minimize pollution of soil, air and water
Quality of life – improve the health, safety and comfort of building users.

In practice, Architects are required to follow the specific design strategies and actions as set out in the Building Design Profession manual: “Environment Design Guide” published by The Australian Council of Building Design Professions, February 2000 together with current amendments.

Specific attention is drawn to document GEN 1 pages 5 to 10 inclusive, headed “Sustainable Design Strategies for Architects” and the following sub-headings –

1. Pre-design
2. Site and Planning Issues
3. Concept design
4. Resources – Material Selection
5. Resources - Energy
6. Resources – Water and Others
7. Construction Management
8. Building Operation and Management

Part of the MFB’s design evaluation and approval process will include consideration of the Architects’ responses to the above sub-headings 1 to 8 inclusive.

1.4.2 Project Administration & Management Structure

The project will be co-ordinated by the Property Services Department of the MFB.

The Architect will be responsible to the Property Services Department and take instructions from an authorized member of this Group.

The Architect shall be responsible for the coordination and adequate briefing of their sub-consultant team. Briefing will include the following workshops:

- At the commencement of the Schematic Stage, the Architect shall host a workshop for all consultants and client representatives as nominated by the MFB Major Projects Group Coordinator. The Workshop shall address all the items listed in 3.1 “Project Environmental Sustainability Targets” and agree specific design strategies under each of the above sub-headings noted in 3.1 ‘Project environmental sustainability targets’.

- At the commencement of the Design Development Stage the Architect shall host a second workshop to review and amend as necessary the strategies agreed at the commencement of Schematic Design. At the conclusion of the review, the amended strategy shall be signed off by each of the consultants and agreed with coordinator of MFB Major Projects Group.

The Architect shall issue any necessary checklists to sub-consultants as and when required in order to monitor progress of the consultant in achieving the agreed strategies from the “Project Environmental Sustainability Workshops” at Schematic Design Stage and Design and Development stages. The Architect shall keep the Major Projects Group coordinator informed.
The Architect will be required to review the briefing documents (provided by the MFB) with the various consultants and develop a specific brief for the facility. The final form of the brief will be the sketch design drawings, together with appropriate documentation that fully describes the proposal and shall be approved by the MFB prior to development approval submission.

The MFB will engage an independent Cost Planning Consultant to undertake cost planning for the project. It is expected that design and documentation will be completed within the Cost Consultant's initial project costings, without rework, to bring costs down at the time of tender.

The MFB will provide the services of a Town Planner to assist in the preparation, documentation and submission of the Town Planning Application, planning scheme amendments where necessary and attending planning appeals.

The MFB will provide the services of a Consultant Building Surveyor to review documentation and issue building permit.

1.4.3 Quality Assurance Requirements

The following performance standards will be expected to be maintained by the Architect and their consultant team for the duration of the contract and be subject to continuous monitoring by the MFB.

Achievement of “on schedule” performance of the various parts of the project.

Ability to understand the MFB’s briefing requirements and provision of all questions necessary to enable the ‘on schedule’ completion of sketch planning and the submission for a town planning permit and the following completion of contract documents.

Documentation completed with the minimum of errors that require corrections and result in variations to the project – Target 5 errors.

Design and documentation completed within the Cost Consultants’ initial project costings – that is: no rework to bring the costs down at the time of tender.

Work completed within the overall project budget.

Contractor completes project with no major defect problems and a minimal number of minor defects.

Mechanical services and air-conditioning systems function well with no complaints.

No roof leaks due to design deficiencies.

The building meets or exceeds all energy performance targets set for the project.

The building meets or exceeds all agreed environmental sustainability objectives set for the project.

The building meets or exceeds all OH&S requirements, including all MFB, OH&S practices and procedures for construction safety management.

Complete documentation at the end of the project and all necessary paperwork submitted to the MFB as required to facilitate future maintenance.

Diligent contract administration, minimal outstanding variations, claims, disputes or other problems for the duration of the contract.

As built drawings, manuals and service manuals delivered within 4 weeks of Practical Completion.

1.4.4 Project Benchmarking

The MFB will nominate recently completed Fire Stations, which may be used for benchmarking purposes. Such purposes may include quality of materials, quality of finish, attention to detail, mechanical and air conditioning performance, standard of structure, landscaping, etc.

1.4.4.1 Roles & Responsibilities

(i) The Architect will be required to review the briefing documents (provided by the MFB) with the various MFB user groups coordinated by MCP. At the direction of MCP, the Architect will develop a specific brief for this facility as previously noted.

(ii) The Architect shall carry out an analysis of the site to recommend optimum usage, including a review of planning requirements as applicable to the MFB in order to achieve an “energy smart” fire station that meets MFB’s current needs and be adaptable to meet future changes in requirements.
(iii) The Architect shall carry out a study of services requirements, both on and off site, which shall include electrical and gas services and distribution, sewer and storm water collection, drainage, water supply and distribution, security protection, voice and data services.

(iv) The Architect shall determine conformity with planning control and prepare documentation for planning approval. Planning Consultants and MFB representatives are responsible for consultation with authorities and applications for approval by planning authorities. Rezoning, seeking amendments to planning schemes or attending appeals is not part of the Architect’s role.

(v) The Architect shall prepare schematic design, illustrated by sketch drawings and reports.

(vi) The Architect is responsible for landscape planning, design and subsequent contract administration.

(vii) The Architect and consultant team are responsible for preparation of preliminary engineering details to ensure the feasibility of all proposed civil, structural and services works and their conformity with the appropriate regulations.

(viii) The Architect is responsible for preparation of developed designs including, as appropriate, developed sketch drawings, reports, engineering and specialist services recommendations to a stage satisfactory for submission and approval by town planning authorities.

(ix) The Architect and consultant team are responsible for inclusion of any engineering services, structural, civil, mechanical, electrical, IT, telephone, security, hydraulic and fire services to ensure that accurate cost plans may be prepared.

(x) The Architect’s reports shall identify the significant drivers of in-service life-cycle costs and verify design trade-offs between desirable and affordable capital investment decisions and the impact on optimum maintenance and support of the facility. This process shall include consideration of:

- Reduction of constructions costs
- Reduction of maintenance costs
- Reduction of user costs
- Reduction of future adaptation costs

(xi) The Architect shall allow time within the work program for the application of a thermal modeling program to the design. The modeling work will be carried out by an independent Consultant appointed by the Architect. The selected thermal modeling program shall have a proven track record.
2.0 ARCHITECTURE FIRE STATION DESIGN
FUNCTIONAL BRIEF

2.1 ARCHITECTURE
The architect shall read Sections 1 through 9 of this delivery manual and shall present a “return of brief” to the MFB to confirm their understanding and detail any exclusion to their work.

2.2 DESIGN QUALITY AND STANDARDS
This brief shall be read in conjunction with all Sections of this delivery manual.

The design of the works must comply with all applicable Australian and New Zealand Standards, Regulations and Authorities requirements.

The architect shall specify “robust” and reliable equipment and shall be able to provide the Client with references for existing sites where the equipment can be seen to be running.

The architect shall design the works so that convenient commissioning and future maintenance may be conveniently carried out (making parts accessible etc.).

The architect is to design the works in such a way that optimises so far as is practically possible the operational energy efficiency of the installation.

The architect shall include any items that are not specifically shown in this Document which in his/her opinion shall result in a satisfactory installation.

The architect shall utilise the ‘Guide Checklist’s’ in Section E of this manual and sign-off each checklist at stages of brief formulation, land assessment, schematic design, developed design and town planning. Items not ticked are to be brought forward to the following stage.

The architect shall include documents suitable for presentation to the user group at each design stage. Developed Design stage plans are to include scaled furniture plans.

2.3 GENERAL BUILDING REQUIREMENTS

2.3.1 Size Categories
Fire Stations generally are categorized according to either the number of bays or the number of appliances (fire trucks):

(i) Two Bay – 1 appliance
(ii) Three Bay – 2 appliances
(iii) Four Bay – 3 appliances
(iv) More than 4 bays

Follow the general design principles and room data sheets set out in this Brief.

The number of bedrooms, showers, appliance bays and size of Mess-rooms, ect. may vary in accordance with site specific data.
2.4 BUILDING FORM

Design considerations:

2.4.1 Orientation
Passive solar heating, cross ventilation and natural lighting - maximise Northern solar exposure for solar gains in winter and face main openings to South
Shape - minimise ratio of Building Envelope to floor area.
Zoning with buffer spaces e.g. Lobby, corridors
Consider atria - in deep structures to allow natural light penetration into building and to provide indoor courtyard at ground level. This could also function as a solar chimney to facilitate natural ventilation of appropriate areas.
Amenity further improved if appropriate vegetation planted and/or water feature (also has evaporative cooling effect)

2.4.2 Single vs. Double Storey:
Two storeys should only be considered where the site size cannot possibly accommodate a single storey building. This is because stairways and level changes are considered dangerous and are to be avoided if possible.

If two-storey construction is unavoidable, the following rooms may be located upstairs:
Refer to Site specific data brief in Section C for suggested Area/Rooms to be located upstairs.

2.4.3 Ceiling Heights
Generally – 2.7m (as a minimum)
Appliance bays – 5.5m clear of beams to allow for tilt-up cabin for maintenance of vehicles and
4.5m clear height at doorways when the appliance bay door(s) is in the fully open position.

2.5 FLEXIBILITY AND EXPANSION
The MFB is subjected to constant changes and fire stations must allow for these in the following ways:

2.5.1 Appliance Bays
One more appliance bay than the number of working appliances is always provided for future growth and the storage of spare vehicles in case a vehicle breaks down. It is for this reason that a one-appliance station has two bays; a two appliance station has three bays and so on.

2.5.2 Appliance Sizes
All stations must be capable of taking the largest vehicles with the exception of specialist appliances (e.g. turntable appliances or snorkels). For this reason, the Appliance Bay size is fixed

2.5.3 MAS (Metropolitan Ambulance Service) Accommodation
“To be Added/Included” if required

2.5.4 Siting and Planning
Where possible, stations should be planned and sited to allow for future expansion (e.g. the addition of fire fighters’ bedrooms).
2.6 MAINTAINABILITY

Ongoing maintenance, including; cleaning, plant servicing, routine decoration, routine fabric maintenance, landscape maintenance, minor and major repair and replacement work at fire stations represents a significant resource cost to the MFB. Not only must building fabric and plant items that pose increased maintenance cost are to be avoided, but the design must facilitate cost effective maintenance, for example, by the provision of easy access.

2.7 STRUCTURAL DESIGN

Design to comply with following:
The building is to be designed in such a manner that no internal load bearing walls are ever required. Columns or small props to provide roof support, which can be moved later on, are acceptable.

2.8 MATERIALS (BUILDING FABRIC)

2.8.1 General

2.8.1.1 Design to comply with following:
(i) Use materials with low allergenic characteristics.
(ii) Do not use hazardous and/or toxic materials. (Including organic chlorine-based materials e.g. PVC, vinyl).
(iii) Avoid the use of materials and insulation containing ozone depleting potential (ODP) blowing agents.
(iv) Specification of durable and low maintenance materials.
(v) Use low emission options for particle and composite boards.
(vi) Source local materials wherever possible.
(vii) Documentation should be accurate so that correct quantities of materials are delivered to site.
(viii) External louvers - Fixed louvers to reduce heat gain in summer and allow winter sun into areas that can be passively heated.
(ix) Dimension and detail building and fit-out design to require use of standard material sizes and components. Adopt a building grid/layout to maximise potential to standardise material dimensions/modules, reducing excessive waste
(x) Use reusable or recyclable materials wherever possible.
(xi) Minimise the use of building materials which have damaging ecological effects during harvesting and/or manufacturing.

2.8.1.2 Design considerations:
(i) Select similar products on basis life cycle cost analysis for options (total energy required).

2.8.2 Floors

2.8.2.1 Design to comply with following:
(i) Service lease instead of purchase - Consider leasing materials/products instead of purchasing e.g. carpets companies that offer "green lease" for floor covering. The company supplies carpet, maintains it throughout its life then replaces it when required. The used carpet is then fully recycled into new carpet.
(ii) Do not use native forest timber (local or imported). Instead consider options such as recycled timber, timber from verifiable sustainable forestry management plantations (i.e. not displaced indigenous forest), and native species plantation timber.
2.8.3 Walls

2.8.3.1 Design to comply with following:
(i) Protection of outer surface from rain wetting (wet masonry walls allow heat to escape many times faster than when dry.

2.8.3.2 Design Considerations:
(i) Façade integrated PV cells - PV cells form part of the façade replacing traditional materials (glass, cladding, sunshades) to partly offset cost.
(ii) Appropriate use of skylights.

2.8.4 Glazing

2.8.4.1 Design to comply with following:
(i) Low E glazing - Coating or laminate to improve solar/thermal properties of glass.
(ii) Thermally broken frames to reduce heat loss and gains.
(iii) Appropriate glazing areas, orientations and treatments.
(iv) Light window frames - Dark frames absorb heat and can become very hot to touch inside the building.
(v) Operable windows - Allow windows to be opened by occupants. Link to BAS/DDC in air conditioned facilities.
(vi) Internal window coverings - Type of blinds, curtains, etc affects thermal performance. Controlled by occupants. Can reduce glare, solar gain in summer and heat loss in winter.
(vii) External shading solutions - for control of solar access.

2.8.4.2 Design considerations:
(i) Double-glazing (if required to meet acoustic or energy requirements) - Reduces heat loss/gain through glazing.
(ii) Façade integrated PV cells - PV cells form part of the façade replacing traditional materials (glass, cladding, sunshades) to partly offset cost.
(iii) Appropriate use of skylights.

2.8.5 Ceilings

2.8.5.1 Design to comply with following:
(i) Appropriate levels of insulation in ceilings, walls, floors and facades - avoid thermal bridging.

2.8.6 Roofs

2.8.6.1 Design to comply with following:
(i) Roof and façade colour - Light roofs/walls absorb less heat than dark. Use high reflectance and high emissive roofing.
(ii) Placement of air conditioning roof top condensers or evaporative coolers to be placed in locations with permanent shade.
2.8.7 Fittings & Finishes

2.8.7.1 Design to comply with following:
(i) Internal Reflectance - Choice of finishes will influence daylight penetration. Light walls/floors feel brighter. Consider installation of light shelf.
(ii) Restrict use of materials, such as carpets, paints, adhesives and sealants, releasing volatile organic compounds (VOCs) and other toxic chemicals into the working environment e.g. Formaldehyde.
(iii) Mechanical fixing in preference to adhesives.
(iv) Re-use fittings, furniture and materials from vacated and/or demolished premises.
(v) Avoid ozone-depleting chemicals (CFC’s) - source recognised alternatives with low ozone depleting potential (OFP), for example HC gases in air conditioning, and non CFC blowing agents used in insulation products and furniture foams.

2.8.8 Waste

9.8.8.1 Design considerations:
(i) Minimise production of residuals in building materials selected. Try to incorporate systems for re-use, salvage and recycling of residuals.
(iii) Waste Minimisation Specifications - Prepare a Waste Management Specifications for construction and ongoing operations.

2.8.9 Building Fabric and Passive Strategies

2.8.9.1 Application of Passive Design Strategies to Fire Stations

Passive design features are only of benefit if the use of the space is in phase with the passive design strategy. For example, thermal mass together with passive solar design is only of use if the space is used several hours after the thermal mass has absorbed a useful amount of heat. Further it is only of use if the placement of the thermal mass on the inside of the building is exposed to direct solar gain. A good example of where this is applicable in a fire station would be the Bedroom, where in the use of thermally massive interior partitions allows more thermal mass to be placed where it can be used to store heat. Thermal mass walls in the bedroom will also provide radiant heating and cooling which can widen the range of air temperatures occupants can tolerate.

(i) The areas where implementing passive heating and cooling strategies should be considered are:
- Office
- Multi-Purpose Room
- Drying Rooms (PPE, Personal)
- Bedrooms, adjoining En-suites & Breakout Room
- Gymnasium / Weight Room
- Mess & Lounge Rooms

(ii) The areas where implementing thermal mass should be considered are:
- Multi-Purpose Room
- Bedrooms, adjoining En-suites & Breakout Room
- Gymnasium / Weight Room
- Mess & Lounge Rooms
2.8.9.2 Level of internal thermal mass

(i) Consideration shall be given to utilise the thermal mass in the structure to reduce peak loads and consequently HVAC plant size and capital cost.

The advantages of implementing thermal mass strategies can be seen throughout a number of existing MFB stations. A number of older stations throughout the MFB use considerably less energy than modern stations due to their substantial thermal mass. By implementing passive solar design strategies in conjunction with thermal mass, the reduction in HVAC operational costs and capital costs of plant and space are well worth considering.
3.0 MECHANICAL SERVICES FIRE STATION DESIGN
FUNCTIONAL BRIEF

3.1 INTRODUCTION

3.1.1 GENERAL

This Functional Design Brief for Mechanical Services shall be read in conjunction with the Architectural
Functional Brief for each new or refurbished MFB Fire Station. The Functional Design Brief outlines the design
requirements for the Mechanical services pertaining to fire stations of the Metropolitan Fire & Emergency
Services Board (MFB).

All the Mechanical services items required for the completion of the installation in fire stations, whilst not
necessarily being mentioned but necessary for the completion of the complete installation, shall be
incorporated in the design and shall conform to good trade practices and manufacture.

The layout of the brief includes the Design Requirements and suggested specification clauses that are required
to be incorporated into the design and the MFB.

Under all circumstances these clauses shall be met. We note that any diversion from the approved methods
must be proposed to the MFB for consideration first.

The operation and characteristics of controls may vary from station to station. All requirements shall be
confirmed with MFB.

3.1.2 DOCUMENT REVIEW

The functions and characteristics described are current at this document’s date of issue. This manual will be
revised when significant changes are made to station electrical equipment. Any comments and errors should be
reported to: The Executive Manager MFB Property Development Metropolitan Fire and Emergency Services
Board.

3.1.3 GREENSTAR

The designer shall be aware that the project will be subject to independent Greenstar certification including
design and as built. Any change from the design requirements nominated below shall be approved by the MFB
prior to implementation.

3.1.4 DESIGN CRITERIA

The main criteria in the design of Fire Station are to ensure that once commissioned, the Mechanical
installation achieves high energy efficiency, low maintenance cost, reliable operation, and is fit for the purpose
of the emergency service needs of the MFB.

The mechanical engineer shall specify “robust” and reliable equipment and shall provide the Client with
references for existing sites where the equipment can be seen to be running.

The mechanical engineer shall design the works so that convenient commissioning and future maintenance
may be conveniently carried out (making parts accessible etc.).

The mechanical engineer shall design the works in such a way that optimises so far as is practically possible
the operational energy efficiency of the installation.

The mechanical engineer shall include any items that are not specifically shown in this Document which in
his/her opinion shall result in a satisfactory installation.
Drawings and tender documentations appropriate for Contractor pricing and design shall be provided by the Mechanical Engineer.

The contractors commissioning, operation and maintenance manuals shall be reviewed as required by the mechanical engineer to confirm the installation has been satisfactorily installed and commissioned.

The design of the HVAC system for the building shall be integrated with the design of the building envelope and fabric and the other building services to minimise the size and cost of energy consuming systems and minimise the operational energy consumption of these systems.

3.1.5 MECHANICAL SUBCONTRACTORS

Consultants shall prepare the list of the proposed, Mechanical subcontractors selected for the project and confirm with the MFB. Only, the contractors accepted by the MFB shall be used for the project.

3.1.6 EXTENT OF WORKS

The scope of works shall comprise the necessary design, approvals, manufacture, supply, delivery, installation, testing, commissioning, maintenance and defects liability service of materials, provision of operation and maintenance documents, maintenance, labour and equipment and certification of performance of the complete Mechanical services including but not limited to the following:

- airconditioning systems including ductwork, diffusers, grilles and pipework;
- ventilation systems;
- heating systems
- automatic controls;
- electrical work;
- commissioning, testing and putting into service;
- as-built drawings and maintenance manuals;
- routine maintenance during defects liability period;
- Certificate of Compliance;

3.1.7 STANDARDS AND REGULATIONS

All works shall be designed and documented in accordance with all the relevant authorities having jurisdiction over the works, including the following:

- Building Code of Australia
- Relevant current Australian Standards including where appropriate:
  - AS/NZS 3000 - Wiring Rules
  - Environment Protection Authority.
  - Local Water Supply Authority.
  - Plumbing Industry Commission.
  - Local Electricity Supply Authority.
  - EnergySafe Victoria
  - Relevant Health Department
  - Department of Human Services
  - All Local Authorities having jurisdiction over the work.

3.1.7.1 Air Handling

- AS 1668.1 - The use of mechanical ventilation and airconditioning in buildings
• AS 1668.2 - The use of ventilation and airconditioning in buildings - Part 2: Ventilation design for indoor air contaminant control
• AS 1688.2 Supplement 1 - The use of mechanical ventilation and airconditioning in buildings - Mechanical ventilation for acceptable indoor-air quality
• AS/NZS 3666.1: Air handling and water systems of buildings - Microbial control - Design, installation and commissioning.
• AS/NZS 3666.2: Air handling and water systems of buildings - Microbial control - Operation and maintenance.
• AS 4254 - Ductwork for air handling systems in buildings.

3.1.7.2 Airconditioning
• AS 1277 - Measurement procedures for ducted silencers.
• AS 1324.1 - Air filters for use in general ventilation and airconditioning - Application, performance and construction.
• AS 1324.2 - Air filters for use in general ventilation and airconditioning - Methods of test.
• AS 1861.2 - Airconditioning units - Methods of assessing and rating performance - Refrigerated package airconditioners.
• AS 2913 - Evaporative airconditioning equipment.
• AS 1596 - Storage and handling of Liquified Petroleum Gas.
• AS 1677 - Refrigerating Systems - Parts 1 & 2
• AS1432 - Copper tubes for plumbers, gas fitting and drainage application.
• AS 4508 - Thermal resistance of insulation for ductwork used in building Air Conditioning.
• AS 4426 - Thermal insulation of pipework, ductwork and equipment - selection, installation and finish.

3.2 DESIGN CONDITIONS

All systems will be designed to operate and maintain comfort levels to all occupied spaces. The design conditions provided by AIRAH for Melbourne Composite will be applied for calculating heat loads to each space.

Critical Areas include – SO Office and SSO office.

3.2.1 Outdoor Design Conditions – Critical Areas

<table>
<thead>
<tr>
<th></th>
<th>Summer</th>
<th>Winter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40.0°C DB</td>
<td>-1.0°C DB</td>
</tr>
<tr>
<td></td>
<td>21.0°C WB</td>
<td></td>
</tr>
</tbody>
</table>

3.2.2 Outdoor Design Conditions – Non Critical Areas

<table>
<thead>
<tr>
<th></th>
<th>Summer</th>
<th>Winter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>34.3°C DB</td>
<td>3.5°C DB</td>
</tr>
<tr>
<td></td>
<td>20.5°C WB</td>
<td></td>
</tr>
</tbody>
</table>

3.2.3 Indoor Design Conditions

The internal conditions unless noted otherwise shall be designed as follows:

<table>
<thead>
<tr>
<th></th>
<th>Summer</th>
<th>Winter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>3.5°C DB</td>
</tr>
<tr>
<td></td>
<td>20.5°C WB</td>
<td></td>
</tr>
</tbody>
</table>
3.3  ACOUSTICS

(I) The design should achieve ambient internal noise levels in accordance with AS/NZS 2107:2000 as follows:

- Building Services Design - building services noise should meet the recommended design sound levels provided in Table 1 of AS/NZS2107:2000.
- Overall Building - the sound levels should fall between 40-45 dB LAeqT in general offices and 35-40dB LAeqT in private offices.

(II) The following parameters should also be considered:

- Background noise levels and facility acoustics should meet or better Australian Standards
- Minimise noise emissions to adjacent properties

3.4  AIR CONDITIONING AND HEATING SYSTEM

Generally air conditioning shall be provided by a Daikin VRV system.

3.4.1 Large Internal Spaces

All large internal and mechanically ventilated spaces shall be serviced by a ducted unit with outside and discharge louvers suitably sized to enable economy cycle.

3.4.2 Bedrooms

All bedrooms shall be serviced with an individual ducted unit. The unit shall be located within the corridor to reduce the noise levels. Each room shall have the ability to control their heating or cooling mode (ie each room shall have its own branch selector)

The branch selection box shall be provided with additional insulation and located well clear of the bedrooms to avoid noise.

3.4.3 Other Areas

Other areas as nominated within the room data sheets may be serviced by ceiling cassette, wall mounted or ducted unit to suit the application.

3.4.4 AS1677

The system size shall be selected to avoid grilles required by AS1677.

3.4.5 Control

Each unit shall be provided with an individual controller located within the space. All ducted units shall have a remote type sensor located within the space.

The VRV system shall be provided with a high level interface to the Siemens BMS. Refer later section for details.

3.4.6 Zoning and Unit selection

All units shall be selected to allow isolation of unoccupied rooms. This will require a separate unit for each space. Zoning must take into account the aspect of glazing and use of the space.

When selecting a HVAC system, the following factors must be taken into account:
3.4.7 Condensing Unit Diversity
An appropriate diversity shall be used apart from the critical areas, the condensing units for these areas need to have 100% capacity.

3.5 VENTILATION
Outside air intake and exhaust systems shall comply with the minimum rates set out in AS 1668 Part 2 taking into account the energy. Higher rates may be used where they can be shown to have a positive effect on the internal environment and the occupants therein. All exhaust shall be discharged directly to atmosphere.

The ventilation strategy should feature natural ventilation, heat/cool recovery mechanical ventilation, occupancy sensor control, BMS (building management system) control, minimal duct lengths and variable speed fans.

Economy cycle operation should also be considered, allowing ideal ambient conditions to provide full fresh air cooling. The following table details the recommended ventilation criteria for the various room types found at a station. This information is also detailed in room data sheets ("Design Criteria" edition):

3.6 MAINTAINABILITY
On going maintenance, including; cleaning, plant servicing, routine decoration, routine fabric maintenance, landscape maintenance, minor and major repair and replacement work at Fire Stations represents a significant resource cost to the MFB. Not only must building fabric and plant items that pose increased maintenance cost are to be avoided, but the design must facilitate cost effective maintenance, for example, by the provision of easy access.

3.7 BUILDING MANAGEMENT SYSTEM (BMS)
(i) The fire station shall be designed with a complete Siemens DDC control system to control all systems including:
- VRV Air Conditioning System
- Heat Exchanger Units
- Electric Panel Heaters
- Exhaust and Supply Fans
- Domestic Hot Water Pumps
- Economy Cycle Dampers
- Incoming Power Supply
- Rainwater Use
- Mains Pressure Water Use

(ii) The system will have the ability to control these systems by
- Having time clock control to minimising out of hours use
- Occupant control to prevent unnecessary use of equipment in intermittently used areas
- Having the ability to vary set points on a seasonal basis
- Vary speed of fans depending on occupancy and humidity
- Having run on timers to minimise out of hours use
- Time scheduling of A/C and ventilation plant operation to prevent the unnecessary use of equipment in intermittently used areas.
- Variation of comfort criteria (dead band widening) and temperature set point for different space usages or when space unoccupied.
- Optimisation strategies for staging on/off and operating central plant with multiple heating/cooling modules
3.7.1 Client friendly BMS

Ensure user interface and software is easy to use and that data is readily accessible on site and that the BMS may be operated at the MFB maintenance facility at Thornbury (Melbourne). Also ensure BMS is easily reprogrammable and provide necessary training to staff.

3.7.2 Siemens Daikin Interface

Refer Siemens to Daikin interface for the Metropolitan Fire & Emergency Services Board for further information of the VRV integration.

3.7.3 DDC/BMS Control Loop Specifications

Provide comprehensive control loop descriptions in the specification for the DDC/BMS systems to optimise energy savings. These may include:

- Supply air temperature reset
- Terminal regulated air systems - night time free cooling
- Cooling set point reset
- Optimum start times

3.7.4 Monitoring

The system must enable monitoring and logging of all points.
4.0 HYDRAULIC & FIRE SERVICES FIRE STATION
DESIGN FUNCTIONAL BRIEF

4.1 GENERAL

This Functional Design Brief for Hydraulic Services shall be read in conjunction with the Architectural Functional Brief for each new or refurbished MFB Fire Station. The Functional Design Brief outlines the design requirements for the Hydraulic services pertaining to fire stations of the Metropolitan Fire & Emergency Services Board (MFB).

All the hydraulic services items required for the completion of the installation in fire stations, whilst not necessarily being mentioned but necessary for the completion of the complete installation, shall be incorporated in the design and shall conform to good trade practices and manufacture.

The layout of the brief includes the Design Requirements and suggested specification clauses that are required to be incorporated into the design.

Under all circumstances these clauses shall be met. We note that any diversion from the approved methods must be proposed to the MFB for consideration first.

The operation and characteristics of electrical controls may vary from station to station. All requirements shall be confirmed with MFB.

4.2 DOCUMENT REVIEW

The functions and characteristics described are current at this document’s date of issue. This manual will be revised when significant changes are made to station electrical equipment. Any comments and errors should be reported to: The Executive Manager MFB Property Development Metropolitan Fire and Emergency Services Board.

4.3 GREENSTAR

The designer shall be aware that the project will be subject to independent Greenstar certification including design and as built. Any change from the design requirements nominated below shall be approved by the MFB prior to implementation.

4.4 DESIGN CRITERIA

The main criteria in the design of Fire Station are to ensure that once commissioned, the hydraulic installation achieves high energy efficiency, low maintenance cost, reliable operation, low ecological impact and is fit for the purpose of the emergency service needs of the MFB.

Therefore consideration has been given to such factors as:

An energy efficient design is achieved and complied with the BCA Section J

Over all life cost of plant and equipment. Items to be reviewed include capital costs, installation costs and running and maintenance costs.

The selected equipment would be easy to maintain, reliable (have a low history of faults) and have replacement equipment readily available on the local market.
4.5 EXTENT OF WORKS

The scope of works shall comprise the necessary design, approvals, manufacture, supply, delivery, installation, testing, commissioning, maintenance and defects liability service of materials, provision of operation and maintenance documents, maintenance, labour and equipment and certification of performance of the complete Hydraulic services.

This includes but is not limited to the following:

- drain connection to the relevant Authority’s sewer including boundary trap if required;
- drains;
- treatment pits, tanks and traps;
- plumbing wastes and vents and their connection to all fixtures;
- cold water tapping to the Authority’s mains;
- obtaining a CW meter from the Authority and installation to their requirements, including valves, strainers, check valves, test points, backflow prevention devices, etc;
- cold water reticulation and connection to all fixtures and fittings;
- cold water backflow prevention devices;
- hot water services;
- Solar Hot Water System;
- hot and tepid water reticulation and connection to all fixtures and fittings;
- boiling water units;
- fire hydrant protection;
- fire hose reels;
- fire extinguishers;
- fire sprinkler system
- gas connection to local Gas Supply Authority’s mains;
- gas fitting line and reticulation and connection to all fixtures and fittings;
- rainwater harvesting including storage tanks, pipework, valves, fittings, pumps, controls and electrical services;

4.6 STANDARDS AND REGULATIONS

All works shall be designed and documented in accordance with all the relevant authorities having jurisdiction over the works, including the following:

(i) Current relevant Australian Standards and in particular AS 3500.
(ii) Building Code of Australia
(iii) AS 5601 Gas Installations
(iv) AS 3666 Air Handling and Water Systems of Buildings - Microbial Control
(v) HB 263 Heated Water Systems
(vi) Plumbing Industry Commission.
(vii) Relevant Sewerage and Water Supply Authority
(viii) Plumbing Industry Commission
(ix) Metropolitan Fire Brigade
(x) Relevant Fire Codes and in particular where relevant:
   - AS 2419 Fire Hydrant Installations
   - AS 2441 Installation of Fire Hose Reels
• AS 2444  Portable Fire Extinguishers and Fire Blankets.
• AS 1841  Portable Fire Extinguishers
• AS 1851  Maintenance of Fire Protection Equipment
• AS 2118.4  Automatic fire sprinkler systems - Residential

4.7 DESIGN QUALITY AND STANDARDS

The hydraulic engineer shall specify robust and reliable equipment and shall provide the Client with references for existing sites where the equipment can be seen to be running.

The hydraulic engineer shall design the works so that convenient commissioning and future maintenance may be conveniently carried out (making parts accessible etc.).

The hydraulic engineer shall design the works in such a way that optimises so far as is practically possible the operational energy efficiency of the installation.

The hydraulic engineer shall include any items that are not specifically shown in this Document which in his/her opinion shall result in a satisfactory installation.

Drawings and tender documentations appropriate for Contractor pricing and design shall be provided by the hydraulic engineer.

The contractors commissioning, operation and maintenance manuals shall be reviewed as required by the hydraulic engineer to confirm the installation has been satisfactorily installed and commissioned.

4.8 DOMESTIC HOT WATER SYSTEM (DHW)

The domestic hot water system shall be separate to any heating hot water system

Central DHW Plant shall be gas fired where supply is available to the site, and fitted with electronic ignition

The system shall be solar boosted with preheat as a preferred method.

Where gas is not available heat pump units shall be used. The system must be suitable for pumped systems.

Where possible, localised hot water services should be implemented as they are more energy efficient than centralised hot water systems with circulating distribution systems

Dead legs on piping distribution systems shall be minimised.

4.9 RAIN WATER

Rainwater shall be harvested for irrigation - Collect rainwater from roof/hard areas and divert into storage tanks or retention dams (for irrigation purposes) rather than stormwater drains. This can then be used for irrigation purposes.

Rainwater shall also be harvested for toilet flushing - Collect rainwater from roof and divert into storage tanks. The system shall be provided with automatic change over to mains pressure and incorporate backflow prevention. The system shall be provided with constant pressure pumps. Connect rainwater system to all toilet cisterns for flushing. Constant pressure pumps

4.9.1 Purpose:

This document describes the requirements for managing rainwater quality for uses including garden watering, toilet flushing, vehicle washing and training drills (general outdoor use).
4.9.2 Scope:

This procedure applies to all rainwater collection systems without treatment intended for use in either
- Garden watering
- Toilet flushing
- Vehicle washing
- Training drills

This procedure does not apply to rainwater for drinking.

4.9.3 References:

Building Act 1993
A Framework for Alternative Urban Water Supplies (DSE 2006)
Rainwater Use in Urban Communities Guidelines for Non-drinking Applications in Multi-residential, Commercial and community Facilities
AS/NZS 3500:2003 National Plumbing and Drainage Code
Australian Drinking Water Guidelines 6 (2004), National Health and Medical Research Council (NHMRC).

4.9.4 Definitions:

Rainwater

4.9.5 Responsibility:

Property Services, Operations,

4.9.6 Background

Rainwater does not pose significant environmental and health risk and therefore it is not regulated in Victoria (or other states). There are no specific regulatory approval standards (water quality standards) for its use1,2. It is classified as a readily accessible water supply that is a low risk alternative to reticulated drinking water supply1,2.

Treatment is not required for uses such as toilet flushing, garden watering and general outdoor use.

4.9.7 Procedure

Two separate rainwater management plans are provided. The first applies to rainwater for use in toilet flushing and garden watering only. The second applies to rainwater used for general outdoor use (vehicle washing and training drills), but may also be applied to rainwater used for all purposes outlined in this procedure.

4.9.7.1 Rainwater Management Plan for Garden Watering & Toilet Flushing

<table>
<thead>
<tr>
<th>Activity/Event</th>
<th>Hazard</th>
<th>Risk</th>
<th>Recommended Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Animal access/perching on roof</td>
<td>Faecal contamination from birds or animals</td>
<td>Low</td>
<td>Garden &amp; roof maintenance includes gutter clean, trim of overhanging trees and site inspections</td>
</tr>
<tr>
<td>2 Animal and insect</td>
<td>Contamination from</td>
<td>Insignificant</td>
<td>Screens fitted to all tank inlets Site</td>
</tr>
<tr>
<td>Access to Tank</td>
<td>Birds or animals + mosquito borne disease</td>
<td>Inspections to include check on security of tank inlets and hatches</td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>------------------------------------------</td>
<td>---------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>3</strong> Human access to tanks</td>
<td>Microbial contamination from humans</td>
<td>Low</td>
<td>Access to hatches/inlets are secured. Site inspections to include check on security of tank inlets and hatches</td>
</tr>
<tr>
<td><strong>4</strong> General nutrient inflow to tank</td>
<td>Microbial growth in tank e.g. legionella</td>
<td>Low</td>
<td>Garden &amp; roof maintenance includes gutter clean, trim of overhanging trees and site inspections tank inlet screens, gutter guards installed to minimise entry of leaves and debris – consider first flush diverter installation via licenced plumber – prevention of deadlegs</td>
</tr>
<tr>
<td><strong>5</strong> Cross contamination from leaking sewer etc</td>
<td>Microbial contamination from humans</td>
<td>N/A</td>
<td>Installation via licenced plumber</td>
</tr>
<tr>
<td><strong>6</strong> Unsafe application of water</td>
<td>Ingestion of rainwater</td>
<td>Insignificant</td>
<td>Signage on all tanks identifying rainwater and/or do not drink. Communication to all staff regarding approved uses</td>
</tr>
</tbody>
</table>

### 4.9.7.2 MFB Rainwater for Truck Washing and Training Drills (General Outdoor Use)

<table>
<thead>
<tr>
<th>Activity/Event</th>
<th>Hazard</th>
<th>Risk</th>
<th>Recommended Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Animal access/perching on roof</td>
<td>Faecal contamination from birds or animals</td>
<td>Low</td>
<td>As above for Garden Watering and Toilet Flushing + First flush diversion system</td>
</tr>
<tr>
<td>2 Animal and insect access to tank</td>
<td>Contamination from birds or animals + mosquito borne disease</td>
<td>Insignificant</td>
<td>As above for Garden Watering and Toilet Flushing</td>
</tr>
<tr>
<td>3 Human access to tanks</td>
<td>Microbial contamination from humans</td>
<td>Low</td>
<td>As above for Garden Watering and Toilet Flushing</td>
</tr>
<tr>
<td>4 General nutrient inflow to tank</td>
<td>Microbial growth in tank e.g. legionella</td>
<td>Low</td>
<td>As above for Garden Watering and Toilet Flushing + First flush diversion system</td>
</tr>
<tr>
<td>5 Cross contamination from leaking sewer etc</td>
<td>Microbial contamination from humans</td>
<td>N/A</td>
<td>As above for Garden Watering and Toilet Flushing</td>
</tr>
<tr>
<td>6 Accidental ingestion of rainwater</td>
<td>Ingestion of pathogens</td>
<td>Low</td>
<td>As above for Garden Watering and Toilet Flushing + Verify quality of water meets quality requirements via water quality analysis</td>
</tr>
</tbody>
</table>

### 4.9.7.3 Rainwater Quality Verification (including Test Parameters).

The testing program below is applicable only to rainwater used for general outdoor use (e.g. vehicle washing and training drills). The rainwater quality verification is not required for rainwater used for garden watering or toilet flushing.

The type, frequency and quantity of samples for any ongoing monitoring will be dependant on the results of the initial analysis and the effectiveness of controls e.g. first flush, filters etc.

The test parameters, relevant to general outdoor use have been selected from applicable drinking water, class A and cooling tower water standards.

<table>
<thead>
<tr>
<th>Relevant Test Parameter</th>
<th>Comment</th>
<th>Recommended Limit</th>
<th>Sampling Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>*E. coli</td>
<td>Indicator of presence of faecal contamination and therefore potential pathogens.</td>
<td>&lt;10 org/100mL</td>
<td>Test representative sample of all rainwater tanks prior to commencing use for vehicle washing or training drills.</td>
</tr>
<tr>
<td>*pH</td>
<td>Is relevant for determining plant/soil impact from garden watering. Good</td>
<td>6-9</td>
<td>Test representative sample of all rainwater tanks prior to</td>
</tr>
</tbody>
</table>
**4.10 COLD WATER**

Water meters shall be provided for the main potable water supply to the building. The connection to the street shall incorporate 100mm connection for fire service from which a suitably sized domestic service shall be provided. The hose reels may be connected to the domestic service providing all valves are marked as required by the regulations.

The design shall incorporate meters as required by the authority.

**4.11 TEPID WATER**

Tepid water shall be provided from Thermostatic Mixing Valves located at 1800AFL located in hinged access box.

**4.12 FIRE PROTECTION**

The building shall be provided with Hydrant, Hose Reel and Fire Blanket protection to the BCA and relevant standards.

The design shall include a ground ball hydrant, an L type and a Millcock fed from a 100mm fire main. These hydrants may be used for the building protection. However the system must comply to the BCA and AS2419.

**4.13 FIRE SPRINKLERS**

The building shall be provided with a complete fire sprinkler system to AS2118.4. The system shall be complete with all requirements including flow switches and monitored valves.

The consultant shall specify that the system shall be independently certified at the end of the project.

**4.14 MATERIAL SELECTION**

Material selection shall be in accordance with Greenstar requirements with a reduction PVC and incorporation of sustainable, recycled, and recyclable materials. Regardless of the material the performance shall be of best practice and provide long life with low maintenance.

All domestic hot water pipe work insulation shall be free of Ozone Depleting Potential substances.

**4.15 BOILING WATER UNITS**

Boiling water shall be air cooled with low energy design and internal timeclock.
4.16 FIXTURES

Refer Architectural section for details of fixtures.

Flick mixer taps with cold default - Specify flick mixer taps which default to cold setting. Often people have mixer in central position when cold water is only required. This drains hot water from system.
5.0 ELECTRICAL, COMMUNICATION AND SPECIAL SERVICES FIRE STATION DESIGN FUNCTIONAL BRIEF

5.1 INTRODUCTION

5.1.1 GENERAL

This Functional Design Brief for Electrical Services shall be read in conjunction with the Architectural Functional Brief for each new or refurbished MFB Fire Station. The Functional Design Brief outlines the design requirements for the electrical and communications services pertaining to fire stations of the Metropolitan Fire & Emergency Services Board (MFB).

All the electrical/communications services items required for the completion of the installation in fire stations, whilst not necessarily being mentioned but necessary for the completion of the complete installation, shall be incorporated in the design and shall conform to good trade practices and manufacture.

The layout of the brief includes the Design Requirements and suggested specification clauses that are required to be incorporated into the design.

Under all circumstances these clauses shall be met. We note that any diversion from the approved methods must be proposed to the MFB for consideration first.

The operation and characteristics of electrical controls may vary from station to station. All requirements shall be confirmed with MFB.

5.1.2 DOCUMENT REVIEW

The functions and characteristics described are current at this document’s date of issue. This manual will be revised when significant changes are made to station electrical equipment. Any comments and errors should be reported to: The Executive Manager MFB Property Development Metropolitan Fire and Emergency Services Board.

5.1.3 GREENSTAR

The designer shall be aware that the project will be subject to independent Greenstar certification including design and as built. Any change from the design requirements nominated below shall be approved by the MFB prior to implementation.

5.1.4 GLOSSARY

The following terms are used throughout this document.

**TS** TURNOUT SYSTEM shows visual messages on a screen and has printing facility for messages received from the Communication Centre.

**BMS** Building Management System is an electronic switching device, which controls mechanical equipment such as bells, lights, ventilation fans etc. (BMS-1) and electrical (BMS-2) within the station.

**PLC** Appliance Bay Door PLC equipment controls the opening and closing of the appliance bay doors.
PAX  (Private Automatic Exchange) refers to the telephone system reserved for fire emergency calls, (otherwise known as the ‘Fire Phone’ or ‘Bat Phone’). Handsets are located in the Turnout Area and the Station Office.

VoIP  Voice over IP telephone system.

5.1.5 DESIGN CRITERIA

The main criteria in the design of Fire Station are to ensure that once commissioned, the electrical installation achieves high energy efficiency, low maintenance cost, reliable operation, and is fit for the purpose of the emergency service needs of the MFB.

Therefore consideration has been given to such factors as:

An energy efficient design is achieved and complied with the BCA Section J

Over all life cost of plant and equipment. Items to be reviewed include capital costs, installation costs and running and maintenance costs.

The selected equipment would be easy to maintain, reliable (have a low history of faults) and have replacement equipment readily available on the local market.

5.1.6 ELECTRICAL AND COMMUNICATIONS SUBCONTRACTORS

Consultants shall prepare the list of the proposed, electrical and communications sub contractors selected for the project and confirm with the MFB. Only, the contractors accepted by the MFB shall be used for the project.

5.1.7 EXTENT OF WORKS

The scope of works shall comprise the necessary design, approvals, manufacture, supply, delivery, installation, testing, commissioning, maintenance and defects liability service of materials, provision of operation and maintenance documents, maintenance, labour and equipment and certification of performance of the complete Electrical services including but not limited to the following:

- negotiation as necessary with local Electricity Supply Authority;
- connection of Consumer Supply Authority’s mains (including Pillar/Pit or Substation as Required);
- underground consumer mains;
- meter panel;
- standby generator;
- Uninterruptable Power Supplies
- underground conduits and pits;
- switchboards;
- mains and sub mains;
- lighting;
- emergency lighting and exit signs;
- switching;
- dimmer systems;
- general power;
- wiring of equipment;
- ducting systems;
- power supplies;
- telecommunication systems;
- audio-visual system;
- MATV system;
• security system;
• fire detection system;
• Public Address System
• Turn Out system including Lights, Bells, conduits,
• Building Management System
• Connection of Sprinkler system to Fire Detection System

5.1.7.1 WORKS BY MFB
• Supply of 3kVA UPS system complete with the required cables and batteries for communications
• Supply and installation of communications cabinet complete with network gear and the required number of patch panels, and patch leads,
• Supply and Configure VoIP phone system
• IP Phone interfaces to door intercoms
• Supply of PA amplifier, mixer and microphones
• Supply and installation of Station Turnout Equipment (STO)
• Supply of cabinet for equipment in STO area
• Supply and installation of fibre optic cable from the underground pit located in the street to communications room. Cable pits and underground conduits by the contractor.
• Co-ordination with the City Council and Traffic Authority for the interfacing with traffic lights in the nearest intersection.

5.1.7.2 WORKS BY SECURITY CONTRACTOR
• Supply and installation of a complete security detection and access control systems and associate wiring

5.1.7.3 WORKS BY FIRE SPRINKLER CONTRACTOR
• The fire services sprinkler contractor shall supply and install complete system including sprinklers, flow switches.

5.1.8 STANDARDS AND REGULATIONS
All works shall be designed and documented in accordance with all the relevant authorities having jurisdiction over the works, including the following:
• Building Code of Australia.
• Local Electricity Supply Authority.
• Current relevant Australian Standards, especially;
• AS 3000 – Electrical Installation - Wiring Rules.
• AS 3008 - Electrical Installation - Selection of Cables.
• AS 4836 - Safe Working on low-voltage electrical installations.
• Victorian Service and Installation Rules.
• AS 3013 - Electrical Installations - Classification of the Fire and Mechanical Performance of Wiring Systems.
• AS 2834 - Computer Accommodation.
• AS 3080 + series - Telecommunications Installations.
• AS 4607 - Personal Response Systems.
• AS HB29 - Telecommunications Cabling Handbook
• Austel and in particular their Private Network Design Guide (PNDG).
Where stated the consultant shall use the current version of these standards unless stated otherwise in the BCA.

5.2 ELECTRICAL SUPPLY

5.2.1 Design Requirement

Design an electrical supply distribution system of suitable size for the fire station. Liaise with the Supply Authority for method and point of electrical supply to the fire station.

The electrical services shall be designed in consultation with MFB’s representative. The maximum demand (MD) shall be prepared in accordance with AS/NZS3000. Additional 20% spare capacity shall be allowed within the cabling and switchboard capacity to allow for future growth. Consumer mains shall be enclosed in underground conduit from the point of attachment to the main switchboard.

The selected Retail Electrical Supply Company is AGL (shall be confirmed with MFB). The Tariff for the supply shall be Tariff ‘D’.

5.2.2 Specification Clauses

Meters shall be Smart Type. The metering panel shall be externally mounted in an approved by Supply Authority weatherproof enclosure.

5.3 EARTHING

5.3.1 Design Requirement

The Electrical installation shall be designed to include earthing in accordance with AS/NZS3000 and comply with Supply Authority requirements.

5.3.2 Specification Clauses

The earthing system shall include a new earth stake, cables, clamps and all required accessories.

The main earth electrodes shall be located near the site main switchboard or as recommended by the Supply Authority. Provide vandal proof and weather proof duct covering main electrode. Provide label “main electrical earthing conductor - do not disconnect”

All earthing conductors shall be insulated. Generally, the earthing conductors shall:

- Be of minimum size as recommended by AS 3000
• Be continuous throughout the entire length
• Be protected against mechanical damage and corrosion
• Be provided to all equipment throughout the station

Metallic pipes, ducts, or brackets, which are accessible from and within 2m of any metallic enclosure containing electrical supplies or GPO's, shall be earthed. Light fittings, sockets outlets and fixed wiring to appliances shall be earthed by means of the earth conductor.

The UPS battery cabinet (enclosure) shall be earthed via 6mm² Green Yellow cable

Include an earthing system for telephone telecommunications system and the integrated voice and data cabling system. Telephone equipment shall be bonded to power earth system. The rating and type of earthing cabling shall be in accordance with Australian Telecommunications Authority regulations.

A separate earthing conductor shall be used for each circuit and run back to the earth bar within the switchboard.

5.4 SWITCHBOARDS

5.4.1 MAIN SWITCHBOARD (MSB)

5.4.1.1 Design Requirements

The board shall be located in the accessible location, preferably enclosed in a cupboard in the corridor or in plant room, in close vicinity to the main entry, and Siemens equipment.

The switchboard shall be designed to incorporate automatic change over to generator as nominated elsewhere in this document.

5.4.1.2 Specification Clauses

The main switchboard shall be a custom built switchboard designed in accordance with the relevant sections of AS 3439..

The board shall be a front connected, dust and vermin proof cubicle, designed to withstand a fault level (to be confirmed with Supply Authority) and constructed as follow: -

• Minimum metal thickness of the cubicle of 2.0 mm.
• Doors, fabricated from minimum 1.6mm, folded bright mild steel with a heavy-duty latch. No plastic locks are allowed. Stiffen and brace doors to achieve rigidity and prevent warping or sagging.
• Lift off hinges for all doors and escutcheon plates.
• Three point locking device and locks keyed to CL-001 keys.
• Connections for normal and generator supplies.
• Centre mounted main switch and manual transfer switches (mechanically and electrical interlocked manual transfer switches).
• Ammeter with maximum demand indication. Voltmeter with 240/415 volts A.C. indication.
• Digital Energy Monitor devices (Siemens DEM series 1000/2000) mounted on the live side of the main switch at MSB and live side of Mechanical Services Board (MSSB). Works shall include twisted pair RS485 cabling between DEM devices and Siemens BMS Mechanical panel and between DEM devices and Siemens BMS Electrical.
• Ducting for final sub circuits and control wiring
• A separate compartment consisting of chassis of the sufficient size for all circuit breakers and RCD circuit breakers protecting the outgoing circuits.
• Neutral and earth bars.
• A separate compartment consisting of the required number of contactors, time switches and 24V AC relays and 100-way termination strip panels for termination of wiring between MSB and controlled fields.

• Voltage-free contacts and wiring required for a number of controls including “Mains Phase Failure contacts and wiring to Siemens BMS to indicate the stand-by generator status.

• Voltage-free contacts and wiring between metering panel and Siemens BMS equipment.

• Voltage-free contacts and wiring between mechanical services isolator and Siemens BMS equipment.

• Colour shall be standard manufacturers colour scheme or as requested by MFB.

5.4.2 DISTRIBUTION SWITCHBOARD DB-UPS

5.4.2.1 Design Requirements

Design switchboard to provide UPS power to communications equipment.

5.4.2.2 Specification Clauses

8-pole 240V single-phase metal load centre complete with lockable door, 40A, double pole main switch and DIN-T miniature circuit breakers, neutral and earth bars and circuit schedules shall be provided adjacent to UPS system in the communications room. The load centre shall be manufactured by NHP – cat no. NLC8FE c/w LD6/8 door and DSLK locking kit.

The following services shall be wired from the DB- UPS:

- Communications cabinet
- Siemens BMS
- Telephone system
- Station Turnout System
- Security detection system

All circuit breakers shall be labelled to give clear identification of circuits or equipment controlled. Labels on switchboards shall indicate switchboard name, supply mains size, type number and origin of supply and be fixed with cadmium-plated screws.

5.4.3 DISTRIBUTION SWITCHBOARDS (DSB) – LARGER INSTALLATIONS

5.4.3.1 Design Requirements

Design distribution switchboards as necessary to distribute power.

5.4.3.2 Specification Clauses

The distribution boards shall have Form 1, segregation in accordance to AS 3439 and be manufactured by an approved company.

- The distribution boards shall be wall-mounted, dust and vermin proof cubicles and be provided with: -
- Minimum metal thickness of the cubicle of 1.6 mm.
- Doors, fabricated from minimum 1.6mm, folded bright mild steel with a heavy-duty latch. No plastic locks are allowed. Stiffen and brace doors to achieve rigidity and prevent warping or sagging.
- Lift off hinges for all doors and escutcheon plates.
- Flush mounted metal locks complete with two (2) CL001 keys
- Connections for essential and non-essential supplies.
- Ducting for final sub circuits and control wiring
• Centre mounted main switch.
• A separate compartment consisting of chassis of the sufficient size for all circuit breakers and RCD circuit breakers protecting the outgoing circuits. All circuit breakers shall be rated for the 6kA fault level minimum at the switchboard.
• A separate compartment consisting of the required number of contactors, time switches and 24V AC relays and 100-way termination strip panels for termination of wiring between DB and controlled fields. Colour shall be standard manufacturers colour scheme or as requested by MFB.

5.4.4 SWITCHBOARD EQUIPMENT - SPECIFICATION CLAUSES

All switchboards shall be manufactured in accordance with AS 3439 by an approved company and have a minimum of 30% spare capacity in pole spaces.

The form of segregation for the switchboards shall be as follows:

• Less than 150 Amps capacity - Form 1
  150 Amps to 500 Amps - Form 2
• Switchboards shall be manufactured by NHP, Heinemann or an approved by MFB manufacturer.
• All switchboards shall be earthed by means of earthing conductors provided with each sub-main cable. All metal work in vicinity of switchboards shall be effectively earthed. Earth studs shall be securely welded to each anchoring point prior to painting.

5.4.4.1 Miniature Circuit Breakers

Miniature circuit breakers shall comply with the requirements of AS 3111 and be Email ‘Quicklag’, NHP Terasaki, Heinemann, Schneider or approved equivalent. 3-pole circuit breakers shall be interchangeable for 3-single pole circuit breakers and vice versa.

5.4.4.2 Residual Current Devices (RCD’s)

Residual current devices combined circuit breakers to protect final GPO’s shall be in accordance with AS 3190. The RCD’s shall be single phase; cores balanced and have a sensitivity of 30mA. The current carrying capacity of each unit shall be equal to the present load plus 50% allowance for future load increases.

5.4.4.3 Moulded Case Circuit Breakers

Moulded case circuit breakers (MCCB) shall comply with the requirements of AS 2184 and be rated to withstand the maximum prospective fault current achievable at the device. MCCB’s shall have trip units that are interchangeable and electronic with adjustable over-current and short circuit protection curves.

5.4.4.4 Fuse Combination Switch Units

Fuse combination units shall comply with the requirements of AS 3947.3, and be designed to accommodate HRC type fuses in removal fuse cartridge. Fuse bases carriers and links shall comply with AS 2005. Fault current limiters shall be provided to restrict the fault current to levels, which the downstream equipment can accept without damage.

5.4.4.5 Isolators and Switches

Isolators and switches shall be rated for AC2 and AC3 utilisation category and comply with the requirements of AS 3947.3, AS 3133. Auxiliary and control switches shall comply with AS 3133, be of rotary snap action type and have contacts of minimum 10A continuous rating.

5.4.4.6 Instrumentation

Voltmeters, ammeters and maximum demand meters shall be provided on the incoming supply of the main switchboard. They shall be manufactured by Crompton or other approved manufacturer. Voltmeters shall be
connected via selector switch to provide phase to phase and phase to neutral voltages. Ammeters shall have a maximum demand indicator and be provided one per phase. Selector switches shall have a minimum current rating of 15A.

### 5.4.4.7 Indicator Lights

Indicator lights shall be provided to indicate incoming power supply and generator power supplies. The indicator lights shall be front loading type and be Schneider, NHP or approved equivalent. All indicator lights shall have a lamp test facility.

### 5.4.4.8 Current Transformers

Current transformers shall comply with the requirements of Australian Standard AS 1675, be easily removed without removing large sections of bus bars and be labelled to indicate rating, ratio, burden and primary winding of the device.

### 5.4.4.9 Contactors

Contactors shall comply with the requirements of AS 1029, have mechanical duty Class 01 and operation AC3 and be manufactured by Siemens, Email, Schneider or Sprecher and Schuh. Contactor coils shall be fitted with suitable surge diverters to attenuate transient over voltages.

### 5.4.4.10 Control Relays

(i) Control relays shall:

- Be DIN rail mounted, have 10 amp minimum contact rating and be suitable for continuous operation at the voltages nominated
- Have contacts made of silver and have at least 2 spare normally open contacts and 1 spare normally closed contacts
- Coils of control relays shall have surge diverters fitted.

(ii) Phase failure relays shall:

- Monitor the 3-phase supplies for correct phase sequence
- Monitor the voltage balance with a 5-15% adjustable setting
- Be provided with 70-90% adjustable under-voltage setting.

### 5.4.4.11 Mounting of Equipment

Equipment shall be mounted to allow ample access and space for adding and removing equipment and wiring. Contactors, time switches etc shall be housed separately from circuit breaker assemblies. Circuit breakers rated above 100A shall be arranged for back connection where installed within freestanding cubicle type switchboards and for front connection where installed within wall mounted switchboards.

### 5.4.4.12 Labelling

All switchgear, apparatus and controls shall be labelled to provide identification of circuits or equipment controlled. Labels on switchboards shall indicate switchboard name, supply mains size, type number and origin of supply and be fixed with cadmium plated screws.

### 5.4.4.13 Testing

All equipment shall be tested at the manufacturer work prior to delivery to site in accordance with AS3439. Tests to be carried shall be laid down in the relevant standard specification for the equipment.
5.4.4.14 Thermographic Survey

The thermographic survey of all switchboards including main switchboard, distribution boards, mechanical switchboards, UPS switchboard and generator panel shall be included in the contract to ensure loads are balanced evenly over three phases reducing the risk of potential 'hot spots' and identifying loose connections.

The switchboards shall be surveyed one month after premises are fully occupied and again at the end of the defects liability period. Comprehensive report of thermal survey shall be submitted for examination, recommendation of required works and maintenance procedure and approval.

Recommended specialist contractors:

- Mainphase Pty Ltd Thermal imaging
  121 Dover Street, Richmond Vic 3121
  Phone (03) 9429 9344
  Fax (03) 9429 2815

- Preventive Maintenance Condition Monitoring Infra-Red Inspections
  P.O. Box 2243 Sunbury Vic 3429
  Phone: 1300 132 517
  Fax 1300 132 518
  Website: www.thermoscan.com.au

- Or other contractor approved by the Superintendent.

All results shall be provided to the superintendent for review and included in the As Built Manual.

5.5 DIGITAL MONITORING DEVICES

5.5.1 Design Requirements

Digital Monitoring Devices shall be incorporated into the design of switchboards as nominated below.

5.5.2 Specification Clauses

Digital Energy Monitor (DEM) devices shall be provided to monitor electricity, gas and water consumption by Siemens BMS system. DEM devices (Siemens DEM series 1000/2000) shall be connected as follows:

- On the live side of the main switch at the main switchboard.
- On the live side of the main switch at the mechanical services switchboard.
- On the solenoid adjacent to water mains meter.

Twisted pair RS485 cabling shall be provided between DEM devices and the Siemens BMS (electrical and mechanical) panels.

5.6 CABLES

5.6.1 Design Requirements

Cables shall be selected in accordance with AS/NZS3000 and AS/NZS3008.2 and be based on current carrying capacity and voltage drop. A minimum of 20% spare capacity shall be allowed.
All cabling shall have stranded copper conductors and shall be insulated with 0.6/1kV-grade XLPE unless otherwise specified. All multiphase single core cables shall be installed in trefoil formation. Aluminium conductors shall not be permitted.

The minimum size of final sub-circuits (light and power cables) shall be stranded 2.5mm².

### 5.6.1 De-Rating

The current carrying capacity of the cables shall be de-rated in accordance with the guidelines of AS/NZS3008.1 if the cables are bunched or installed together in a trench, duct or conduit or on cable trays.

### 5.6.2 Specification Clauses.

XLPE/PVC cables shall be rated for 0.6/1kV, V-90, XLPE insulated, PVC sheathed, stranded copper conductor, single or multicore cables in accordance with AS/NZS3198.

#### 5.6.2.1 Fire Resistant Cables

Fire resistant cables shall be rated for 0.6/1kV, have fire resistant insulation, sheathed stranded copper conductor, single or multicore cables, type Radox FR or Fire Stop to comply with AS/NZS3013 and construction to AS/NZS3116.

### 5.7 CABLE SUPPORT

#### 5.7.1 Design Requirements

The design shall incorporate be made for the following underground conduits:

- Conduits to enclose electrical mains cables from the Supply Authority POA to MSB.
- Conduits to external floodlights, sign lighting, electrical gates, hose tower (if any) etc.
- Conduits from Telstra pit to MDF in communications room.
- Conduits to external communications services including conduits to enclose fibre optic cables from the street.
- Conduits to enclose security cabling.
- Conduits to enclose other services as required.

#### 5.7.2 Specification Clauses

No cables are allowed to run directly on the ceiling.

#### 5.7.2.1 Cable Ladders and Trays

Use cable trays or ladders to support the major mains and submains in the building. Where six or more cables are installed over common routes, the cables shall be installed on cable ladders, trays or in wiring ducts. Use vertical cable ladders to support cables below and above switchboards and communications cabinets and control panels.

(i) **Cable Trays**

Cable trays shall be electro-galvanised perforated metal type, sized with 25% spare space including space for air gaps for derating purposes and be installed parallel to the building lines and fixed to walls or concrete slabs. Hangers shall be mild steel angles or 20mm diameter threaded steel rods. Supports shall be provided so that the cable tray does not sag more than 10mm when fully loaded. Earth continuity shall be retained throughout the cable tray runs.

(ii) **Cable Ladders**
The cable ladders shall be used where cables loading exceed 75 kg/metre. They shall be fabricated from galvanised steel or aluminium sections fitted with the manufacturer’s standard accessories and have rungs spaced at maximum 300mm centres. They shall be supported at spans maximum of 3 metre intervals.

(iii) Catenary Systems

Catenary wires shall be used to secure cabling within false ceiling spaces. The catenary wires shall comprise of stranded galvanised steel wires (7 strands) and be secured to turnbuckles with U-bolts and tensioned so that they do not sag more than 100mm when fully laden with cabling.

The maximum number of TPS cables per catenary shall be in accordance with AS/NZS3000.

(iv) Conduits

Conduits shall be PVC or steel manufacture and have a minimum 20mm diameter and be sized to allow 25% increase in the number of cables enclosed. Conduits shall be installed in straight runs, which are parallel or perpendicular to the building lines and be completed with steel draw-in wires before installation of cables.

Steel conduits shall be used in locations, which are liable to be subjected to mechanical damage. Where exposed to the weather or dampness junction boxes shall be provided with covers of heavy gauge material fitted with a neoprene gasket.

5.7.2.2 Cable Ducting Systems

(i) Cable Ducts

Cable ducts shall have 50% spare capacity and be provided with screwed removable covers of maximum length 1200mm and cable retaining straps along the length. Cables of different voltages shall be physically segregated within the duct. Separate ducts shall be provided for communications services in accordance with Australian Telecommunications Authority regulations.

(ii) Wiring Duct

The Moduline skirting wiring duct shall have three compartments and be made of extruded aluminium section. Access holes for cabling and conduits in slabs shall not be less than 32mm diameter. All such access shall be fitted with grommets.

The skirting duct and covers shall be earthed in accordance with the requirements of the AS/NZS3000:2007 SAA Wiring Rules and Australian Communication Authority. Wiring ducts shall be installed in offices, utility rooms and communications rooms.

5.7.2.3 Underground Cabling

Underground cables shall be installed in heavy-duty high impact PVC conduits at a minimum of 600mm below finished ground level. Cable markers shall be provided over all underground routes, every 30m of run, at each change of direction and at each end of the buried run. Orange PVC marker sheeting with indelible lettering giving warning of electric cables below shall be supplied and located across the width and along the entire length of the excavation at a depth of approximately 300mm from finished ground level.

5.8 LIGHTING

5.8.1 Design Requirements

Light fittings shall be complete with control gear, lamps and be designed in accordance with AS 1680 and AS 3137. They shall be selected to suit the type of the ceiling.

The designer shall note the interface required to the Siemens BMS.

The preferred types of luminaires and fitting supplier for the MFB Fire Station and Administration sites shall be as follows:
## 5.8.1.1 Fitting Selection

<table>
<thead>
<tr>
<th>Location</th>
<th>Details</th>
<th>Fitting Supplier</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Offices</strong></td>
<td>Recessed mounted fluorescent luminaires c/w T5 4000K fluorescent lamps, low brightness louvers: 16-cell for 600x600mm luminaires and 32-cell for 1200x1200mm luminaires.</td>
<td>Rytec, Thom or Approved Equal</td>
</tr>
<tr>
<td><strong>Toilets/Bathrooms</strong></td>
<td>Recessed/Surface mounted fluorescent luminaires c/w PL lamps and sealed framed clear diffusers.</td>
<td>Rytec, Thom or Approved Equal</td>
</tr>
<tr>
<td><strong>Bedrooms (Ceiling)</strong></td>
<td>Recessed mounted fluorescent downlight luminaires c/w PL acrylic diffuser.</td>
<td>Rytec, Thom or Approved Equal</td>
</tr>
<tr>
<td><strong>Bedrooms (Bedhead)</strong></td>
<td>Wall mounted low glare fluorescent luminaires mounted above beds and desks.</td>
<td>Rytec, Thom or Approved Equal</td>
</tr>
<tr>
<td><strong>Entry Hall Corridors</strong></td>
<td>Recessed mounted fluorescent luminaires c/w T5 4000K fluorescent lamps and prismatic diffusers or downlights c/w compact fluorescent lamps and protective glass diffusers.</td>
<td>Rytec, Thom or Approved Equal</td>
</tr>
<tr>
<td><strong>PPE/Change / Locker Rooms</strong></td>
<td>Recessed mounted fluorescent luminaires c/w T5, 4000K fluorescent lamps and clear UV YORK tube guards fitted, sealed and framed polycarbonate prismatic diffusers.</td>
<td>Rytec, Thom or Approved Equal</td>
</tr>
<tr>
<td><strong>PPE Drying Room</strong></td>
<td>Surface mounted fluorescent luminaires c/w T5 4000K, fluorescent lamps and clear UV YORK tube guards fitted, sealed, framed polycarbonate, prismatic diffusers.</td>
<td>Rytec, Thom or Approved Equal</td>
</tr>
<tr>
<td><strong>PPE Drill Equipment store</strong></td>
<td>Surface mounted fluorescent luminaires c/w T5 4000K, fluorescent lamps and clear UV YORK tube guards fitted, sealed, framed polycarbonate, prismatic diffusers.</td>
<td>Rytec, Thom or Approved Equal</td>
</tr>
<tr>
<td><strong>Drying Rooms</strong></td>
<td>Surface mounted standard batten fluorescent luminaires c/w T5 4000K fluorescent lamps and prismatic diffusers (K12).</td>
<td>Rytec, Thom or Approved Equal</td>
</tr>
<tr>
<td><strong>Engine Bay</strong></td>
<td>Surface mounted, weatherproof type luminaires IP67, c/w T5 4000K fluorescent lamps, sealed acrylic diffusers and stainless steel clips, fixed to the suspended Unistrut-trunking system mounted at approx. 6m AGL (approx. 500mm above the appliance bay door), 70W HPS downlight luminaire, c/w high pressure lamp, silver reflector, sealed glass diffuser and white housing.</td>
<td>Rytec, Thom or Approved Equal</td>
</tr>
<tr>
<td><strong>Plant room</strong></td>
<td>Surface mounted standard batten fluorescent luminaires c/w T5,4000K fluorescent lamps and wire guards</td>
<td>Rytec, Thom or Approved Equal</td>
</tr>
<tr>
<td><strong>Engineering Workshops</strong></td>
<td>Surface/Suspended mounted high bay luminaire c/w H.I.D. lamps and protective wire guards. Alternatively, Surface mounted standard batten fluorescent luminaires c/w T5, 4000K fluorescent lamps and wire guards (to be confirmed with MFB).</td>
<td>Rytec, Thom or Approved Equal</td>
</tr>
<tr>
<td><strong>External lighting</strong></td>
<td>Decorative, wall mounted luminaires c/w fluorescent PL lamps and acrylic diffusers. Floodlights mounted above the Appliance Bay (1) and on the Hose tower (1) complete with High-Pressure Sodium lamps. Decorative Bollard luminaires 70W HPS type.</td>
<td>Rytec, Thom or Approved Equal</td>
</tr>
<tr>
<td><strong>Turnout Warning Lights</strong></td>
<td>Wall mounted at 3000mm AGL on each side of the front appliance bay door and at rear of BBQ and resting area (to be confirmed by MFB): 70W 24V DC Turnout warning light fitting, A Ferguson 240/24V AC/DC 100VA Transformer/Rectifier for each turnout warning light. Bollard mounted:70W 24V DC Pedestrian warning light fitting c/w a Ferguson 240/24V AC/DC 100VA transformer/rectifier for each pedestrian warning light. Bollards should be located each side of driveway on the front of appliance by door.</td>
<td>HELLA 1721 RED or equivalent</td>
</tr>
</tbody>
</table>

All exterior light shall be designed to incorporate a photoelectric light sensor.

**UV Protection**
Fluorescent lamps shall be fitted with clear UV YORK tube guards in the following areas:

- PPE Change/Lockers
- PPE Drying Room
- Drill Equipment Store.

The UV filtering tube guards (clear acrylic) have 0% transmittance below 395 nanometre. The clear UV T5 YORK tube guards are available from:

5.8.1.2 Fire Station Alarm Lighting Controls

Selected lighting circuits shall be activated on receipt of a fire alarm signal. This signal shall originate from relays in the BMS (refer other sections of this Brief) and shall operate contactors, which will ‘hold-in’ until the signal from the BMS is switched off.

BMS system shall control the lighting in the following areas/rooms: -

- Appliance Bay • Bathrooms
- Bedrooms • Gym
- Corridor • Lockers
- All Offices • Station Turnout Area.

The power supply to operate the contactor coils shall originate from the Main Switchboard via interposing relays, not from the BMS.

Contactors shall be Sprecher and Schuh CA1 series or equal of not less than 20Amp rating with 24V AC coils.

Relays shall be Sprecher and Schuh CA3 plug in series or equal

Interposing relay coil voltage shall be confirmed prior to placing orders.

Refer to Siemens (BMS) – Turnout Controls section of this Design Brief for control details.

5.8.2 Specification Clauses

5.8.2.1 Light Fitting Types

(i) Fluorescent Fittings

Fluorescent luminaires shall be provided with energy efficient, tri-phosphor 4000K T5 lamps (complying with the requirements of AS/NZS1201) and electronic ballasts that comply with the requirements of AS/NZS 3168 and AS/NZS2643 for 240V, 50 Hz operations.

(ii) UV Light Filters

Supply and install UV light Filters where shown on the drawings. The filters shall be manufactured by YORK PRECISION PLASTICS, Sydney Warehouse Contact: Paul Higgins or Adam Taylor on 02 95847000.

(iii) Downlight Luminaires

Downlight luminaires shall have separate ballast for each fitting and be selected from ranges that incorporate compact fluorescent or HID lamps.

(iv) High Intensity Discharge Luminaires

High intensity discharge (HID) luminaires shall have Edison screw type lamp holders and have power factor correction capacitors to correct the overall power factor to greater than 0.85 lagging. Control gear shall have an operating loss less than 10% of wattage of the luminaire.
5.8.2.2 Light Switches

All general lighting shall have normal operation via local wall switches.

Light switches shall be 15-amp minimum rated, rocker operation and quick make and break.

Light switches mechanisms connected to fluorescent luminaires shall be heavy-duty type suitable for the type of load and manufactured by Clipsal - Cat. No. 30 FLM15 or equal.

The switches shall be mounted at approximately 1100mm AFFL or as advised by the DDA consultant. Preferred make shall be the Clipsal 2000 Series.

Weatherproof type switches shall be used where mounted externally, in plant rooms in car parks or where they are exposed to water.

(i) External Floodlights and Controls

Floodlight luminaires shall be provided to illuminate rear yard. One floodlight shall be provided above the rear appliance bay door.

Externally mounted floodlights complete with safety guards (enclosures), or good quality in ground uplights to illuminate flagpole and MFB sign (to be confirmed) shall be provided.

Floodlights on the hose tower (if any) shall be controlled from the lighting control panel in Station Turnout Area. A green indicator lamp above each switch will light when the floodlights are on. Floodlight mounted at the rear of the Appliance bay shall be operated by the photoelectric sensor.

Refer to Siemens BMS turnout controls section for control of the floodlights after 23.00.

(ii) By-pass Test Switches

Separate by-pass test switches for each external lighting circuit shall be provided on the main switchboard/distribution board, enabling the testing and maintenance of all externally mounted luminaires during the day. By-pass switches shall be labelled.

(iii) Light Sensitive Switches

Light sensitive switches (photoelectric sensors) shall have adjustable luminance from 10-200lux and incorporate a time delay to prevent nuisance operation. They shall be positioned so that their operation is not affected by artificial lighting sources.

The preferred make shall be the Clipsal, HPM or equivalent.

(iv) Occupant Detection Switches

Switches shall be “Sensor Switch-JSB Lighting Ph. 96279888” or BEG units with the following functions:

- movement sensor;
- noise sensor;
- fan controller;
- PE Cell
- ceiling mounted.

The unit shall be arranged to automatically turn on the light and fan while a person is detected. Where required the fan shall remain activated for 10 minutes after the toilet area is vacated.

5.9 EMERGENCY & EXIT LIGHTS

5.9.1 Design Requirements

The emergency and exit lights shall be designed in accordance with the requirements of BCA and be arranged to illuminate in the event of a power supply failure. The installation shall be in accordance with the requirements of AS/NZS2293.
Exit signs shall be maintained/or sustained and installed in all egress paths and in areas as required by BCA. Emergency lights shall be non-maintained type. The emergency and exit lights shall be self-contained type luminaires, consisting of sealed nickel cadmium batteries and be wired via time test switch located in the electrical distribution cupboard for testing purpose.

Time clock test switches shall be provided on each switchboard to allow 120min for initial duration of testing and 90min for in-service duration of testing in accordance with AS/NZS2293.

5.9.2 Specification Clauses

Emergency and Fire Exit lights shall be connected to their own circuits and be provided with an automatic test system in accordance with the requirements of AS/NZS 2293.

The test system shall be Legrand 201946, NHP CPELK1 or equivalent and shall be provided complete with test switch, timer, contactors and relays as necessary

The Exit signs shall be recessed type manufactured by STANILITE (or Legrand) Legend Series, maintained complete with the cold cathode lamp (6-years, 50,000 lamp life), nickel cadmium battery pack, dual rate battery charger, single or double sided diffuser and flex and plug. Cat no LRC104ML.

Emergency Lights shall be recessed type manufactured by STANILITE (or Legrand), ‘Spitfire’ range, non-maintained complete with 10W halogen lamp, NCad battery pack, battery charger and flex and plug. Cat no SF10FP.

Tests shall be conducted at practical completion, after six and twelve months as specified in AS/NZS2293. Results shall be recorded in the Maintenance logbook. The logbook shall consist of the reduced size plans of the emergency and exit lighting layouts and sufficient number of pages for 5 years (minimum) for testing details.

5.10 POWER OUTLETS

5.10.1 Design Requirements

General power outlets shall be wall-mounted at 150mm AFL, symmetrically located and aligned with other outlets (e.g. with voice/data outlets). All outlets shall be labelled with traffolyte type labels, fixed to the flush plates and indicate circuit number and phase. Alternatively, flush plates shall be engraved. Mixed circuits of lighting and power sub-circuits are not permitted.

5.10.1.1 General Purpose Outlets

General-purpose outlets (GPO) shall have 10Amp make/break switch mechanisms.

The maximum number of outlets per circuit shall be twelve single (GPO’s) or six doubles (DGPO’s) and shall not exceed rating of the circuit protective device.

Where power outlets are mounted externally, in plant rooms or car parks, they shall be the weatherproof rating of IP67.

The preferred make shall be the Clipsal 2000 range.

Colours of Outlets to be used:
- Electric White: - All outlets fed from normal/generator supply
- Electric Red: - Outlets fed from UPS system

5.10.1.2 Three Phase Outlets

Three-phase outlet shall be a combination switch socket outlet mounted on a common base plate and shall be weatherproof type IP67.
The switch and plug socket shall be interchangeable (able to be replaced or rotated to suit the installation position.

5.10.1.3 Direct Wired Equipment

Direct-wired equipment shall be wired via a suitably sized weatherproof local isolator, adjacent to equipment. Cables between direct-wired equipment and isolator shall be enclosed in a flexible PVC conduit sufficient in length to allow the equipment to be moved for servicing.

5.11 STANDBY POWER SUPPLY SERVICES

5.11.1 Design Requirements

The site shall be provided with a suitably sized generator with capacity to operate the whole facility in the event of a power failure. The system shall be arranged with automatic changeover to generator supply and return to mains upon stable supply.

Emergency turnout and communications equipment shall be backed-up by an UPS system, which shall be located in the communications room.

5.11.1.1 Standby Generator

The new standby generator shall be included in the design to the following:-
One standby diesel alternator (generator) with the specified capacity.
Fuel system including day tank.
Cooling system.
Battery and charger.
Exhaust silencer systems.
All control systems.
Remote Control panels (if applicable).
Anti-vibration mounts.
Acoustic enclosure.
Automatic starting upon signal from main switchboard.

5.11.1.2 Generator and Tank Size

The generator shall be FG Wilson standard Rental Range 150 kVA (822L Storage) or 100 kVA (631L Storage) or 60 kVA (569L Storage). The needs to include full load output, some overload capacity, fully enclosed, weatherproof, sound attenuated container with fuel tank included within bunded enclosure.

The size of the generator will be nominated by the MFB.
(i) Ratings

The generator set and fuel tank shall be suitably sized for the designed load, running continuously over a 60-hour period at full rated load without the need to refuel.

(ii) Noise

The diesel generator system shall be located in an acoustic enclosure to ensure that maximum sound levels shall in no way exceed the requirements of the local Council and EPA.

(iii) Engine

The Engine shall run at 1500 RPM and direct coupled to the alternator.
(iv) Generator Controls

Engine-generator set control shall be provided with a three-position RUN/OFF/AUTO control switch. A red mushroom head push button emergency stop switch shall be provided. Depressing the emergency stop switch shall cause the generator set to immediately shut down, and be locked out from automatic restarting.

(v) Generator Set Alarm and Status Message Display

If generator set is required it shall be provided with alarm and status indicating lamps to indicate non-automatic generator status and existing alarm and shutdown conditions. The lamps shall be high-intensity LED types. Alarm and shutdown conditions shall be displayed on a digital display panel.

5.11.1.3 Generator Termination Panel

The termination panel shall be fully sealed weatherproof enclosure mounted externally and complete with suitably sized three phase circuit breakers or HRC fuses, suitably sized terminals for the termination of active, neutral and earth.

The termination panel shall be a B&R enclosure or similar manufacture.

5.12 UNINTERRUPTED POWER SUPPLY (UPS) AND BATTERIES

5.12.1 Design Requirements

The station shall be designed to include a UPS to provide power supply to the critical services. The MFB will nominate on a project by project basis the reuse of existing systems.

(i) The system shall include the following equipment

- 3000VA, 240V single phase UPS – Eaton Powerware 625 (3kVA) UPS cat no. 91203000ANB
- SNMP/Web adaptor cards
- UPSBD adaptor
- 15A plug to 16A-IEC socket mains input and output leads with cable retention clips fitted to UPS.
- 1.5m (length) cabling and connector assemblies for interconnecting between batteries, UPS and DB-UPS
- Sealed lead acid batteries (Valve regulated vented Cell), (8-off) – Powerson 370 type.
- Battery enclosure 1300mm(W) x 1200mm(H) x 300mm(D)) complete with shelves cat no. Eaton (Invensys) BAT2/3000P370E8.
- Maintenance By-Pass switches Eaton Powerware Cat. No BMS3000SW1
- UPS distribution board.

(ii) The UPS system shall be wired from the main switchboard via dedicated power outlet and maintenance by-pass.

The following critical loads shall be fed from UPS via distribution load centre DB-UPS:

- Communications Cabinet – UPS Rail
- Siemens BMS
- Telephone system
- Station Turnout Equipment
- Security Detection system

All power outlets dedicated for the above equipment shall be of different colour (red) to distinguish services powered by UPS.
The complete UPS system, batteries and Maintenance By-pass switches shall be located in the communications room.

5.12.2 Specification Clauses

Upon completion, the contractor shall arrange for testing and commissioning of the complete installation.

5.12.2.1 Battery Enclosure

The battery enclosure shall be pre-wired by the manufacturer with 2-off output sockets and an isolator/circuit breaker mounted in the upper right-hand end of the cabinet. The circuit breaker shall be housed in a wall-mounted enclosure suitable for hardwiring between batteries and UPS.

The enclosure shall be earthed via 6mm² Green Yellow cable. The enclosure shall also have DIN rails with 9120 DC socket wired directly to the battery isolator. The enclosure shall be labelled “UPS BATTERY ISOLATOR”.

5.12.2.2 Maintenance By-Pass Switch

Maintenance By-Pass switch (Make Before Break type switch) shall be provided to isolate all AC input and output supplies from UPS to allow maintenance personnel to safely work on the equipment, while critical load equipment continues to be powered from the input supply, normally raw mains, without interruption.

The maintenance by-pass switch shall operate as follows:

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>In the ‘NORMAL’ position the UPS is fed from the AC Mains supply and the load equipment is fed from the output of the UPS. In this position the critical load is protected by the UPS.</td>
</tr>
<tr>
<td>Restart</td>
<td>The ‘RESTART’ position connects the load equipment directly to raw AC Mains supply. AC input power is also fed from the UPS to enable it to power up. The output of the UPS is disconnected from the load equipment and the critical load is not protected by the UPS.</td>
</tr>
<tr>
<td>By-Pass</td>
<td>The ‘BYPASS’ position connects the load equipment directly to raw AC Mains supply. AC input power is disconnected from the UPS to facilitate maintenance or component replacement. The critical load is not protected by the UPS. In this position the entire UPS can be removed or replaced without disturbing the load equipment</td>
</tr>
</tbody>
</table>

5.12.2.3 Manufacture Test

The UPS equipment shall be tested continuously, connected to the test load, for at least 24 hours. Record line and load voltage, current frequency and temperature measurements at regular hourly intervals.

Testing of the equipment shall be conducted on the completion of works. Correct functional operation, including mains failure and return, and operation of static and remote bypass switches. Correct operation or indication of controls, alarms, indicators and instruments. Record direct readings on test sheets and indicate time scales on oscillograms and chart records.

5.12.2.4 Training

A training course shall be provided to demonstrate the operations of the UPS at the end of the acceptance tests.

5.12.2.5 Log Books

A logbook shall be provided to record all activities undertaken during the maintenance period.
5.12.2.6 Warranty

12 x 1-month service after commissioning shall be allowed. Provide 12 months warranty for the complete installation.
6.0 ECOLOGICAL SUSTAINABLE DESIGN FIRE STATION DESIGN FUNCTIONAL BRIEF

6.1 ECOLOGICAL SUSTAINABLE DESIGN

Energy targets together with assumed building loads are detailed in this section.

6.1.1 Energy Targets

Energy targets are based on the four end use areas of the building. Namely - lighting, equipment power, HVAC and DHW. In addition, it is proposed that each separate end use area be normalised for the factor which governs it, for example:

- Lighting energy use is normalised for the total area of the building
- Equipment energy use is normalised for the total area of the building
- HVAC energy use is normalised for the total air conditioned area of the building
- DHW energy use is normalised for the number of staff per day (including both day and night shift)

The above-recommended normalising factors allow the performance of each energy end use type to be better assessed. For example, lighting energy use is proportional to the electrically lit area and not the number of staff. Thus, if a high staff density is achieved but a very inefficient lighting system installed then assessing the lighting energy on the basis of numbers of staff may indicate that the lighting is efficient.

SBE has based the energy targets on the end use figures established from the desktop audits and site energy surveys. The targets for lighting, equipment and DHW energy use were selected from the results of the desktop audit and site visits, based on normalised energy consumption and system type.

When attempting to predict the likely energy performance of a building design via the use of computer energy modelling it is necessary to standardise.

The following table represents the targets for each of these use areas:

<table>
<thead>
<tr>
<th>End Use</th>
<th>Annual Consumption kWh</th>
<th>MJ</th>
<th>Energy Normalising Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lighting</td>
<td>31</td>
<td>112</td>
<td>/m² of total area</td>
</tr>
<tr>
<td>Equipment Power</td>
<td>38</td>
<td>137</td>
<td>/m² of total area</td>
</tr>
<tr>
<td>Total HVAC</td>
<td>68</td>
<td>245</td>
<td>/m² of air conditioned area</td>
</tr>
<tr>
<td>Total DHW</td>
<td>2,060</td>
<td>7,416</td>
<td>/number of staff per day</td>
</tr>
</tbody>
</table>

6.1.2 Internal Gains - Equipment

6.1.2.1 Density

The equipment density in the building was assumed to be 8W/m² in the office space, to represent the heat gain from computers. Miscellaneous equipment was assumed to contribute 1W/m² to internal heat loads in all spaces.


6.1.2.2 Equipment Hours of Operation
The equipment gain was assumed to be constant throughout the day.

6.1.3 Internal Gains - Occupancy

6.1.3.1 Density
The occupant density for the building was assumed to be 15m² per person. The heat gains from occupants totalled 150W, with 90W sensible and 50W latent.

6.1.3.2 Hours of Occupancy
The hours of occupancy are summarised in Table 3.

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Bedrooms</th>
<th>General</th>
</tr>
</thead>
<tbody>
<tr>
<td>00:00 – 01:00</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>01:00 – 02:00</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>02:00 – 03:00</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>03:00 – 04:00</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>04:00 – 05:00</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>05:00 – 06:00</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>06:00 – 07:00</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>07:00 – 08:00</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>08:00 – 09:00</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>09:00 – 10:00</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>10:00 – 11:00</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>11:00 – 12:00</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>12:00 – 13:00</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>13:00 – 14:00</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>14:00 – 15:00</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>15:00 – 16:00</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>16:00 – 17:00</td>
<td>0%</td>
<td>100%</td>
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<tr>
<td>17:00 – 18:00</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>18:00 – 19:00</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>19:00 – 20:00</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>20:00 – 21:00</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>21:00 – 22:00</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>22:00 – 23:00</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>23:00 – 24:00</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 1 – Occupant Load Profiles

6.1.4 Internal Gains - Lighting

6.1.4.1 Power Density
The lighting power density was 8W/m² in general fire station areas and 5W/m² WCs, stores rooms, and corridors. These figures were taken from Appendix A1 of the Building Energy Brief (page 2).

6.1.4.2 Lighting Hours of Operation
The lighting hours of operation are summarised in Table 4.
### Table 2 – Lighting Load Profiles

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Bedrooms</th>
<th>General</th>
</tr>
</thead>
<tbody>
<tr>
<td>00:00 – 01:00</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>01:00 – 02:00</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>02:00 – 03:00</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>03:00 – 04:00</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>04:00 – 05:00</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>05:00 – 06:00</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>06:00 – 07:00</td>
<td>100%</td>
<td>50%</td>
</tr>
<tr>
<td>07:00 – 08:00</td>
<td>100%</td>
<td>50%</td>
</tr>
<tr>
<td>08:00 – 09:00</td>
<td>0%</td>
<td>50%</td>
</tr>
<tr>
<td>09:00 – 10:00</td>
<td>0%</td>
<td>50%</td>
</tr>
<tr>
<td>10:00 – 11:00</td>
<td>0%</td>
<td>50%</td>
</tr>
<tr>
<td>11:00 – 12:00</td>
<td>0%</td>
<td>50%</td>
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<tr>
<td>12:00 – 13:00</td>
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<td>50%</td>
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<tr>
<td>13:00 – 14:00</td>
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<td>50%</td>
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<tr>
<td>14:00 – 15:00</td>
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<td>50%</td>
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<td>15:00 – 16:00</td>
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<td>50%</td>
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<tr>
<td>16:00 – 17:00</td>
<td>0%</td>
<td>50%</td>
</tr>
<tr>
<td>17:00 – 18:00</td>
<td>0%</td>
<td>50%</td>
</tr>
<tr>
<td>18:00 – 19:00</td>
<td>100%</td>
<td>100%</td>
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<tr>
<td>19:00 – 20:00</td>
<td>100%</td>
<td>100%</td>
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<tr>
<td>20:00 – 21:00</td>
<td>100%</td>
<td>100%</td>
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<tr>
<td>21:00 – 22:00</td>
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<tr>
<td>22:00 – 23:00</td>
<td>100%</td>
<td>100%</td>
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<tr>
<td>23:00 – 24:00</td>
<td>0%</td>
<td>100%</td>
</tr>
</tbody>
</table>

#### 6.2 ENVIRONMENTAL OVERLAY FOR FIRE STATION DESIGN GUIDELINES

The following design requirements have been developed for incorporation into the MFB station design guidelines. These requirements are to ensure the principles of MFB’s environmental policy and strategy and whole of life facility management are addressed in all new building designs.

These requirements are presented with little detail and so it is acknowledged that some amendments, detailed specs or acceptance criteria may need to provided in due course.

##### 6.2.1 All New MFB buildings and fire stations must have:

- Design standard equivalent to a Green Building Council, 5 Green Star standard
- Building orientation to be part of site selection criteria
- Early engagement with Property Services to identify feasible innovations (e.g. renewable energy and heating and cooling systems)
- Selection of all equipment/electrical appliances (including lighting) based on consumption efficiencies and of minimum 4 star ratings (WELS, and Energy Star labelling schemes)
- Rainwater use for toilet flushing, garden watering, truck washing and/or training*
- Solar Hot Water Systems and instantaneous gas boosted hot water systems
• Waste segregation and storage facilities (both in mess areas and outside yard) for recyclables
• Sub-metering of electricity, gas, water
• Bike storage facilities
• Design of facilities to ensure oil/foam runoff does not enter stormwater
• Design of facilities to ensure truck washing runoff does not enter stormwater
• Window coverings (external or equivalent to) for western facing windows
• Double glazing of all external windows
• Individual lighting controls for all lighting
• Sensor/timing lighting for low use rooms/area (e.g. meeting rooms, storage rooms)
• Temperature (& duration) settings on heating and cooling systems to be applicable to the use of the area
  (e.g. wider temperature range for low use areas - e.g. change rooms)

6.2.2 All New MFB buildings and fire stations must consider:

• **Water re-use and treatment (equivalent to Class A standard) systems for training hub fire stations.
• Application of new renewable energy technologies and innovative heating and cooling systems to reduce
  energy consumption and improve energy efficiency.

*As per MFB rainwater (single use/untreated) quality management procedure #571617.
**As per MFB rainwater & stormwater recycling quality management procedure #565489
Revised 10/12/2010, Doc # 558287, Authors: M. Erwin, B. Hardy, I. Rooney, S. Blacklow
7.0 MFB FIRE STATION SECURITY STANDARDS

7.1 INTRODUCTION

7.1.1 General
The Metropolitan Fire Brigade (MFB) is committed to minimising risk to its people, assets, information and services delivered to the community, as well as preventing loss or damage to MFB property and equipment.

Security as a principle method of minimising risk is the joint responsibility of all levels of staff and management.

The purpose of this 'Security Standards' document is to provide the MFB, and associated service providers, with sound guidelines for the provision of best security practice in design, planning and management of security, in order to meet the MFB’s commitment to providing a safe and secure work environment and quality of service.

7.1.2 Security Philosophy
The MFB Security Philosophy is based on the 'Rings of Security' or Defence in Depth principle. Each ring or layer represents the security measures and treatments employed by the MFB. This document provides the minimum standards required to meet the applied level of security for each layer.
MFB Security Philosophy Model

Section 7.4 of this document details how the security philosophy is currently, and will be applied within each MFB fire station.

7.1.3 Security Profile

The minimum security standards and guidelines for fire stations, as described in this document, have been developed and endorsed by the MFB.

In order to apply the commensurate level of security to each MFB Fire Station a 'Security Profile' will be allocated based on the assessment of external threats described within this standard.

The assessment for all fire stations, in determining the security profile is based on the site specific attributes of the external threats and commensurate security measures.

For the purpose of these standards, the fire station security profile has been categorised into three levels, LOW, MEDIUM and HIGH. The security category for each fire station will be determined by a micro security assessment in the form of a Security Profile- Proforma (Appendix A) to be undertaken for each station.

7.1.3.1 Security Profile Proforma

The security profile proforma is an assessment form based on a list of survey questions to be completed by MFB personnel responsible for, or with site specific knowledge of the fire station. In the case of a new fire station at a new site, the proforma will be completed by the MFB Security Co-ordinator.

7.1.4 Security Standards

The Security Standards detail the minimum security requirements to be applied to each fire station based on agreed generic risks and identified external threats.

The standards that have been applied as described in this document are based on the 'Rings of Security' principle, to provide a level of security which is commensurate to the Fire Station security profile.

These standards have been developed over time in cooperation with the MFB and are consolidated in this document. The minimum Security Standards and the station Profile are subject to change and will be continuously reviewed by the MFB to ensure they remain current and up to date with the environment.
7.2 BACKGROUND

7.2.1 Overview

The requirements for the development of Fire Station “Security Standards” have been identified by the MFB, as a result of increased security awareness and the on-going development of security standards and practices within the MFB environment.

The MFB have recognised the increased security threats and risks facing the modern Fire Station facilities. This includes the increased need for a level of physical security, planning and design, construction, electronic security and operational procedures within new and exciting fire stations.

This security standards document combines the existing security principals in place at all Fire Stations and newly developed standards to meet the evolving security profile of modern fire stations.

This standards document will provide the MFB with a framework to apply ‘Best Security Practice’ for security design, planning and management, and a ‘Security Profile’ to determine the level of physical security to be provided.

It should be noted that this document is a minimum guideline and that each station should therefore be assessed based on its individual merits, budgetary constraints, planning and spatial consideration.

7.2.2 Information Resources

The following resources were used in the development and documentation of these standards;

(i) MFB SMS Rollout Project Specification
(ii) Previous MFB project experience, including:
   • MFB SMS Rollout Project
   • Previous security risk assessments conduct on behalf of the MFB
   • Various MFB Fire Station projects

The project group involved in the development of these standards includes:

(i) Darryl Tams – MFB Facility Services (DTAMS@mfb.vic.gov.au)
(ii) Sharne Hesse – SKM (SHesse@skm.com.au)
(iii) Sara Macsood – SKM (SMacsood@skm.com.au)

7.2.3 Applied Security Principles & Standards

The following Security Principles and Standards have been applied as part of the Security Standards to be adopted for the MFB:

(i) The Principles of “Security in Depth” (Rings of Security), also known as “Defence in Depth”
(ii) The principles of Crime Prevention Through Environmental Design (CPTED)
(iii) Application of relevant Australian Standards for Security and Engineering Design
(iv) Application of Security and Safety Best Practices
(v) Consideration of Environmental Health and Safety (EH&S) in the workplace, public and private areas

7.2.4 Attachments

The following Attachments are attached to this document in section 7.7:

(i) Attachment A – Proforma – Fire Station Profile
(ii) Attachment B – Minimum Fencing Requirements and Associated Drawings
(iii) Attachment C – Existing MFB SMS Layout
(iv) Attachment D – Alarm Panel Construction and Layout
7.3 SECURITY PROFILE

7.3.1 General

Each fire station will be categorised as either LOW, MEDIUM or HIGH security station. This profile relates to the external security rating of the fire station only. Generic risks and associated security standards have been agreed for all fire stations. The internal fire station security measures are standardised across all MFB fire station. The external however will vary depending upon the environment or location in which the fire station is located.

As such, an assessment of external threats will be utilised to determine the fire station security profile. Refer to Appendix A for the Fire Station Security Profile Porforma to be completed for each fire station.

For fire stations identified with unique or different security risks, a detailed security risk assessment should be undertaken separately.

7.3.2 Risk Overview – Generic Risks

The standards have been developed in consultation with the MFB’s Facility Services Department and have been based on the agreed generic ‘Risks’ facing fire stations.

The following is a list of generic risks, which are considered to apply in various levels, to all fire stations:

(i) Assault or harassment of MFB Staff, Contractors or Visitors.
(ii) Theft or Vandalism to MFB or MFB staff vehicles
(iii) Anti-social behaviour or loitering in or around fire stations
(iv) Unauthorised or forced access to MFB fire stations or MFB staff only areas
(v) Theft or damage to MFB or Fire Fighter Property
(vi) Vandalism to buildings, property, plant or infrastructure
(vii) Unauthorised or forced entry to the building plant or equipment rooms
(viii) Unauthorised or forced entry to ‘Unmanned’ Fire Stations
(ix) Unauthorised access to sensitive or restricted information
(x) Unauthorised occupation of the fire station areas including appliance bays, stairwells, offices, mess, ext
(xi) Arson or Fire

(Note: the above risks are not listed in any particular priority and are provided as an overview of the potential risks facing MFB fire stations).

7.3.3 External Threats

The security profile for a station will be based upon the assessment of the external threat to that station, including but not limited to:

(i) Characteristics of local suburb including
   • Population
   • Socio-economic status

(ii) Risk profile of neighbours
   • Residential
   • Commercial
   • Industrial
(iii) Proximity of fire station to public facilities including
- Roads
- Bus
- Train Stations
- Public Venues (pubs, parks, etc)
- Petrol Stations

7.3.4 Security Profile Proforma

The Security Profile Proforma consists of 10 questions, each weighted 1, 2, 3. The score of 1 is representative of Low or a No answer, whereas the score of 2 is representative of Medium or an Unsure answer and the score of 3 is representative of High or a Yes answer.

7.3.4.1 Low Security

Based on the agreed generic risks and assessment of the external threats, Fire Stations with a score of between 1 – 12 have been allocated a LOW Security Profile.

7.3.4.2 Medium Security

Based on the agreed generic risks and assessment of the external threats, Fire Stations with a score of between 13 – 22 have been allocated a MEDIUM Security Profile.

7.3.4.3 High Security

Based on the agreed generic risks and assessment of the external threats, Fire Stations with a score of between 22 – 30 have been allocated a HIGH Security Profile.

7.4 SECURITY STANDARDS

7.4.1 Security Planning and Design Guidelines

7.4.1.1 General

The following security principles and standards should be applied in the application, or design of security for a fire station:

(i) The principles of “Security in Depth”, also known as “Defence in Depth” or “Rings Security”
(ii) The principles of Crime Prevention Through Environmental Design (CPTED)
(iii) Application of relevant Australian Standards for security and engineering design
(iv) Application of Security and Safety Best Practices

7.4.1.2 Landscaping and External Areas

The Planning of landscaping should be conducted in accordance with the objective and guidelines provided within this cause, which have been developed following the principle of CPTED.

The objective is to ensure that clear sight lines are achieved and maintained for natural surveillance, the landscaping provided does not provide potential hiding places or shadow points though still maintains the aesthetic features required.
Ensure landscaping and other features do not interfere with sight lines or provide voids or other places where vandalism and illicit behaviour can take place.

The following general guidelines are provided:

(i) Shrubs planted at ground level should not exceed 500mm in height when fully matured
(ii) Shrubs planted in a planter box should not exceed 200mm in height from the top of the planter box
(iii) The canopy of all trees must clear the ground or the planter boxes by a minimum of 2m
(iv) The canopy of all trees must be maintained to ensure branches do not hang over the perimeter fence and provide a scaling aid.
(v) Shrubs should be dense to reduce possible hiding places
(vi) The relative positioning of shrubs/ trees should complement the lighting, ensuring that light sources are not obscured and that the required lighting levels are achieved.

Gardens and landscape areas should be maintained regularly to ensure that any excess foliage or overgrowth is removed and clear site lines are maintained at all times.

Avoid the use of landscape or architectural features which may reduce surveillance of the building facade, entry or exit points, windows, ext, or provide hiding spaces.

7.4.1.3 Spatial Requirements

The following principles have been developed in keeping with the ‘Security in Depth’ principle and should be used as a reference to design the layout of a fire station.

Where possible, the position of the fire station should be central to the site. However, in the situation where neighbouring sites are considered to be of a high-risk profile, the fire station should be located as far from the corresponding perimeter as practical.

Rooms within the fire station that contain core assets (e.g. watch room/ dispatch room, and locker room) should be located centrally within the building to maximise the protection offered through the facilities structure.

The key safe should be located within the dispatch room.

The security panel and IT rack should be located within a dedicate, locked communications room. Where this is not available, the equipment should be located within an area that is considered to be secure and out of sight.

7.4.2 Site & Perimeter Security

7.4.2.1 General

To maintain the security of the fire stations, each site shall consist of a ‘fully enclosed perimeter barrier forming the site boundary and providing a clear segregation between public property and the MFB site’.

The following section details the minimum requirement for the site and perimeter security which consists of:

(i) Perimeter Fencing
(ii) External Lighting
(iii) Vehicle and Pedestrian Access to Site
(iv) Emergency Exit Facilities

7.4.2.2 Perimeter Fencing

A number of approved fence types which have been tried and tested have been detailed in this section and shall be selected depending on the security profile of the fire station. Although this is not a complete list, the
use of fence styles not included in this document will not be accepted, unless written approval is obtained from
the MFB.

Requests to the MFB for alternative fencing shall be detailed in writing and could be subject to review by the
incumbent Security Consultant and the MFB facility services department.

The fence type and fabric should be selected in keeping with the MFB’s open philosophy and maintain a level
of visual transparency around the site.

The table below outlines the fence styles that are approved by the MFB and the security profile level at which
they are recommended.

<table>
<thead>
<tr>
<th>Type</th>
<th>Security Profile Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Chain Wire Mesh Fence</td>
<td>✓</td>
</tr>
<tr>
<td>Lysaght (Colorbond) Steel Fence (Sheet Steel)</td>
<td>✓</td>
</tr>
<tr>
<td>TangoRail Fence (Steel tube railings)</td>
<td>✓</td>
</tr>
<tr>
<td>Brick or Concrete Fence</td>
<td>✓</td>
</tr>
<tr>
<td>Palisade Fence (Galvanised steel pickets)</td>
<td>✗</td>
</tr>
<tr>
<td>Wooden Paling Fence</td>
<td>✓</td>
</tr>
<tr>
<td>Securlfor Fence (Galvanised Iron welded mesh)</td>
<td>✗</td>
</tr>
</tbody>
</table>

The security profile of a fire station will determine the corresponding minimum fencing requirements (i.e. type,
construction, height, etc.). Refer to Appendix B for minimum requirements for each of the MFB approved fence
styles and associated fire station security profile.

**Chain Wire Mesh Fence**

Chain Wire Mesh Fences installed at the MFB fire station shall comply with the following minimum
requirements:

(i) Minimum height of 2.4m, regardless of security profile of the station

(ii) Fitted with top and bottom horizontal rails

(iii) Minimum core wire diameter shall apply according to the station security profile

(iv) Vertical post extension with barbed wire and outriggers shall apply to medium and high security profile
stations, as described in Appendix B

(v) Comply with AS1725, and all fencing material shall comply with AS2423

**Lysaght (Colorbond) Steel Fence**

The Lysaght steel fence type may be used in low to medium security profile stations providing a layer of privacy
to the fire station.

A steel lattice strip shall be installed at the top of the fence for aesthetic purposes.

This fence type is not suitable for installation within marine, severe industrial or other corrosive environments.

**TangoRail Fence**

The Gryffin TangoRail fence type, or approved equivalent, may be used within low and medium security profile
stations only.
The rails, posts and vertical tubular infill shall be constructed from mid steel, galvanised and powder coated to AS1627.

Details on this fence type are provided within Appendix B.

**Palisade Fence**

The Gryffin Palisade fence type, or approved equivalent, may be used within medium to high security level station, and shall comply with the following requirements:

(i) The minimum height shall be 2.4m
(ii) All fence parts shall be made from steel
(iii) All components shall be hot dipped galvanised after fabrication to AS1627

Refer to Attachment B in section 7.7 for further details regarding the Palisade fence type

**Securifor Fence**

The Securifor Fence type may be used within medium to high security level stations, and shall comply with the following requirements:

(i) Mesh apertures shall be small enough to reduce risk of penetration or scaling
(ii) Posts shall be hot dipped galvanised subsequent to fabrication
(iii) Strength of welds shall be at least 75% of steel strength

**Wooden Paling Fence**

Wooden paling fences may be used within low security profile stations and shall be minimum 1.8m in height (2.1m preferable subject to council approval), and shall comply with the following minimum requirements:

(i) Red gum components, or approved equivalent, shall be used
(ii) Consist of 3 horizontal rails
(iii) Fence palings shall overlap
(iv) Palings shall be oriented to ensure rails are not exposed to the external side of the perimeter

**Non-uniform fencing construction**

For Aesthetic purposes, it is preferable to have a perimeter fence of uniform style and characteristics. However, detailed below are situation where this may not be possible or suitable and thus, requiring fences or different styles and construction to be used.

To maintain the security requirements of the facility, selected sections of the perimeter fence may need to be constructed to a higher security standard than the site is rated. Examples of situations where this may occur include:

(i) A neighbouring site presenting a direct threat to the fire station
(ii) A particular section of the immediate environment providing climbing aids increasing the chances that the perimeter fence will be breached (e.g. adjacent or abutting structures or walls, parked vehicles, etc)
(iii) A particular region of the fire station being in close proximity to an area presenting an additional security threat (e.g. public bus and train stations, public access ways, parks or vacant land, etc)

If an upgrade of an existing fire station perimeter fence is being undertaken, nominated sections of the existing perimeter fence may be reused to minimise cost. However, as a guiding rule, the fence should be upgraded where possible to meet the minimum requirements of these standards. This will be subject to the review and approval of the MFB facility services and/or the incumbent Security Consultant.

Adjacent building structures may, in some instances, be used to form a part of the secure perimeter fence of the site. However this shall only apply where a further assessment of risk is conducted, such that the tenants of
the adjacent building are considered low risk and the neighbouring building structure can provide a suitable barrier.

7.4.2.3 External Lighting

To deter vandalism, illicit behaviour and provide safe passage for staff, the minimum external lighting level to be provided at each fire station shall be in accordance with the following guidelines.

During the hours of darkness minimum 25 Lux lighting shall be provided at the front of the station and street main entry. Note that a level of lighting may already be provided by street lighting or adjacent facilities.

External areas of the site, e.g. the car yards, shall also be well-lit. Provide a minimum of 5 Lux at all locations for car park lighting. Two-stage lighting should be considered to raise the ambient car yard lighting level to 25 Lux using sensors for fire stations of a high security rating or with a history of previous incidents after hours.

Footpaths leading to external car parks and main entries shall be provided with lighting evenly spread every 3m. Pathways should be clearly lit after-hours using low level bollard type or equivalent lighting to clearly guide pedestrian traffic and assist way finding.

The section of final light fittings should also give consideration to the use of vandal-resistant external fittings. External lighting design should be of an appropriate ambient lighting level to support natural surveillance of the fire station building external perimeter after-hours and avoid any dark spots around the building.

Note that standards for internal fire station lighting levels are not included within this document. These are covered within the MFB Electrical Standards in accordance with the Australian Standards.

7.4.2.4 Vehicle & Pedestrian Access

The MFB have a nominated gate contractor (contact the MFB Facility Services department for details). The nominated gate contractor shall conduct the works associated with the site's motorised vehicle gates and pedestrian access gate (if required) to the car yard area.

All works associated with the vehicle and pedestrian gates shall be in accordance with the following guidelines:

(i) All vehicle access to the fire station site (i.e. rear car yard) shall be restricted by the implementation of an automated vehicle access gate. The vehicle gate shall form a part of the security site perimeter. The MFB’s preferred gate option is the motorised swing gate, however a sliding gate type may also be used where this is considered more suitable, subject to the approval of the MFB. Where the sliding gate option is considered, a trackless cantilevered sliding gate operation is preferred

(ii) Gates should contain a mechanical (or electromagnetic) locking system, in lieu of simply relying on the gate operator to remain in the closed and locked position

(iii) The height of the vehicle access gate should match the height of gates at existing fire stations, unless prior approval is gained from the MFB due to extenuating circumstances

(iv) A single gate may be used to service both entry and exit vehicle paths

(v) Output control shall be provided to each motorised vehicle gate from the SMS for access control functionality via card reader and vehicle access receiver/transmitter technology

(vi) Provide in-ground vehicle detection loops on the exit side of the exit side of the gates for free egress configuration, and satisfy induction loop directly under the gate

(vii) Provide Photocells (safety beams) at each vehicle gate and program the door controller to minimise a collision between an obstruction and the gates. The photocells shall be used to detect whether a vehicle has passed through the gate, and close if a vehicle has been detected

(viii) Pedestrian entry to the site shall be via the fire station front door. However, if pedestrian gates are required to provide pedestrian access to the car yard area, the gate construction shall match the fire station perimeter fence, and the gate shall be physically locked from both sides. Electronic access control may be used where it is deemed necessary by the MFB

All gate locking access control, intercom devices etc, shall be of whether proof construction and suitable for external applications.
7.4.2.5 Emergency Exit Facilities

All emergency exit doors located on the building perimeter of the fire station shall be locked or access controlled from the non-secure side and provide free emergency egress from the secure side. Such doors shall be monitored to provide alarm indication upon unauthorised access.

Generally all perimeter and emergency exit doors shall be installed with ‘fail secure’ electric mortice locks configured with manual free handle egress at all times. This will maintain the security of the perimeter doors, whilst supporting emergency egress requirements.

Where Request to Exit buttons or Emergency Break glass Units are used in conjunction with fail safe electric locking devices (e.g. Maglock, Mortice Locks or Electric Strike):

(i) Ensure these are not accessible from the non-secure side of the door (i.e. Provide a protective shroud where such exit devices are installed on the secure side of external pedestrian gates)

(ii) They shall be capable such that upon activation, the fail safe lock will be directly disconnected from power

7.4.3 Building Requirements

This section provides the minimum requirements and guidelines relating to the physical fire station building construction, in the context of security, relating to the following:

(i) Building Fabric and Construction
(ii) Glazing
(iii) Doors and Doorframe construction
(iv) Door Hardware
(v) Mechanical Locking
(vi) Master Key System
(vii) Key Safe design and Security Requirements

The external regions forming the envelope of the site can be classified according to their purpose and features, which is outlined in the diagram below
7.4.3.1 Building Fabric, Construction & Layout

Refer to the MFB architectural standards for building fabric, construction and layout requirements.

Openings in the building envelope (i.e. doors and windows) are the most common points of entry for unauthorised persons. Reducing points of entry minimises the risk of unauthorised entry and as such, points of entry should be minimised where this does not contradict the MFB's “open” philosophy.

7.4.3.2 Glazing

All glazing shall be in accordance with AS2208 – Safety Glazing Materials in Buildings.

In general, for High security fire stations:

(i) Glazing within the building perimeter of the fire station should be minimised

(ii) Where glazing is required to for a part of the secure building perimeter intruder resistant glazing should be used. Alternatively, a protective film may be used to prevent the glass from shattering under impact

(iii) Floor to ceiling (wall) glazing should also be avoided within the secure building perimeter of the site. At such stations, brick walls shall be used, or alternatively Intruder Resistant glazing may be considered

(iv) Glazing can be replaced with heavy gauge glass bricks or glass panels secured within a metal frame

For further details, refer to MFB Architectural Standards.

Windows

Where lighting and not ventilation is required, windows should be fixed to prevent them from being opened.

Windows used for ventilation should be avoided within the secure building perimeter of the site, and in general, be also avoided in High security rated fire stations. However, where windows are required, the opening should be minimised to enable ventilation while preventing unauthorised entry.

The fixing of window frames to walls should be at least as strong, and resistant to intruders, as the glazing.

7.4.3.3 Doors and Doorframe Construction

All doors and door frames within the site should be designed to meet their intended purpose and with a level of physical hardening commensurate to the fire station security profile and locking device applied. The doors can be classed into two categories according to their purpose and location; perimeter and internal.

Perimeter doors, including main entry, are located on the external walls of the building and forms part of the building or site perimeter or contained within the site boundary perimeter.

Internal doors are locked within the internal building structure and, in general, provide free access at all times.

The list below details the minimum requirements for doors located on the external building perimeter:

(i) 45mm thick solid core timber

(ii) Glazing should be rated to AS3555.1998 Level 1 5 min attack

(iii) Fully glazed doors shall be encased by an aluminium frame

(iv) Door frame to metal or have a metal strip securely mounted to the frame from the top to the bottom of the lock side

(v) Door frames shall be constructed to provide a level of physical protection equivalent to the door and locking type specified

(vi) Main entrance door to the fire station should have a protected view panel to allow vetting of people wanting admission and enable viewing of the immediate door surroundings.
(vii) Doors shall provide provisions for the installation of appropriate locking

(viii) Where ever possible, single leaf doors shall be used in lieu of double doors

### 7.4.3.4 Door Hardware

All hardware installed on doors shall adhere to the following guidelines:

(i) Appropriate three stage door closers (Dorma TS93 or approved equivalent type) shall be installed on all access control doors (and to a lesser extent mechanical doors) to ensure the correct closing and locking of doors

(ii) Double doors fitted with access control shall be secured in place with panic bolts at the top and bottom of the door

(iii) Hinge pins should be resistant to easy removal

(iv) For access controlled doors, provide cable access through doorframes

Note: also refer to the MFB architectural standards.

### 7.4.3.5 Mechanical Locking

All perimeter doors and nominated internal doors shall be provided with Lockwood 3570 series mortice locks, or approved equivalent, appropriate for the accepted MFB Keying Systems (cylinders). For approved electric locking refer to 7.5

### 7.4.3.6 Master Keying Systems

The MFB keying system for all fire stations’ front main entry door and key safe is the Bi-Lock Omega Corporate Security Master Keying System.

Currently, all other fire station perimeter doors not leading into the Fire Station are provided with a separate keying system.

All new fire stations shall utilise the Bi-Lock Omega Corporate Security Master Keying System for the front main entry door and key safe. All other perimeter entry doors shall be card access only, without any key cylinder.

For all internal fire station keyed doors, refer to Architectural standards.

### 7.4.3.7 Key Safe Design and Security Requirements

Each fire station consists of a Key Safe (by others), generally located within the turn out area. The key safe consists of an electric strike (by others) which shall be interfaced to the security system (by Security Contractor).

The security Contractor shall supply and install a Card Reader, Sonalert and Reed Switches at the key safe, to achieve the functionality described in this section.

The key safe shall be programmed within the SMS as an independent Area. In the normal state (i.e. when the key safe door is closed), this area shall be Armed at all times. Badging the card reader associated with the key safe shall disarm the key safe area and unlock the electric strike for authorised access.

The area shall remain disarmed for a nominated time. Once this time has elapsed, if the key safe door remains open, the Sonalert shall activate as a warning to the user for a further nominated short period (10 seconds). Once the warning time period has elapsed, if the key safe door remains open, the area shall Arm and an alarm will be produced.
The key safe shall also be programmed to allow for an extended access period. This functionality shall be facilitated via the disarming of the key safe for an extended time period if the associated card reader is double badged.

7.5 ELECTRONIC SECURITY TECHNOLOGY

7.5.1 General
All existing MFB fire station consist of an electric security system, which include the following components:

(i) Access Control System
(ii) Intruder Detection System
(iii) Intercommunication System
(iv) Interface to the station Building Management System
(vi) Interface to the station Smoke Detectors

All new MFB fire stations shall also be provided with an electronic security system, which shall conform to the guidelines of this document.

7.5.2 Security Management Systems
The existing MFB state-wide Security Management System (SMS) is a Pacom "GMS System' with dual redundant services located at the MFB's Eastern Hill and Thornbury Facilities. All security related events and alarms report to and are logged at both services, via the MFB Wide Area Network (WAN).

Fire Station alarms are monitored by:

(i) FSCC (Tally Ho)
(ii) A Remote Monitoring Station – currently ADT

Each fire station consists of local control equipment which control local security devices.

A dual redundant communication link shall be provided between the local controllers and the MFB SMS server via a Field Controller (commonly referred to as an "RUT"). The RUT is housed within the station ICS equipment rack. ICS will provide a dedicated shelf within the ICS communications rack for the shelf mounting of the RTU on the top level.

Appendix C provides an overview of the existing MFB SMS layout.

7.5.2.1 Wall Mounted Equipment Panel
The Security System local control equipment is housed within a custom built wall mounted Equipment Panel and consists of:

(i) Local door controllers
(ii) Data gathering panels
(iii) Power supplies, batter backups, fuses etc.

The security panel shall be wall mounted within the Communications room where the station communications rack is also located. At existing fire stations, where a dedicated communications room does not exist, a suitable location shall be selected to the approval of the MFB.

Attachment D in section 7.7 shows the layout of a typical Equipment Panel.
7.5.2.2 Power Supplies and Battery Backups

Low voltage power supplies shall be installed within the control panel to provide power to all security devices. Exposed plug in step down transformers, including ‘plug packs’, shall not be accepted.

The power supply shall be monitored by the SMS for mains fail and low battery conditions. Such alarms shall be monitored 24 hours a day.

Each output shall be individually labelled and fused with LED indication of the output condition.

The power supply shall be backed up by the battery with sufficient capacity to maintain full operation of the systems for a minimum of twelve (12) hours, after a mains failure, under normal operating conditions. The battery pack shall be housed within the control panel and labelled with the date of installation.

The MFB will supply and install a standard 240V GPO within the control panel for the security system.

7.5.2.3 Cabling and Conduits

All cabling shall be installed within the fire station wall cavities, ceiling spaces etc. concealed wherever possible. In general, installation of cabling within surface mounted conduits will not be acceptable unless it is not possible to conceal cabling. In such circumstances, approval to install surface mounted conduits shall be gained from the MFB prior to installation.

Should surface mounted conduits be approved for installation by the MFB, conduits shall be 25mm or 32mm white PVC, as required. Surface mounted conduits shall be painted to match the surrounding surfaces and finish. Conduits shall be installed in straight lines, parallel to other conduits and building structures, at high level and, in general, located where there will be minimal visual impact on the aesthetics of the area. The installation of surface mounted conduits shall be to the approval of the MFB at all times.

Security cabling from the Control Panel to the Car Park vehicle gate shall be reticulated as follows.

Where possible, cabling shall be reticulated via underground PVC conduits installed in full accordance with the SMS Rollout Project Specification.

Where installation of underground conduits is not practical option (e.g. when providing an interface to an existing gate), cabling may be reticulated by inserting cabling into a saw-cut penetration of not greater than 20mm into the concrete or bitumen. The penetration shall then be backfilled using tar or silicon, as appropriate.

7.5.2.4 Cable Labels

All cables shall be allocated and identified with a unique number using Critchley type labels at both ends. Cable labels shall be oriented uniformly to read left to right when installed horizontally and from bottom to top where installed vertically.

7.5.2.5 Approved Equipment

The MFB approved Security Management equipment are detailed in the table below:

<table>
<thead>
<tr>
<th>SMS Equipment</th>
<th>Model</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security Management System (SMS)</td>
<td>Pacom GMS-CAMPUS</td>
<td></td>
</tr>
<tr>
<td>Local door controller</td>
<td>Pacom 1057 series (single door) or 1067 series (two door)</td>
<td></td>
</tr>
<tr>
<td>Data gathering panel</td>
<td>Pacom 1065 series</td>
<td>Input expansion module – Pacom 1050-004R</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Output expansion module – Pacom 1050-003</td>
</tr>
<tr>
<td>Field Controller (RTU)</td>
<td>Pacom 1057 series</td>
<td></td>
</tr>
<tr>
<td>Remote Arming Station (RAS)</td>
<td>Pacom 1061 series</td>
<td></td>
</tr>
<tr>
<td>Power supply</td>
<td>Tactical Technologies TPS12-5BD</td>
<td></td>
</tr>
<tr>
<td>Battery backup</td>
<td></td>
<td>Minimum 8 hour battery backup</td>
</tr>
</tbody>
</table>
7.5.3 Building Access Control

Access to the fire station shall be controlled via electronic security in the form of:

(i) Proximity Access Card Readers

(ii) Vehicle Access Receivers and Transmitters technology (VAR/VAT)

Access control shall be provided to:

(i) The front pedestrian entry door

The front pedestrian entry door to the fire station shall be configured to be secured 24/7 with card reader access at all times

(ii) Rear and side pedestrian doors

Side and rear doors providing access between the fire station and the car yard/ back yard areas shall be access controlled and configured with the “double badging” functionality whereby double badging the associated card reader will switch the door into access mode for a pre-programmed time period, normally 2 hours.

Note that when the station is Armed, any doors that are in the “double badged” state shall automatically switch to the locked mode.

(iii) The key safe:

The station key safe consists of an electric strike which is interfaced to the SMS for access control to the key safe on a 24/7 basis. The key safe shall also be configured with the “double badging” functionality, however double badging the key safe card reader shall simply extend the time allowed prior to the generation of a Door Open Too Long alarm by a pre-programmed time period.

The key safe electric strike shall be Fail Secure such that the key safe remains locked when power is cut to the lock.

(iv) Car Park Pedestrian Gates:

Nominated pedestrian entry gates to the fire station car park shall be access controlled (nominated by the MFB). These shall be configured to be secured 24/7 with card reader access at all times.

(v) Car Park Vehicle Gate:

Vehicle entry gates to the fire station car yard shall be configured to be secured 24/7 with card reader access and VAR/VAT technology access at all times. This shall be via a voltage free contact from the SMS to the gate controller to provide Output Control. Remote operation shall be provided via an intercom and Commander Phone System (by others)

(vi) Appliance Bay Doors:

Appliance bay doors shall be access controlled with VAR/VAT technology. At drive-through stations, nominated rear appliance bay door(s) shall be access controlled, while at non drive-through stations, nominated front appliance bay door(s) shall be access controlled. This shall be via voltage free contact(s) from the SMS to the associated appliance bay door controller(s) to provide Output Control

Access control shall be in accordance with all BCA regulations for fire and emergency egress at all times.

The access control system shall provide the functionality to remotely lock, unlock and provide temporary access through all access controlled doors (except appliance bay doors) from nominated GMS workstations, subject to user logon and privileges.

7.5.3.1 Card Readers

Card readers installed throughout the MFB Fire Stations shall be the approved Indala Flexpass/ Flexkey type.
In general, card readers shall be mounted at a height of 1200mm above FFL directly adjacent to the associated door on the latch side. Should this location not be available an alternative location shall be selected to the approval of the MFB.

Card readers shall be labelled with their corresponding SMS allocated hardware number using Traffolyte labels as shown in the following typical application:

The card reader LED and tone operation shall be in accordance with the table below:

<table>
<thead>
<tr>
<th>Card Reader Status</th>
<th>Visual Indication</th>
<th>Audible Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Access Granted</td>
<td>Solid Green LED Indication</td>
<td>None</td>
</tr>
<tr>
<td>Access Denied</td>
<td>LED Momentarily Flashes Red</td>
<td>Momentarily Buzz</td>
</tr>
</tbody>
</table>

Card readers shall be fixed in place using tamper proof fixings.

### 7.5.3.2 Access Cards and Key Fobs

MFB staff and nominated contractors will be issued with a proximity access card and/or proximity key fob to allow access to authorised areas.

The approved proximity access card is the Indala Flexcard and the approved proximity key fob is the Indala Flexkey.

### 7.5.3.3 Vehicle Access Receiver / Transmitters

A Vehicle Access Receiver/ Transmitter system shall be installed at each fire station for the control of access to the station car yard and into the appliance bay.

The VAR unit shall be mounted at a minimum height of 3m and at a location approved by the MFB. Where it is not possible to mount the unit at this height, an alternative location shall be selected to the approval of the MFB.

The VAT/ VAR system shall consist of four (4) channels; channel 1 will operate the vehicle entry gate while the remaining channels will activate nominated access controlled appliance bay door(s).

VAT units are installed in all fire appliances and the buttons are labelled G, D1, D2, and D3 which correspond to operation of the vehicle entry gate and appliance bay doors respectively. 4 button VAT key rings are also provided to all board vehicles to provide remote fire station gate/ door operation.

### 7.5.3.4 Electric Locks

Throughout the fire stations, where possible, Electric Mortice Locks shall be used for access controlled doors. Where this is not appropriate, Electro-Magnetic Locks (Maglocks) shall be used as a suitable alternative. Electric strikes shall generally not be used, unless approved by MFB Security Supervisor.

All access controlled doors shall be programmed for free egress at all times where possible.

All Electric Mortice Locks shall be power on to unlock (power fail secure). All other electric lock types shall be power on to lock (power fail safe).

Front fire station doors shall consist of a key cylinder with Key-Override functionality for unlocking of the front door with a mechanical key in the event of system failure.

### 7.5.3.5 Power Transfer Device

Where Electric Mortice Locks are to be installed, a Power Transferred Device will be required for the transfer of lock cabling from the door to the door frame.

The approved MFB power transfer device is the Assa Abloy 8810 type.
7.5.3.6 Request to Exit Pushbuttons

Access control doors consisting of Maglocks shall be installed with a Request to Exit (RX) push button for free egress.

The approved button is the Sedean SSE4350 black mushroom-head type mounted on a standard switch plate. The mounting height and location of RX buttons shall be 120mm adjacent to the associated door at the latch height, or an alternative location selected to the approval of the MFB, should the specified location not be available.

7.5.3.7 Breakglass Unit

Breakglass units shall be installed where Maglocks are used if the associated door is within a direct path of a fire exit, as determined by the MFB.

Breakglass units shall be the dual pole KAC KA200/SW/B type. The first contact shall pass the positive of the power to the electric lock. The second contact shall be connected to the SMS as an alarm input.

The Breakglass unit shall be installed at a height of 1200mm adjacent to the associated Request to Exit Button.

7.5.3.8 Sonalerts

Each fire station access control door shall be installed with a sonalert for the audible annunciation of access control alarms.

Sonalerts installed at fire station doors (i.e. front, rear or side doors) shall be ceiling mounted centrally and directly above the corresponding door. Where this is not possible, sonalerts shall be wall mounted centrally and directly above the corresponding door, preferably out of reachable height.

Sonalerts installed at the station key safe shall be ceiling mounted directly above the key safe.

External pedestrian gates to the cart yard shall be installed with a suitable weather proof and vandal resistant sonalert, such as the Mallory Sonalert, mounted to the approval if the MFB.

Appliance bay doors and vehicle entry doors to the car yard do not require a sonalert.

7.5.3.9 Door Closers

Each access controlled swing door shall be installed with a 3-staged door closer.

The approved MFB door closer is the Dorma TS 83 type.

Access controlled car park pedestrian gates shall consist of a suitable weather proof type door closer.

7.5.3.10 Approved Equipment

All MFB approved Access Control equipment are detailed in the table below:

<table>
<thead>
<tr>
<th>Access Control Equipment</th>
<th>Model</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Card Readers</td>
<td>Indala – Flexpass</td>
<td>Card readers to be mounted at a height of 1200mm above FFL to the center of the unit. At vehicle entry gates, card readers should be mounted on the gate bollard.</td>
</tr>
<tr>
<td>Electric Mortice Locks</td>
<td>Lockwood 3570 or 3580 series</td>
<td>Electric mortice locks shall be configured for free-handle egress at all times.</td>
</tr>
<tr>
<td>Power Transfer Device</td>
<td>Assa Abloy 8810</td>
<td>Installed on the hinge side of the door</td>
</tr>
<tr>
<td>Electromagnetic Lock</td>
<td>Padde EML series</td>
<td>Require lock monitor ‘bond sensing’ enabling detection of the correct alignment, engagement and locking of the armature plate.</td>
</tr>
<tr>
<td>Vehicle access receivers and transmitters</td>
<td>AirKey AKTX4-W26 transmitter</td>
<td>Appropriate data encryption to be used to avoid possible duplication of transmission code.</td>
</tr>
<tr>
<td>Reed Switches</td>
<td>Sentrol 1078C or 2700 series</td>
<td>Two Sentrol 2700 series reed switches shall be installed on all appliance bay doors and pedestrian entry gates</td>
</tr>
<tr>
<td>----------------</td>
<td>-----------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Break glass door release unit</strong></td>
<td><strong>Required to be dual pole, plastic, collapsible and key resettable insert type</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Sonalert</strong></td>
<td><strong>Adjustable pitch</strong></td>
<td></td>
</tr>
</tbody>
</table>

### 7.5.3.11 Access Control Alarms

Access control doors shall be monitored for:

(i) Forced Door Alarms

(ii) Door Held Open Alarms

The access control door monitoring alarm input shall be suppressed during a valid entry or exit, but shall provide an immediate alarm indication of when the door is forced open. This shall report as a Forced Door (FD) intrusion alarm and automatically activate the associated sonalert until such time as the door is secured (i.e. closed and locked).

If a door is opened during a valid entry or exit, and held open for longer than the pre-programmed access time (nominally 20 seconds), the associated sonalert shall activate a warning/embarrassment time until the door is closed and locked.

If the door is not closed and locked after a further pre-programmed period of time (nominally 10 seconds), a Door Held Open (DHO) alarm shall be generated at the SMS and associated sonalert activated until the door is closed and locked.

FD and DHO alarms shall be enunciated to the GMS and ADT at all times, however DHO alarms shall be suppressed from reporting to ADT while the station is Disarmed.

### 7.5.4 Equipment Bollards

Vehicle entry gates shall consist of an equipment bollard for the mounting of security equipment such as a card reader and intercom unit.

To facilitate the cabling required to interface the vehicle entry to the SMS, the following shall be provided:

(i) 1 x 32mm Dedicated Security Conduit – communications conduit, white ridged duty underground type, to the gate controller

(ii) 1 x 32mm Dedicated Security Conduit – communications conduit, white ridged duty underground type, to the gate bollard. Conduit to turn up directly into the base of the bollard (fully concealed).

At existing fire stations where underground conduits are not available for security cabling reticulation, the concrete/bitumen may be cut and the cabling placed directly within the concrete/bitumen, and secured in place with an appropriate silicone adhesive. Refer to section 7.5.2.3.

### 7.5.5 Intrusion Detection

Intrusion detection shall be provided throughout the fire station to monitor all perimeter doors, nominated internal doors, as well as nominated rooms.

The intruder detection devices to be provided to each Fire Station shall include the following:

(i) PIR

(ii) Dual Tech

(iii) Reed Switch
(iv) Heavy Duty Reed Switch
(v) Status Indicator
(vi) Push to Arm Button
(vii) Internal Siren
(viii) External Siren and Strobe
(ix) Son Alert
(x) RAS

7.5.5.1 Volumetric Detection
The following rooms shall consist of Passive Infared Detectors (PIR) of the Alarmcom IR200 or IR261 type for volumetric intruder detection coverage:

(i) Fire fighter locker rooms
(ii) Rooms/ areas where valuable equipment is stored (e.g. lecture rooms with AV equipment)
(iii) Watch room/ dispatch area
(iv) Communications room
(v) Corridors

The appliance bay shall consist of Dual Technology (DT) Detectors of the Alarmcom LM100 type installed, as a minimum, at each corner of the appliance bay.

PIRs and DTs shall, in general, be mounted at the uniform height, positioned to provide maximum coverage of the protected areas.

Each PIR and DT device shall consist of a detector tamper switch, independently monitored on a 24 hour basis.

7.5.5.2 Door Monitoring
Monitored and Access Controlled doors shall be monitored as detailed.

(a) Monitored Internal Swing Doors

Monitored Internal Swing Doors shall be monitored using recessed Sentrol 1078C Reed Switches (RS), installed at the head of the door at the latch side.

(b) Access Controlled Internal Swing Doors

Where Electric Mortice Lock have been installed, the door shall be monitored using the following devices cabled in series as a single input to the SMS:

(i) Recessed Sentrol 1078C Reed Switches, Installed at the head of the door on the latch side
(ii) The electric lock’s inbuilt latch monitor
(iii) The electric lock’s inbuilt reed switch

Where Electro-Magnetic Locks have been installed, the door shall be monitored using the following devices cabled in series as a single input to the SMS:

(i) Recessed Sentrol 1078C Reed Switches, installed at the head of the door at the latch side
(ii) The electric lock’s inbuilt Bond Sensor

(c) ICS Cabinet
The ICS cabinet located in the communications room shall be monitored via a standard surface mounted reed switch.

(d) Appliance Bay Doors

All appliance bay doors should be monitored by 2-off Sentrol 2700 series heavy duty reed switches (HD RS) cabled in series as a single input.

(e) External Pedestrian Gates

All pedestrian gates shall be monitored using a Sentrol 2700 series surface mounted heavy duty reed switch.

(f) Key Safe

The Sentrol 1078C reed switch shall be installed to the key safe door internally for the monitoring of the key safe.

7.5.5.3 Intruder Detection

The Security System shall be configured according to the following Areas:

(i) Fire station (Areas 1-5)

(ii) Key safe (Area 7 – Refer to "Key Safe design and Security Requirements" section for details).

(iii) Smoke detectors (Area 8)

7.5.5.4 Station Isolated Strobes

Devices referred to as ‘Station Isolated Strobes’ (SIS) shall be installed throughout the following locations within the fire stations to indicate the Armed/ Disarmed status of the station:

(i) Appliance bay

(ii) Watch room

(iii) Dispatch/ Turn-out area

When the station is Armed, the strobes will flash RED. When the station is Disarmed, the strobes shall be deactivated.

The strobes shall match those installed throughout the MFB fire stations and shall be labelled as shown in the image below.

7.5.5.5 Arming and Disarming

Arming of the station shall be via the station “Push to Arm” button (PAB), generally located within the turn-out area.

Activation of the “Push to Arm” button shall initiate an exit timer to allow MFB staff to exit the premises before arming the station, trigger the flashing of the Station Isolated Strobes, cancel any “double badged” card readers and notify the BMS system of the change to UNMANNED status.

If access controlled perimeter doors are not fully closed when a “Push to Arm” button is activated, the system will force arm and an alarm will be reported.

Activation of the “Push to Arm” button shall Arm all Areas including the key safe.

The station shall be configured to disarm by badging any external card reader or activation of an authorised Vehicle Access Transmitter unit to open an appliance bay door. Disarming a fire station shall automatically turn off the Station Isolated Storbes and notify the BMS system of the change to MANNED status. Note that badging external card readers will not Disarm the key safe or smoke detector Areas.
The key safe shall be Disarmed by badging the associated card reader with an authorised card. The key safe shall automatically Arm when the door is shut after use.

Smoke detectors shall be Armed and Disarmed via the station RAS.

### 7.5.5.6 Push to Arm Button

The station shall consist of a “Push to Arm” button generally located within the turn-out area.

In some instances where the station PPE area is not within close proximity to the turn-out area, the installation of an additional “Push to Arm” button shall be required within the PPE area.

### 7.5.5.7 Remote Arming Stations

Each fire station shall consist of a Remote Arming Station (RAS) installed within the turn-out area. The station RAS is not used by MFB staff under normal circumstances, and will mainly be used by system technicians for the purpose of servicing and maintenance.

### 7.5.5.8 Sirens and Strobes

Each station shall consist of the following devices installed for the purpose of alarm annunciation:

1. **Internal Siren** – Recessed Internal Piezo Screamer ceiling mounted within the Watch Room
2. **External Siren and Strobe** – Wall mounted to external perimeter wall of the station at the front and rear (rear installation where the station contains a car yard only).

The sirens and strobes shall automatically activate to provide visual and audible indication when there is an alarm.

### 7.5.5.9 Intrusion Detection Requirements

Different areas within the fire station will require different types of intrusion detection devices, depending on the location, purpose and characteristics of the room. The table below highlights the intrusion detection devices required within each of the different types of areas within a fire station:

<table>
<thead>
<tr>
<th>Area</th>
<th>PIR</th>
<th>Dual Tech</th>
<th>Reed Switch</th>
<th>Heavy Duty Reed Switch</th>
<th>Status Indicator</th>
<th>Push to Arm Button</th>
<th>Internal Siren</th>
<th>Son Alert</th>
<th>RAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communications Room</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appliance Bay</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Locker Areas</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watch Room/ Dispatch Area</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Lounge Rooms</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corridors</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External Pedestrian Gate</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Key Safe</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>
7.5.6 Arming Monitoring Requirements

Alarms generated at fire stations shall be configured for annunciation at the following locations:

(i) FSCC (Tally Ho)
(ii) Remote Monitoring Station – currently ADT

7.5.7 Door Intercom Systems

Fire stations will require slave intercom units to be provided for commendation at the following general locations:

(i) Front fire station door, in lieu of a doorbell
(ii) Vehicle entry gate

Intercom stations shall be interfaced to the station PABX system. Activation of an intercom unit shall initiate a call to all station telephone handsets.

Refer to Section 5 Electrical, Communication and Special Services Fire Station Design Functional Brief for further details.

7.5.8 System Interfacing

7.5.8.1 LLI Interface to BMS

A Low Level Interface (LLI) shall be provided between the SMS and BMS to enable the status of the station (armed/ disarmed) to be communicated to the BMS. When the station Arms the SMS shall provide a signal to the BMS via a voltage-free contact, allowing the BMS to initiate tasks including but not limited to:

(i) Relay Armed/ Disarmed status to appliance bay door PLC
(ii) Isolate power to stove
(iii) Divert phones to voicemail

Refer to the ICS ‘Fire Station Security –SMS – PLC Operation’ document for a full system description of the interface between the SMS and BMS.

7.5.8.2 HLI to Siemens Apogee System

The HLI between the Security Management System and the Building Management System (Simens Apogee) shall be bi-directional and via a TCP/IP link, allowing for the exchange of all general and system alarms between the two systems. The interface shall meet the following minimum standards:

(i) Utilise the standard BACnet protocol to facilitate the interfacing between the two systems
(ii) Provide a duplex connection to allow the simultaneous transmittal and receipt of data
(iii) Programmable time off-set to compensate for the delays in signal transmission and processing
(iv) Time and Date stamp synchronised from a single source via the HLI and sent at maximum intervals of 24 hours

Although to-date the final configuration of alarms to be transferred has not been determined by the MFB, this interface shall be provided to allow the transfer of alarms between the two systems, if required in the future.

Refer to the ICS ‘Fire Station Security – SMS – PLC Operation’ document for a full system description of the interface between the SMS and BMS.
7.6 SECURITY MANAGEMENT (OPERATIONAL)

7.6.1 Access Control

Access to the fire station and yard will be controlled 24/7 via Card Readers and VAT/VAR units.

The VAR/VAT system will consist of four (4) channels to operate the appliance bay doors and vehicle entry gate. Channel one (1) will operate the vehicle entry gate and the remaining channels will activate appliance bay doors.

At drive through stations, channels 2 – 4 will operate the rear appliance bay doors. At non-drive through stations channels 2 – 4 will operate the front appliance bay doors.

7.6.2 Intrusion Detection

Each fire station shall consist of a minimum of 4 Areas:

(i) 1 – Fire Station
(ii) 6 – BMS/ Appliance bay door PLC
(iii) 7 – Smoke Detectors
(iv) 8 – Key safe

If the station consists of multiple levels, Areas 2 – 5 will be allocated to levels 1 – 3 respectively.

7.6.3 Disarming a Fire Station

Disarming an Armed Fire Station can be achieved in two ways

(i) Via activation of any external card reader by an authorised access control proximity key fob or Photo ID proximity card. This will also provide access through the associated door.
(ii) Via activation of an authorised Vehicle Access Transmitter unit to open an appliance bay door.

Disarming a fire station will automatically turn off the Station Isolated Strobes and notify the BMS system of the change to Disarm status.

7.6.4 Arming a Fire Station

Arming of a fire station Security System is via activation of the station “Push to Arm” button, generally located in a nominated fire fighter turnout area. Activation of the “Push to Arm” button will initiate the following processes:

(i) Initiates the exit delay times and Arms the fire station
(ii) Activates the flashing of the Station Isolated Strobes
(iii) Notifies the BMS system of the changed to Armed status
7.7 ATTACHMENTS

Fire Station Security Profile

[Diagram or Table Image]
### Minimum Fencing Requirements and Associated Drawings

#### Table of Fencing Options

<table>
<thead>
<tr>
<th>Fence Type</th>
<th>Description</th>
<th>Material</th>
<th>Height</th>
<th>Width</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chain Link</td>
<td>Fencing is constructed from galvanized steel wire and provides security and visibility.</td>
<td>Galvanized steel</td>
<td>4.2m</td>
<td>3.7m</td>
<td>Easily maintained and cost-effective.</td>
</tr>
<tr>
<td>Wood</td>
<td>Fencing is made from natural wood and provides a natural aesthetic.</td>
<td>Lumber</td>
<td>2.4m</td>
<td>3.7m</td>
<td>Requires regular maintenance.</td>
</tr>
<tr>
<td>Woven Wire</td>
<td>Provides security and visibility, constructed from woven wire.</td>
<td>Woven wire</td>
<td>3.0m</td>
<td>3.7m</td>
<td>Offers a unique aesthetic.</td>
</tr>
<tr>
<td>PVC</td>
<td>Fencing is made from durable plastic and provides a modern look.</td>
<td>PVC</td>
<td>4.2m</td>
<td>3.7m</td>
<td>Cost-effective and durable.</td>
</tr>
</tbody>
</table>

#### Detailed Fencing Drawings

![Fencing Drawings]

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**Revision:** A  
**Date:** 01/2016

**Design & Delivery Manual for New & Refurbished Fire Stations**
Existing MFB SMS Layout
Alarm Panel Construction Layout

Alarm panel layout / Alarm panel enclosure detail / Alarm panel enclosure door detail
8.0 ACOUSTICS

The following guidelines have been prepared by Marshall Day Acoustics Pty Ltd for MFB Fire Station Facility tenders.

8.1 INTRODUCTION

This section defines sound insulation, speech privacy, room acoustics and noise control guidelines for the design of MFB Facilities and presents a system for defining acoustic performance for each of the spaces.

8.2 ACOUSTIC TERMINOLOGY

The following acoustic terminology is used.

\( R_w \) Weighted sound reduction index. A single number rating of the sound insulation performance of a specific building element. \( R_w \) is measured in a laboratory. \( R_w \) is commonly used by manufacturers to describe the sound insulation performance of building elements such as plasterboard and concrete.

\( D_{nT,w} \) Weighted standardised level difference. A single number rating of the sound level difference between two rooms. \( D_{nT,w} \) is typically used to measure the on-site sound insulation performance of a building element such as a wall, floor or ceiling.

dBA A-weighted decibel. The A-weighting approximates the response of the human ear.

NR Noise Rating. A single number rating which is based on the sound level in the octave bands 31.5Hz – 8kHz inclusive, generally used to assess noise from mechanical services in buildings.

\( L_{eq} \) The equivalent continuous sound level. This is commonly referred to as the average noise level.

Reverberation time (\( T_{60} \)) Reverberation time is used for assessing the acoustic qualities of a space. \( T_{60} \) is measured in seconds (s) and describes how quickly sound decays within a space.
8.3 SPEECH PRIVACY OVERVIEW

Speech privacy between two adjoining spaces is primarily dependent upon three factors:

- Voice level in the source room
- Noise reduction between the rooms
- Ambient noise in the receiving room.

Voice Level

The loudness of the voice in the source room will depend upon the individual concerned and the style of management practised by the organisation. Generally, two categories of voice level are used in speech privacy analysis:

- Raised voice – a level of conversation that would be used when delivering a lecture or an enthusiastic reprimand
- Normal voice - which would be used for a typical one-to-one exchange or telephone conversation.

Noise Reduction

The degree of speech privacy between adjoining spaces is dependent upon the noise reduction achieved. The partition is an important part of the overall noise reduction, and the partition construction must be selected carefully to ensure the appropriate noise reduction is achieved.

The noise reduction between areas is approximately equal to the Weighted standardised level difference, \( (D_{nt,w}) \) of the partition system.

In standard offices, the ceiling is also of critical importance to the overall noise reduction achieved. The conventional practice of running partitions to ceiling height and providing return air openings in the ceiling provides a weak link in the sound insulation path between rooms. This problem is dealt with by providing a baffle above the partition in the ceiling space, by running the partition slab to slab, or by providing a solid plaster ceiling instead of the building standard mineral fibre tile.

Background Noise

The ambient noise level in a building consists of the continuous background noise generated by the air-conditioning system and intermittent time-varying noise from road traffic. The ambient noise level is measured in terms of the equivalent continuous noise level, \( L_{eq} \).

The background noise level in the receiving room plays a significant role in masking intrusive speech from adjacent rooms. Noise from air-conditioning systems, and to a lesser extent, road traffic and general activity within the building, have a significant effect on speech privacy due to the masking they provide.

A direct trade-off with noise reduction applies. If, for a given situation, the masking noise is reduced by 5dB, the noise reduction of the adjoining partition needs to be increased by 5dB to maintain the same level or speech privacy.

It is clear that low levels of air-conditioning noise provide a comfortable environment. However, low noise levels provide difficulties in achieving adequate levels of speech privacy, due to a lack of masking. An appropriate compromise between noise levels that are too high for comfort, and too low for speech privacy, needs to be determined.
Recommended maximum ambient noise levels for various areas are provided in Australian Standard AS2107-2000 Acoustics - Recommended design sound levels and reverberation times for building interiors. Noise levels in all areas should comply with AS2107:2000.

Typical Noise Rating Values and an indication of the applicable areas are given in Table 1.

Table 1

Typical Noise Ratings

<table>
<thead>
<tr>
<th>Level</th>
<th>Noise Rating</th>
<th>Representative Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>65dBA+</td>
<td>Plant Room</td>
</tr>
<tr>
<td>Moderate</td>
<td>45-55dBA</td>
<td>Amenities Area</td>
</tr>
<tr>
<td>Normal</td>
<td>40-45dBA</td>
<td>Offices, Entry Foyer</td>
</tr>
<tr>
<td>Low</td>
<td>40dBA</td>
<td>Bed rooms, Executive offices, lecture rooms, meeting rooms</td>
</tr>
</tbody>
</table>

Speech Privacy

For design purposes, speech privacy can be divided into the following ratings:

- Raised voice confidential privacy (D_{nT,w} 45)
  Raised voice conversation can just be heard as a muffled sound in the adjoining space, but cannot be understood. Normal voice levels cannot be heard

- Normal voice confidential privacy (D_{nT,w} 40)
  Normal voice conversation can just be heard as a muffled sound in the adjoining space, but cannot be understood. Raised voices can be understood.

- Normal voice privacy (D_{nT,w} 35)
  Normal voice conversation can be heard in the adjoining space, and limited speech can be understood. Raised voices can be understood clearly.

- Poor privacy (less than D_{nT,w} 30)
  Normal voice conversation can be heard and understood in the adjoining space. Raised voices can be understood clearly.

The nominated R'_w rating is that required by a typical office background noise of NR35.

Table 2 indicates areas which require these privacy ratings.

Table 2

Typical Privacy Requirements

<table>
<thead>
<tr>
<th>Level</th>
<th>R_w</th>
<th>D_{nT,w}</th>
<th>Representative Space</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raised voice confidential privacy</td>
<td>50</td>
<td>45</td>
<td>Bedrooms, lecture rooms</td>
</tr>
<tr>
<td>Normal voice Confidential privacy</td>
<td>45</td>
<td>40</td>
<td>Private offices, Toilets, Gymnasium, Conference Room</td>
</tr>
<tr>
<td>Normal voice privacy</td>
<td>40</td>
<td>35</td>
<td>General Office Areas</td>
</tr>
<tr>
<td>Poor privacy</td>
<td>35</td>
<td>Less than 30</td>
<td>Store rooms</td>
</tr>
</tbody>
</table>
Partitions should be selected to achieve the laboratory $R_w$ detailed in Table 2. Site performance between areas must achieve an on-site performance, $D_{nt,w}$, detailed in Table 2. This must take into account all sound flanking paths. Due consideration must be given to ducting, ceiling construction, etc to ensure that sound flanking paths that the on-site performance is achieved.

**Doors**

Doors have a lower $R_w$ rating than the partitions in which they are installed. This will usually only affect privacy if listeners are close to the doors. As most doors lead to corridors or open spaces, any person listening will be conspicuous. In most areas, we consider that this will not be a problem. Partition constructions for walls containing doors must be based on the laboratory performance specified in Table 2.

Typically the on-site performance of a wall with a door should not derate the acoustic performance by more than 10 units. Special requirements for certain doors are as follows:

**Areas requiring special consideration are lecture rooms, conference, and bedrooms**

All doors to bedrooms opening to public areas or highly trafficked, corridors should be purpose-built acoustic doors with a rating of $R_w40$. This acoustic door rating can be reduced and a solid timber core door set fitted with acoustic door seals can be used if the space directly outside the door is acoustically isolated from the main work areas or corridors, via a sound-lock corridor.

For conference rooms and lecture rooms, special door treatment is required. These rooms should have solid timber doors which are fitted with acoustic door seals. If the space directly outside the door is acoustically isolated from the main work areas then door seals will not be required.

For other areas which require acoustic ratings, solid timber doors with felt brush seals should be provided. Grilles through doors are not acceptable.

Doors close to bedrooms should be fitted with door closers to reduce door slam noise.

**8.4 ROOM ACOUSTICS**

Consideration should be given to the installation of sound absorptive wall panels in the conference, lecture rooms and entry foyer and interview rooms to reduce excessive reverberation which can result in high noise levels which cause speech communication difficulties.

Compliance with reverberation times recommended in AS2107:2000 should be achieved.

**8.5 OTHER NOISE CONTRL ISSUES**

Traffic noise should be controlled to ensure that the internal noise level requirements are not exceeded. MFB stations close to major roads may require special window construction. Traffic noise levels should comply with the requirements of AS2107:2000.

Plant rooms should be located as far from bedrooms, lecture or conference rooms as possible.

Lifts should be located as far from bedrooms, conference or lecture rooms as possible. A separately supported partition system will be required around lift shafts if they services share common walls with noise-sensitive areas.
Cold water pipes, hot water pipes, waste pipes, down pipes or plumbing fittings should not be located above or adjacent bedrooms, conference or lecture rooms. In any case noise control treatment if necessary must be applied to limit noise from pipes etc to noise sensitive areas.

Noise emission in metropolitan Melbourne is regulated by the State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade) No. N-1 (SEPP N-1). Air-cooled chillers, boilers and air-handling units and other plant must comply with these requirements.

Outside the metropolitan area noise emission should comply with EPA Publication N3/89 Interim Guidelines for Control of Noise from Industry in Country Victoria.

If bedrooms, conference or lecture rooms have metal deck roofs, then rain noise will be a problem unless adequate precautions are taken. Rain noise control must be considered during the design process.
9.0 PROJECT SPECIFIC BRIEF

9.1 FIRE STATION ACCOMMODATION REQUIREMENTS

Accommodation Requirements Table
New Fire Station designs shall follow closely the accommodation requirements detailed below. Compliance with this requirement will be assessed using the Room Data Sheets which shall be updated and submitted at each stage of the project delivery process. *Please note that these areas, whilst desirable, should be checked against Room Data Sheets for clarification.

<table>
<thead>
<tr>
<th>Room data sheet No:</th>
<th>Fire Station</th>
<th>No of Appliance Bays</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Staff</td>
<td>2 Bay</td>
</tr>
<tr>
<td></td>
<td>No of Fire Fighters per shift</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>No of officers per shift</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Staff Facility Factor (no. of lockers)</td>
<td>6.0</td>
</tr>
<tr>
<td></td>
<td>Area/Rooms m²</td>
<td>m²</td>
</tr>
<tr>
<td>1</td>
<td>Appliance Bays</td>
<td>187.20</td>
</tr>
<tr>
<td>2</td>
<td>Entrance Lobby</td>
<td>18</td>
</tr>
<tr>
<td>3</td>
<td>Switchboard Cupboard / Switch Room</td>
<td>N/A</td>
</tr>
<tr>
<td>4</td>
<td>Station Office (includes future SO office of 10m² in 2 and 3 Bay stations)</td>
<td>24</td>
</tr>
<tr>
<td>5</td>
<td>SSO Office</td>
<td>Not Req'</td>
</tr>
<tr>
<td>6</td>
<td>Multi Purpose Room (&quot; will vary if station is identified as 'hub' or specialist station)</td>
<td>Not Req'</td>
</tr>
<tr>
<td>7</td>
<td>Visitor Toilet (unisex disabled)</td>
<td>4.37</td>
</tr>
<tr>
<td>8</td>
<td>Male/Female Toilet Blocks module (6m²)</td>
<td>12</td>
</tr>
<tr>
<td>9</td>
<td>Equipment/Communications Room</td>
<td>8</td>
</tr>
<tr>
<td>10</td>
<td>SO Mess Room /Lounge</td>
<td>Not Req'</td>
</tr>
<tr>
<td>11</td>
<td>Fire Fighter's Mess (separate Meals-Kitchen)</td>
<td>25</td>
</tr>
<tr>
<td>12</td>
<td>Fire Fighter's Lounge (&quot;Room acts as and is to be named Multi-Purpose in 2 Bay Stations)</td>
<td>35</td>
</tr>
<tr>
<td>13</td>
<td>Break-Out Room</td>
<td>12</td>
</tr>
<tr>
<td>14</td>
<td>SSO Bedroom module (even numbers 10.8m²)</td>
<td>Not Req'</td>
</tr>
<tr>
<td>15</td>
<td>SO Bedroom module (even numbers 10.8m²)</td>
<td>(2R) 21.6</td>
</tr>
<tr>
<td>16</td>
<td>Fire Fighter Bedroom module (even nos. 10.8m²)</td>
<td>(4R) 43.2</td>
</tr>
<tr>
<td>17</td>
<td>Shower/basin en-suite bet. Two bedrooms (4.8m²)</td>
<td>(3R) 14.4</td>
</tr>
<tr>
<td>18</td>
<td>WC module associated with bedrooms (2.9m²)</td>
<td>(2R) 5.8</td>
</tr>
<tr>
<td>19</td>
<td>Personal Drying Room</td>
<td>3.5</td>
</tr>
<tr>
<td>20</td>
<td>General Stationery Store</td>
<td>3.6</td>
</tr>
<tr>
<td>21</td>
<td>Gymnasium/Weight Room (suggested room size)</td>
<td>42</td>
</tr>
<tr>
<td>22</td>
<td>PPE Change &amp; Storage Area</td>
<td>32</td>
</tr>
<tr>
<td>23</td>
<td>PPE Drying Room</td>
<td>3</td>
</tr>
<tr>
<td>24</td>
<td>Dispatch Alcove</td>
<td>6</td>
</tr>
<tr>
<td>25</td>
<td>Cleaners Store</td>
<td>3</td>
</tr>
<tr>
<td>26</td>
<td>Spare PPE Storage</td>
<td>10</td>
</tr>
<tr>
<td>27</td>
<td>Station Store</td>
<td>10</td>
</tr>
<tr>
<td>28</td>
<td>BA (Breathing Apparatus)</td>
<td>10</td>
</tr>
<tr>
<td>29</td>
<td>Hose Bay / Linen Drop Off &amp; Pick Up</td>
<td>10</td>
</tr>
<tr>
<td>30</td>
<td>Drill Equip/Gear/Bike Store/</td>
<td>12</td>
</tr>
</tbody>
</table>

**External Requirements**

| Staff Car Parks (1 bay=driveway=30m²) | 10 (Parks) | 14 (P) | 20 (P) | 25 (P) | 30 (P) |
| Visitor Car parks + DA (30m²+ disable 36m²) | 1(P) + 1DA | 1 + 1DA | 2 + 1DA | 2 + 1DA | 2 + 1DA |
| Contractor Car parks (30m²) | 1 (P) | 1 (P) | 2 (P) | 2 (P) | 2 (P) |
| Fire Fighter Recreation / BBQ Area (30m²) | 40 | 60 | 80 | 100 | 120 |
9.2 ROOM DATA SHEETS

Room data sheets detailing areas and numerous other design details and requirements for the rooms shown below follow. The room data sheets provided in this document are “Design Brief” versions. The Design Team shall record any development or alteration to the sheets and report them to the Project Manager. The room data sheets provided are:

1. Appliance Bay
2. Entry lobby
3. Switchboard cupboard/Switch Room
4. SO Office/Station Office
5. SSO Office
6. Multi-Purpose Room
7. Visitors toilet (unisex disability access)
8. Male/Female Toilet Blocks Module
9. Equipment/Communications Room
10. SO Mess Room/Lounge
11. Fire Fighter Mess Room (separated Meals-Kitchen)
12. Fire Fighter’s Lounge (Room acts as and is to be named Multi Purpose Room in 1 Appliance Stations)
13. Break-out room
14. SSO Bedroom Module
15. SO Bedroom Module
16. Fire Fighter Bedrooms Module
17. Shower/Basin En-suite between Two Bedrooms
18. WC module associated with Bedrooms
19. Personal drying room
20. General stationary Store
21. Gymnasium/ weight room
22. PPE change & storage area
23. PPE drying room
24. Dispatch Alcove
25. Cleaner’s store
26. Spare PPE storage
27. Station store
28. BA (breathing apparatus)
29. Hose Bay/Linen Drop Off & Pick Up
30. Drill Equipment/Gear/Bike Store
### 9.2.1 APPLIANCE BAY

**Room Data Sheet No: 1**

**Reference Plan No: 1**

<table>
<thead>
<tr>
<th>Floor Area</th>
<th>Desirable</th>
<th>Size (m²)</th>
<th>Min Width (mm)</th>
<th>Min Length (mm)</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-bay</td>
<td></td>
<td>187.20</td>
<td>10400</td>
<td>18000</td>
<td>5.6M clear of any structure</td>
</tr>
<tr>
<td>3-bay</td>
<td></td>
<td>273.60</td>
<td>15200</td>
<td>18000</td>
<td></td>
</tr>
<tr>
<td>4-bay</td>
<td></td>
<td>360.00</td>
<td>20000</td>
<td>18000</td>
<td></td>
</tr>
<tr>
<td>5-bay</td>
<td></td>
<td>446.40</td>
<td>24800</td>
<td>18000</td>
<td></td>
</tr>
<tr>
<td>6-bay</td>
<td></td>
<td>532.80</td>
<td>29600</td>
<td>18000</td>
<td></td>
</tr>
</tbody>
</table>

**Functions**
- Storage and Charging of Appliance Vehicles/Equipment
- Carrying out Vehicle maintenance (tilt-up cabins)
- Putting on or taking off gear
- Muster Area – not defined as a separate area but usually part of the open area away from vehicles

**Relationship to other areas**
- Access to Appliance Bay from all areas of station via the PPE Change area & Dispatch Alcove
- Overlooked by Dispatch Alcove and Station/SO Office
- Access to Utility and Equipment maintenance rooms/areas from Appliance Bay

**Special Room attributes**
- Dimensions in length are internal clear space dimensions from face or closed door to face of closed door and clear of any column or projections. In width, dimensions are the internal space clear of any column(s) or nibs between side walls
- Drive through access from Drill Yard to street
- Natural daylight through glass folding doors.
- Graded floor to doors 1:100 and localised fall under truck parking areas to floor wastes

**Door(s)**
- Refer to ‘Lift up Glazed Doors’ section of the manual for detailed req’ on types and sizes
- Clearance to underside of doors when in fully open position 4.5m

<table>
<thead>
<tr>
<th>Glazing</th>
<th>Type</th>
<th>Width (Y/N)</th>
<th>Min. Width (mm)</th>
<th>Min. Length (mm)</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Skylight (Y/N)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>User operated</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Automated</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TBC at design phase</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Manual for detailed req’ on types and sizes</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Internal blackout blinds (Y/N)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Finishes**
- EP Non-slip epoxy on concrete slab, (light grey colour), anti slip grates to floor wastes
- Face finished masonry preferred – prefinished insulated sandwich panel OK
- Insulated metal roofing with no ceiling lining
- Semi-gloss
- BMS interlocked with doors to provide vehicle exhaust fumes extraction
- Mechanical Extract system sound isolated and 3000’s per vehicle
- Via door
- Semi-gloss / Nil finish

**Services**
- Relative Pressure
- Negative (to outside and adjacent spaces)
- Exhaust
- Mechanical Extract system sound isolated and 3000’s per vehicle
- N/A
- Outside Air
- Via door
- Controls
- N/A
- Heating
- Provided
- Set point °C
- N/A
- Setback temp °C
- N/A
- Cooling
- Provided
- Set point °C
- N/A
- Setback temp °C
- N/A
- Lighting
- LUX
- Fitting Type
- Controls
- 15 Suspended
- Daylight linked photo electric cell
- N/A
- Power
- Power – to detailed requirements (all GPO’s to be weatherproof)/drop down GPO on rollers from ceiling via Catenary wires (1 per Bay).
- Hydraulic
- Chilled Water fountain
- N
- Dom. Cold/Rain Water
- N
- Dom. Hot/Tapid Water
- N
- Fire
- Sprinkler
- Y
- Extinguisher
- Y
- Blanket
- N
- Detection
- Y

**Furniture/Equipment**
- Document box
- Wash trough
- 600mm W x 2000mm L x 900mm H bench along wall to PPE area
- Refer to appendix of schedules
### 9.2.2 ENTRY LOBBY

Room Data Sheet No: 2
Reference Plan No: 2

<table>
<thead>
<tr>
<th>Floor Area</th>
<th>Desirable size</th>
<th>Min width</th>
<th>Min Length</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-bay</td>
<td>8m²</td>
<td>2000</td>
<td>-</td>
<td>2700</td>
</tr>
<tr>
<td>3-bay</td>
<td>8m²</td>
<td>3000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4, 5 &amp; 6 -bay</td>
<td>12m²</td>
<td>3000</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

- **Functions**
  - Public reception area
  - Space for charitable collections / drop off eg Christmas toy campaign
  - Contain cupboards for FH Reel and electrical switchboard

- **Relationship to other areas**
  - Public access zone. May be accessed out of hours for community use of ‘Multi Purpose Room’:
  - Overlooked by Turnout Alcove and SO Office
  - Must be clearly visible from the street

- **Special Room attributes**
  - Provide external canopy to provide weather protection to doorway and eliminates summer sun penetration
  - Air lock foyer

- **Door(s)**
  - Glazed door to Entrance. 1050 wide (lockable - complete with dust seals)
  - Glazed doors to station proper (lockable)
  - Closers fitted to all doors
  - Ventilation relief air provided via
    - Door undercut (mm)
    - Door transfer grille (free area m²)
    - Acoustic transfer grille

- **Glazing**
  - Type
    - Window (Y/N) Y
    - Skylight (Y/N) N
  - Additional Information:
    - External solar shading provided (Y/N) N
  - Internal blinds (Y/N)
    - User operated N
    - Automated N
  - Glass specification thickness (mm)
    - TBC at design phase
  - Shading co-efficient
    - UV Filter
    - U’ value (W/m² K)
    - TBC at design phase

- **Finishes**
  - Type (to be read in conjunction with appendix of schedules)
  - Reflectance
  - Finish
    - Floor: Non slip ceramic floor tiles and skirt
      - At least 15% N/A
    - Walls: Painted plasterboard
      - At least 50% Semi-gloss
    - Ceilings: Mineral fibre tiles or plasterboard with paint finish
      - At least 70% Nil/Satin

- **Services**
  - Ventilation
    - Clean or Transition area (C/T) C
    - Relative Pressure N/A
    - Exhaust N/A
    - Makeup Air N/A
    - Outside Air N/A
    - Controls N/A
  - Heating
    - Provided N
    - Set point ºC N/A
    - Setback temp ºC N/A
  - Cooling
    - Provided N
    - Set point ºC N/A
    - Setback temp ºC N/A
  - Lighting Lux
    - Fitting Type N/A
    - Controls
  - Power
    - Single GPO
  - Hydraulic
    - Chilled Water fountain N
    - Dom. Cold/Rain Water N
    - Dom. Hot/Tepid Water N
  - Fire
    - Sprinkler Y
    - Extinguisher N
    - Blanket N
    - Detection Y

- **Furniture/Equipment**
  - Letter Box required. Position to Aust. Post regulations
  - Externally mounted emergency phone located prominently out front to contact MFB central control
  - Refer to appendix of schedules
### 9.2.3 SWITCHBOARD CUPBOARD / SWITCH ROOM

Room Data Sheet No: 3

<table>
<thead>
<tr>
<th>Floor Area</th>
<th>Desirable</th>
<th>Size</th>
<th>Min width</th>
<th>Min length</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 &amp; 3 - bay</td>
<td>Cupboard</td>
<td>Refer to Electrical Services Brief</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4, 5 &amp; 6 - bay</td>
<td>Room</td>
<td>Refer to Electrical Services Brief</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Functions
- Constructed to house free standing switchboard
- Refer to Electrical Services Brief

#### Relationship to other areas
- Located within Entry Lobby

#### Special Room attributes
- Cupboard to be dust and vermin proof

#### Door(s)
- Solid core, lockable, complete with air relief grille
- Ventilation relief air provided via:
  - Door undercut (mm)
  - Door transfer grille (free area m²)
  - Acoustic transfer grille

#### Glazing
- Type: Window (Y/N) N
- Skylight (Y/N) N
- Additional Information: External solar shading provided (Y/N)
- Fixed N/A
- Moveable (user operated) N/A
- Moveable (auto) N/A

#### Internal blinds (Y/N)
- User operated N/A
- Automated N/A

#### Glass specification thickness (mm): N/A

#### Shading coefficient: N/A

#### U’ value (W/m² K): N/A

#### Finishes
- Type (to be read in conjunction with appendix of schedules): Reflectance N/A
- Floor Rubber mat
- Walls N/A
- Ceilings N/A

#### Services
- Ventilation: Clean or Transition area (C/T) C
  - Relative Pressure N/A
  - Exhaust N/A
  - Makeup Air N/A
  - Outside Air N/A
  - Controls N/A
- Heating: Provided N
  - Set point ºC N/A
  - Setback temp ºC N/A
- Cooling: Provided N
  - Set point ºC N/A
  - Setback temp ºC N/A
- Lighting: Lux Fitting Type Controls 160 T5 Fittings Local door micro switch
- Power: Refer to Electrical Services Brief

#### Hydraulic
- Chilled Water fountain N
- Dom. Cold/Rain Water N
- Dom. Hot/Tepid Water N

#### Fire
- Sprinkler N
- Extinguisher N
- Blanket N
- Detection Y

#### Furniture/Equipment
- Nil
### 9.2.4 SO OFFICE / STATION OFFICE

**Room Data Sheet No:** 4  
**Reference Plan No:** 4

<table>
<thead>
<tr>
<th>Floor Area</th>
<th>Desirable</th>
<th>Size</th>
<th>Min width</th>
<th>Min length</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-5 Bay</td>
<td>24m²</td>
<td></td>
<td>4000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Bay</td>
<td>34m²</td>
<td></td>
<td>5000</td>
<td></td>
<td>2700 min</td>
</tr>
</tbody>
</table>

**Functions**  
- centre for station administration  
- area for meeting with one other person and additional area for fire fighter to work in  
- located between and overlooking Appliance Bay and Entry Lobby and Public Entry

**Relationship to other areas**  
- Total floor area includes provision for future separate SO Office of 10m² in 2 & 3 Bay stations

**Door(s)**  
- 1000 wide, glazed door to Entry Lobby with door closer to comply with DDA req'

<table>
<thead>
<tr>
<th>Services</th>
<th>Finishes</th>
<th>Ventilation relief air provided via</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Door undercut (mm)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moveable (user operated)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Internal blackout blinds (Y/N)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mechanical ventilation provided (Y/N)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Y</td>
</tr>
</tbody>
</table>

**Glazing**  
- Type: Window (Y/N)  
- Skylight (Y/N): N  
- Additional Information: Y  
- External solar shading provided (Y/N): Y  
- Internal blinds (Y/N): Y  
- User operated: N  
- Automated: Y  
- Glass specification thickness (mm): TBC |

**Special Attributes**  
- Total floor area includes provision for future separate SO Office of 10m² in 2 & 3 Bay stations

**Finishes**  
- Type (to be read in conjunction with appendix of schedules): Reflectance | Finish
- Floor: Recyclable carpet tiles 6mm thickness | At least 15% | N/A
- Walls: Painted plasterboard | At least 50% | Semi gloss
- Ceilings: Mineral fibre tiles or plasterboard with paint finish | At least 70% | Nil/satin

**Services**  
- Ventilation: Clean or Transition area (C/T) | C
- Relative Pressure: Positive/Neutral
- Exhaust: No
- Makeup Air: N/A
- Outside Air: Yes via operable windows or mechanical ventilation
- Controls: Via occupancy and BMS Controlled

**Heating**  
- Provided Y | Set point °C: 21 | Setback temp °C: TBC

**Cooling**  
- Provided Y | Set point °C: 21 | Setback temp °C: TBC

**Lighting**  
- Lux: 320 @ Desk | Fitting Type: T5 Fittings
- Controls: Movement and Sound Sensor

**Power**  
- General power – 3 No double GPO’s  
- Data/LAN points – 2 No (adjacent to desk location)
- Moduline ducts to walls  
- Phone points

**Hydraulic**  
- Chilled Water fountain: N  
- Dom. Cold/Rain Water: N  
- Dom. Hot/Tepid Water: N

**Fire**  
- Sprinkler: Y  
- Extinguisher: N  
- Blanket: N  
- Detection: Y

**Furniture/Equipment**  
- Ergonomic desk and drawer pedestal per officer and 1 desk without return
- Shelving
- Stationary cupboard
- Pinboard
- Whiteboard
- Filing cabinets
- Hat and coat hooks
- Personal computer equipment
- Refer to appendix of schedules
# 9.2.5 SSO OFFICE

## Room Data Sheet No: 5

### Functions
- Administration
- Area for meeting with one or two other people

### Relationship to other areas
- Immediately adjacent to SSO Office, preferably accessible from Entry Lobby or close to Entry Lobby

### Special Room attributes
- Window between SSO and SO Office if possible

### Door(s)
- 1000 wide, solid core door with door closer

### Glazing
- **Type**
  - Window (Y/N): Y
  - Skylight (Y/N): N
- **Internal blinds (Y/N)**
  - User operated: Y
  - Automated: N
- **Glass specification thickness (mm)**
  - TBC at design phase
- **Shading co-efficient**
  - UV Filter
- **U** value (W/m²K)
  - TBC at design phase

### Finishes
- **Type** (to be read in conjunction with appendix of schedules)
  - Reflectance
  - Finish
- **Floor**
  - Recyclable carpet tiles 6mm thickness
  - At least 15%
  - N/A
- **Walls**
  - Painted plasterboard
  - At least 50%
  - Semi-gloss
- **Ceilings**
  - Mineral fibre tiles or plasterboard with paint finish
  - At least 70%
  - Satin

### Services
- **Ventilation**
  - Clean or Transition area (C/T): C
  - Relative Pressure
  - Positive/Neutral
  - Exhaust
  - No
- **Exhaust**
  - Makeup Air: N/A
  - Outside Air: Yes via operable windows or mechanical ventilation
  - Controls: Via occupancy and BMS Controlled
- **Heating**
  - Provided: Y
  - Set point °C: 21
  - Backset temp °C: TBC
- **Cooling**
  - Provided: Y
  - Set point °C: 21
  - Backset temp °C: TBC
- **Lighting**
  - Lux: Fitting Type Controls
  - 320 @ Desk: T5 Fittings Movement and Sound Sensor
- **Power**
  - General power – 2 No double GPO’s
  - Data/LAN points – 2 No (adjacent to desk location)
  - Moduline ducts to walls
  - Phone points
- **Hydraulic**
  - Chilled Water fountain: N
  - Dom. Cold/Rain Water: N
  - Dom. Hot/Tepid Water: N
- **Fire**
  - Sprinkler: Y
  - Extinguisher: N
  - Blanket: N
  - Detection: Y

### Furniture/Equipment
- Ergonomic Desk and drawer pedestal per Officer
- Shelving
- Pinboard
- Whiteboard
- Filing cabinets
- Hat and coat hooks
- Personal computer equipment
- Refer to appendix of schedules
### 9.2.6 MULTI PURPOSE ROOM

**Room Data Sheet No: 6**

<table>
<thead>
<tr>
<th>Floor Area</th>
<th>Desirable</th>
<th>Size</th>
<th>Min width</th>
<th>Min length</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Bay</td>
<td>20m²</td>
<td>4000</td>
<td></td>
<td></td>
<td>2700 min</td>
</tr>
<tr>
<td>4 Bay</td>
<td>30m²</td>
<td>5000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 bay</td>
<td>40m²</td>
<td>6000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Bay</td>
<td>50m²</td>
<td>7000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Functions**
- Public lectures and meetings
- Fire fighter drill lectures
- Recreation (eg table tennis)
- Private study

**Relationship to other areas**
- Accessible from Entry Lobby
- Accessible to the public

**Special Room attributes**
- Acoustic insulation to walls and ceilings
- Room size will vary if station is identified as ‘Hub’ or specialist station

**Door(s)**
- Solid core fitted with door closer
  - Min width 1000 with viewing panel

<table>
<thead>
<tr>
<th>Glazing</th>
<th>Type</th>
<th>Window (Y/N)</th>
<th>Skylight (Y/N)</th>
<th>Skylight (Y/N)</th>
<th>Skylight (Y/N)</th>
<th>Internal blinds</th>
<th>Internal blinds</th>
<th>Internal blinds</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>User operated</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Automated</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Y</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>FBC at design phase</td>
<td></td>
<td></td>
<td></td>
<td>Y</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>UV Filter</td>
<td></td>
<td></td>
<td></td>
<td>N</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TBC at design phase</td>
<td></td>
<td></td>
<td></td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
</tbody>
</table>

**Ventilation**
- Relief air provided via
  - Door undercut (mm)
  - Door transfer grille (free area m²)
  - Acoustic transfer grille

<table>
<thead>
<tr>
<th>Finishes</th>
<th>Type (to be read in conjunction with appendix of schedules)</th>
<th>Reflectance</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Recyclable carpet tiles 6mm thickness</td>
<td>At least 15%</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Painted plasterboard</td>
<td>At least 50%</td>
<td>Semi-gloss</td>
</tr>
<tr>
<td></td>
<td>Mineral fibre tiles or plasterboard with paint</td>
<td>At least 70%</td>
<td>Nil</td>
</tr>
</tbody>
</table>

**Services**
- Ventilation
  - Clean or Transition area (C/T)
  - Positive/Neutral
  - No
  - N/A
  - Yes via operable windows or mechanical ventilation
  - Via occupancy and BMS Controlled

<table>
<thead>
<tr>
<th>Heating</th>
<th>Provided</th>
<th>Y</th>
<th>Set point °C</th>
<th>21</th>
<th>Setback temp °C</th>
<th>TBC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling</td>
<td>Provided</td>
<td>Y</td>
<td>Set point °C</td>
<td>21</td>
<td>Setback temp °C</td>
<td>TBC</td>
</tr>
</tbody>
</table>

**Lighting**
- Lux
- Fitting Type
- Controls
- 240 @ 15 Fittings
- Dimmable lighting across at least 2 circuits (controlled away from presentation wall)

**Power**
- General power – provide 6 No double GPO’s
- Data/LAN points – 4 No (adjacent to desk location)
- Moduline duct to walls
- TV point / Phone point

**Hydraulic**
- Chilled Water fountain
- N
- Sink with mixer tap and boiling water unit (‘Bili’ or ‘Zip’ type)
- Dom. Cold/Rain Water
- Y
- Dom. Hot/Tepid Water
- Y

**Fire**
- Sprinkler
- Y
- Extinguisher
- N
- Blanket
- N
- Detection
- Y

**Furniture/Equipment**
- Lecture chairs
- Table
- Pin board
- Whiteboard
- Lockable TV, video cabinet with storage for AV equipment and teaching aids
- 600 wide bench to one wall @ 720 height with sink and tiled splashback
- Hat and coat hooks
- Roll paper towel dispenser
- Refer to appendix of schedules
# 9.2.7 VISITORS TOILET (UNISEX DISABILITY ACCESS)

**Room Data Sheet No: 7**

<table>
<thead>
<tr>
<th>Floor Area</th>
<th>Size</th>
<th>Min width</th>
<th>Min length</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.37m²</td>
<td></td>
<td></td>
<td>To meet Building Code compliance</td>
</tr>
</tbody>
</table>

### Functions
- Unisex toilet facility for public, disabled access/use

### Relationship to other areas
- Accessible from Entry Lobby
- Accessible to the public

### Special Room attributes
- Sized and equipped to meet building regulations and Disability Discrimination Act and Australian Standards - AS 1428

#### Door(s)
- Solid core, privacy latch
- Ventilation relief air provided via
  - Door undercut (mm) N
  - Door transfer grille (free area m²) Y
  - Acoustic transfer grille N

#### Glazing
- Type
  - Window (Y/N) N
  - Skylight (Y/N) Y
  - Additional Information: External solar shading provided (Y/N) Fixed N
  - Moveable (user operated) N
  - Moveable (auto) N

- Internal blinds (Y/N) N
  - User operated N
  - Automated N

- Glass specification thickness (mm) TBC at design phase

- Shading co-efficient
  - UV Filter
  - Mechanical ventilation provided (Y/N) N

- U’ value (W/m² K) TBC at design phase

#### Finishes
- Type (to be read in conjunction with appendix of schedules)
  - Reflectance
  - Finish
  - Floor Non slip ceramic floor tiles and skirt N/A
  - Walls Anti mould water resistant plasterboard N/A
  - Ceilings Anti mould water resistant plasterboard Satin

#### Services
- Ventilation
  - Clean or Transition area (C/T) C
  - Relative Pressure Negative
  - Exhaust Yes to AS1668
  - Makeup Air Via door grille
  - Outside Air No
  - Controls Via occupancy and BMS Controlled

- Heating
  - Provided N
  - Set point °C N/A
  - Seback temp °C N/A

- Cooling
  - Provided N
  - Set point °C N/A
  - Seback temp °C N/A

- Lighting Lux
  - Fitting Type T5 Fittings
  - Controls Movement and Sound Sensor
  - Pushbutton timer for heat lamps

- Power
  - General power – 1 single GPO

- Hydraulic
  - Chilled Water fountain N
  - Fitted with shower, water saving shower rose, shower screen and hinged door. WC (low water use) and hand wash basin
  - Dom. Cold/Rain Water Y
  - Dom. Hot/Tepid Water Y
  - Floor waste gully

- Fire
  - Sprinkler Y
  - Extinguisher N
  - Blanket N
  - Detection Y

### Furniture/Equipment
- Stainless steel prescribed handrails
- Roll paper towel dispenser
- Toilet roll holder
- Hat and coat hooks
- Toilet suite approved for disability access
- Nappy change station.
- Refer to appendix of schedules
### 9.2.8 MALE / FEMALE TOILET BLOCKS MODULE

#### Room Data Sheet No: 8

<table>
<thead>
<tr>
<th>Floor Area</th>
<th>Size</th>
<th>Min Room</th>
<th>Min Width</th>
<th>Min Length</th>
<th>Floor to Ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12m²</td>
<td></td>
<td></td>
<td></td>
<td>To meet Building Code compliance</td>
</tr>
</tbody>
</table>

#### Functions
- Toilet facility for Staff and public

#### Relationship to other areas
- Accessible from Entry Lobby
- Accessible by general corridor area

#### Special Room attributes

#### Door(s)
- Solid core, privacy latch

#### Glazing
- Type: Window (Y/N)
- Skylight (Y/N): N
- Internal blinds (Y/N): N
- Glass specification thickness (mm): TBC at design phase
- Shading co-efficient: UV Filter
- "U" value (W/m² K): TBC at design phase

#### Finishes
- Type (to be read in conjunction with appendix of schedules): Reflectance
- Reflectance: Finish
- Floor: Non slip ceramic floor tiles and skirt
- Walls: Anti mould water resistant plasterboard
- Ceilings: Anti mould water resistant plasterboard

#### Services
- Ventilation: Clean or Transition area (C/T)
- Relative Pressure: Negative
- Exhaust: Yes to AS1668
- Makeup Air: Via door grille
- Outside Air: No
- Controls: Via occupancy and BMS Controlled

#### Heating
- Provided: N
- Set point (°C): N/A
- Setback temp (°C): N/A

#### Cooling
- Provided: N
- Set point (°C): N/A
- Setback temp (°C): N/A

#### Lighting
- Lux: 80
- Fitting Type: T5 Fittings
- Controls: Movement and Sound Sensor
- Pushbutton timer for heat lamps

#### Power
- General power – 1 single GPO

#### Hydraulic
- Chilled Water fountain: N
- Dom. Cold/Rain Water: Y
- Dom. Hot/Tepid Water: Y
- Fitted with shower, water saving shower rose, shower screen and hinged door. WC (low water use) and hand wash basin
- Floor waste gully

#### Fire
- Sprinkler: Y
- Extinguisher: N
- Blanket: N
- Detection: Y

#### Furniture/Equipment
- Roll paper towel dispenser
- Toilet roll holder
- Hat and coat hooks
- Mirror
- Soap dispenser
- Refer to appendix of schedules
### 9.2.9 EQUIPMENT / COMMUNICATIONS ROOM

Room Data Sheet No: 9

<table>
<thead>
<tr>
<th>Floor Area</th>
<th>Desirable</th>
<th>Size</th>
<th>Min width</th>
<th>Min length</th>
<th>Floor to ceiling</th>
<th>Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 &amp; 3 - bay</td>
<td>1</td>
<td>8m²</td>
<td>2000</td>
<td>-</td>
<td>2700</td>
<td>Used for storage of UPS</td>
</tr>
<tr>
<td>4 &amp; 5 - bay</td>
<td>2</td>
<td>10m²</td>
<td>2500</td>
<td>-</td>
<td></td>
<td>Used for storage of communications equipment cabinets</td>
</tr>
<tr>
<td>6 - bay</td>
<td>2</td>
<td>12m²</td>
<td>3000</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Relationship to other areas
- Adjacent to Dispatch alcove
- Used for storage of communications equipment cabinets

#### Special Room attributes
- Access via cable trays to Dispatch alcove

#### Door(s)
- Solid core door 920 wide with closer, lockable (may be sliding door)
- Air relief grille from corridor

#### Glazing
<table>
<thead>
<tr>
<th>Type</th>
<th>Area</th>
<th>Additional Information:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Window (y/n)</td>
<td>N/A</td>
<td>Fixed</td>
</tr>
<tr>
<td>Skylight (y/n)</td>
<td>N</td>
<td>Moveable (user operated)</td>
</tr>
<tr>
<td>Internal blinds (Y/N)</td>
<td>N/A</td>
<td>Moveable (auto)</td>
</tr>
<tr>
<td>Glass specification thickness (mm)</td>
<td>N/A</td>
<td>Internal blackout blinds (Y/N)</td>
</tr>
<tr>
<td>Shading co-efficient</td>
<td>UV Filter</td>
<td>Mechanical ventilation provided (Y/N)</td>
</tr>
<tr>
<td>U' value (W/m²K)</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

#### Finishes
<table>
<thead>
<tr>
<th>Type (to be read in conjunction with appendix of schedules)</th>
<th>Reflectance</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor</td>
<td>(EP) Non-slip epoxy on concrete slab, (light grey colour), anti-slip grates to floor wastes</td>
<td>N/A</td>
</tr>
<tr>
<td>Walls</td>
<td>Painted plasterboard</td>
<td>Gloss</td>
</tr>
<tr>
<td>Ceilings</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

#### Services
| Ventilation | Clean or Transition area (C/T) | C |
|             | Relative Pressure | Neutral |
|             | Exhaust | No |
|             | Makeup Air | No |
|             | Outside Air | No |
|             | Controls | No |
| Heating     | Provided | Y |
|             | Set point °C | 18 |
|             | Setback temp °C | N/A |
| Cooling     | Provided | Y |
|             | Set point °C | 21 |
|             | Setback temp °C | N/A |
|             | 24/7 operation | |
| Lighting    | Min 350 @ desk | T5 Fittings |
|             | Operating Type | Controls |
|             | Fitting | Movement and Sound Sensor |

#### Power
- General power – 3 No double GPO’s
- Data/LAN points – 2 No

#### Hydraulics
- Chilled Water fountain | N |
- Dom. Cold/Rain Water | N |
- Dom. Hot/Tap/water | N |

#### Fire
- Sprinkler | Y |
- Extinguisher | N |
- Blanket | N |
- Detection | Y |

#### Furniture/Equipment
- Shelf bench
- Com-net security cabinet
- Distribution board
- Communications hub
- UPS
- Security cabinet
- Refer to appendix of schedules
### 9.2.10 SO MESS ROOM / LOUNGE

**Room Data Sheet No:** 10

#### Functions
- Meals and retreat for officers
- Some paperwork

#### Relationship to other areas
- Located near Officer bedrooms
- Preferably with access onto BBQ courtyard wherever possible

#### Special Room attributes
- Not provided within 2-Bay and 3-Bay (1 Officer) stations
- Attractive outlook, natural daylight and natural ventilation required
- Acoustic insulation to walls and ceilings

#### Door(s)
- Solid core door with door closer
- Glazed external door, if access to BBQ are provided

#### Glazing
- **Type:** Window
  - Skylight
  - Internal blinds (Y/N)
  - Glass specification thickness (mm)
  - Shading coefficient
  - "U" value (W/m²K)
  - TBC at design phase
- **Additional Information:**
  - External solar shading provided (Y/N)
  - Internal blackout blinds (Y/N)
  - Openable windows (Y/N)

#### Finishes
- **Type (to be read in conjunction with appendix of schedules):** Reflectance
- **Floor:** Flotex carpet, 6mm thickness / Non slip ceramic floor tiles and skirt
- **Walls:** Painted plasterboard
- **Ceilings:** Mineral fibre tiles/plasterboard, paint finish

#### Services
- **Ventilation:**
  - Relative Pressure: Negative
  - Exhaust: Yes Kitchen Exhaust
  - Makeup Air: Adjacent Spaces
  - Outside Air: Yes via operable windows or mechanical ventilation Controls
  - Occupancy and BMS (supply)
- **Heating:** Provided
- **Cooling:** Provided
- **Lighting:** Lux
  - T5 Fittings
- **Power:**
  - Power to kitchen appliances and range hood, plus 4 No double GPO's TV aerial point (where Mess & Lounge are combined)
- **Hydraulic:** Chilled Water fountain
- **Dom. Cold:** Y
- **Dom. Hot/Tepid Water:** Y
- **Fire:** Sprinkler Y
  - Extinguisher Y
  - Blanket Y
  - Detection Y

#### Furniture/Equipment
- Kitchen cupboards with open bench to lounge (where combined) and eating areas, Table and chairs, Whiteboard, Pin board, Equip with stove, griddle, microwave, boiling water unit, ducted range hood, double bowl sink, Refrigerator, under bench recycling bins, lockable food lockers, bag rack, Lounge chairs, TV and lockable TV video cabinet (where combined), Roll paper towel dispenser, Hat and coat hook – 1 per fire fighter
- Refer to appendix of schedules

<table>
<thead>
<tr>
<th>Floor Area</th>
<th>Desirable</th>
<th>Size</th>
<th>Min width</th>
<th>Min length</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 - bay</td>
<td>42 m²</td>
<td>5500</td>
<td>-</td>
<td>-</td>
<td>2700 min</td>
</tr>
</tbody>
</table>
### 9.2.11 FIRE FIGHTERS MESS ROOM

**Room Data Sheet No:** 11  
**Reference Plans No:** 11

#### Floor Area

<table>
<thead>
<tr>
<th>Desirable</th>
<th>Size</th>
<th>Min width</th>
<th>Min length</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 - bay</td>
<td>25m²</td>
<td>5000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3 - bay</td>
<td>34m²</td>
<td>6000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4 – bay</td>
<td>53m²</td>
<td>7000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5 - bay</td>
<td>80m²</td>
<td>9000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>6 - bay</td>
<td>105m²</td>
<td>9000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2700 min</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Functions
- 2 & 3 Bay Mess is shared with Officers’  
- Cooking and eating

#### Relationship to other areas
- Near bedrooms but acoustic separation must be maintained  
- Preferably with access onto BBQ/courtyard area wherever possible

#### Special Room attributes
- Attractive outlook, natural daylight and natural ventilation required  
- Acoustic insulation to walls and ceilings

#### Door(s)
- Solid core internal door, fitted with door closer  
- Glazed external door to BBQ area provided  
- Ventilation relief air provided via

#### Glazing

<table>
<thead>
<tr>
<th>Glazing Type</th>
<th>Window (Y/N)</th>
<th>Skylight (Y/N)</th>
<th>Internal blinds (Y/N)</th>
<th>Glass specification thickness (mm)</th>
<th>Shading coefficient</th>
<th>‘U’ value (W/m²K)</th>
<th>TBC at design phase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>User operated Y</td>
<td>TBC at design phase</td>
<td></td>
<td>TBC at design phase</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Automated N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Finishes

<table>
<thead>
<tr>
<th>Finishes Type</th>
<th>(to be read in conjunction with appendix of schedules)</th>
<th>Reflectance</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor</td>
<td>Non slip ceramic floor tiles and skirt</td>
<td>At least 15%</td>
<td>N/A</td>
</tr>
<tr>
<td>Walls</td>
<td>Anti mould water resistant plasterboard</td>
<td>At least 50%</td>
<td>Semi-gloss</td>
</tr>
<tr>
<td>Ceilings</td>
<td>Anti mould water resistant plasterboard</td>
<td>At least 70%</td>
<td>Semi-gloss</td>
</tr>
</tbody>
</table>

#### Services

<table>
<thead>
<tr>
<th>Services</th>
<th>Clean or Transition area (C/T)</th>
<th>Relative Pressure</th>
<th>Exhaust</th>
<th>Makeup Air</th>
<th>Outside Air</th>
<th>Controls</th>
<th>Heating</th>
<th>Lighting</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C</td>
<td>Negative</td>
<td>Yes Kitchen Exhaust</td>
<td>Adjacent Spaces</td>
<td>Yes via operable windows or mechanical ventilation</td>
<td>Occupancy and BMS (supply)</td>
<td>Provided</td>
<td>Fitting Type Controls</td>
<td>Power to kitchen appliances and range hood, plus 4 No double GPO’s</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>160 (240 counters)</td>
<td>T5 Fittings Daylight dimming. A 2nd “relaxation” layer separately switched/dimmed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lighting</td>
<td>Power</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Heating</td>
<td>Policies</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>V/Aerial point (where Mess &amp; Lounge are combined)</td>
<td></td>
</tr>
</tbody>
</table>

#### Hydraulic

<table>
<thead>
<tr>
<th>Hydraulic</th>
<th>Chilled Water fountain</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dom. Cold</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>Dom. Hot/Tepid Water</td>
<td>Y</td>
</tr>
</tbody>
</table>

#### Fire

<table>
<thead>
<tr>
<th>Fire</th>
<th>Sprinkler</th>
<th>Y</th>
<th>Extinguisher</th>
<th>Y</th>
<th>Blanket</th>
<th>Y</th>
<th>Detection</th>
<th>Y</th>
</tr>
</thead>
</table>

#### Furniture/Equipment

- Lounge chairs, table and chairs, kitchen cupboards with open bench to Lounge and Eating area (where combined).  
- TV, TV/Video cabinet, lockable, Whiteboard, Pin board, Hat and coat hooks – 1 per fire fighter. Equip with stove, griddle, microwave, boiling water unit, ducted range hood, double bowl sink, refrigerator, under-bench recycling bins, lockable food pantries for each shift, bag rack (personnel gear store)  
- Refer to appendix of schedules
### 9.2.12 FIRE FIGHTERS LOUNGE

#### Room Data Sheet No: 12

<table>
<thead>
<tr>
<th>Floor Area</th>
<th>Size</th>
<th>Min width</th>
<th>Min length</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 &amp; 3 bay</td>
<td>35m²</td>
<td>6000</td>
<td>-</td>
<td>2700 min</td>
</tr>
<tr>
<td>4 bay</td>
<td>36m²</td>
<td>6000</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>5 Bay</td>
<td>41m²</td>
<td>6000</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>6 bay</td>
<td>50m²</td>
<td>8500</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

#### Functions
- TV watching
- General living room

#### Relationship to other areas
- Beside Mess (usually opening into Mess)
- Near bedrooms but acoustic separation must be maintained

#### Special Room attributes
- Attractive outlook, natural daylight and natural ventilation required
- Acoustic insulation to walls and ceiling

#### Door(s)
- Solid core internal door, fitted with door closer
- Glazed external door to BBQ area provided

<table>
<thead>
<tr>
<th>Glazing</th>
<th>Type</th>
<th>Window (Y/N)</th>
<th>Skylight (Y/N)</th>
<th>Internal blinds (Y/N)</th>
<th>Internal glazing type</th>
<th>TBC at design phase</th>
<th>Shading coefficient</th>
<th>&quot;U&quot; value (W/m²K)</th>
<th>Door undercut (mm)</th>
<th>Door transfer grille (free area m²)</th>
<th>Acoustic transfer grille</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Y</td>
<td>N</td>
<td>User operated</td>
<td>TBC at design phase</td>
<td>Y</td>
<td>Y</td>
<td>TBC at design phase</td>
<td>Fixed</td>
<td>Moveable (user operated)</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Y</td>
<td>N</td>
<td>Automated</td>
<td>TBC at design phase</td>
<td>Y</td>
<td>Y</td>
<td>TBC at design phase</td>
<td>Moveable (auto)</td>
<td>Moveable (auto)</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Y</td>
<td>N</td>
<td>TBC at design phase</td>
<td>TBC at design phase</td>
<td>Y</td>
<td>Y</td>
<td>TBC at design phase</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Y</td>
<td>N</td>
<td>TBC at design phase</td>
<td>TBC at design phase</td>
<td>Y</td>
<td>Y</td>
<td>TBC at design phase</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Y</td>
<td>N</td>
<td>TBC at design phase</td>
<td>TBC at design phase</td>
<td>Y</td>
<td>Y</td>
<td>TBC at design phase</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
</tbody>
</table>

#### Finishes
- Type (to be read in conjunction with appendix of schedules): Reflectance Finish
- Floor: Recyclable carpet tiles 6mm thickness At least 15% N/A
- Walls: Painted plasterboard At least 50% Semi-gloss
- Ceilings: Mineral fibre tiles/plasterboard, paint finish At least 70% Nil

#### Services
- Ventilation: Clean or Transition area (C/TF) C
- Relative Pressure: Neutral/Positive
- Exhaust: No
- Makeup Air: No
- Outside Air: Yes via operable windows or mechanical ventilation
- Controls: Provide independently controlled air conditioning for “on demand” operation, Occupancy and BMS
- Heating: Provided Y Set point °C 21 Setback temp °C 18
- Cooling: Provided Y Set point °C 24 Setback temp °C 26
- Lighting: Lux Fitting Type Controls
- 160 T5 Fittings Daylight dimming. A 2" “relaxation” layer separately switched/dimmed
- Power: Three 3 No double GPO’s
- Hydraulics: Chilled Water fountain N
- Dom. Cold N
- Dom. Hot/Tepid Water N
- Fire: Sprinkler Y Extinguisher N Blanket N Detection Y

#### Furniture/Equipment
- Lounge chairs
- TV
- TV/ video cabinet, lockable
- Whiteboard
- Pinboard
- Hat and coat hooks – 1 per fire fighter
- Refer to appendix of schedules
## 9.2.13 BREAK OUT ROOM

### Room Data Sheet No: 13

<table>
<thead>
<tr>
<th>Floor Area</th>
<th>Desirable</th>
<th>Size</th>
<th>Min width</th>
<th>Min length</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 – 6 bay inclusive</td>
<td></td>
<td>12M²</td>
<td>3000</td>
<td></td>
<td>2700 min</td>
</tr>
</tbody>
</table>

### Functions
- For quiet contemplation time, counselling or study
- Adjacent to fire fighter bedrooms

### Special Room attributes
- Acoustic separation must be maintained
- Provide natural daylight and attractive outlook

### Door(s)
- Solid core fitted with door closer

### Glazing

<table>
<thead>
<tr>
<th>Type</th>
<th>Window (Y/N)</th>
<th>Skylight (Y/N)</th>
<th>Internal blinds (Y/N)</th>
<th>TBC at design phase</th>
<th>External solar shading provided (Y/N)</th>
<th>Fixed</th>
<th>Moveable (user operated)</th>
<th>Moveable (auto)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Services

<table>
<thead>
<tr>
<th>Ventilation</th>
<th>Clean or Transition area (C/T)</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative Pressure</td>
<td>Neutral/Positive</td>
<td></td>
</tr>
<tr>
<td>Makeup Air</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Outside Air</td>
<td>Yes via operable windows or mechanical ventilation</td>
<td></td>
</tr>
</tbody>
</table>

### Heating
- Provided Y Set point °C 21 Setback temp °C 18

### Cooling
- Provided Y Set point °C 24 Setback temp °C 26

### Lighting
- 240 Fittings
- Dual mode switching. Consider direct and indirect lighting with separate switch controls for each

### Power
- General power – 1 single GPO

### Hydraulic
- Chilled Water fountain N
- Dom. Cold N
- Dom. Hot/Tepid Water N

### Fire
- Sprinkler Y Extinguisher N Blanket N Detection Y

### Furniture/Equipment
- 2 No 2 seater couches or 4 No lounge chairs
- 1 No coffee table
- Refer to appendix of schedules
### 9.2.14 SSO BEDROOM MODULE

**Room Data Sheet No:** 14  
**Reference Plan No:** 14,15,16

<table>
<thead>
<tr>
<th>Floor Area</th>
<th>Desirable</th>
<th>Size</th>
<th>Min width</th>
<th>Min length</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 - 6 bay inclusive</td>
<td>10.8m²</td>
<td>2700</td>
<td>-</td>
<td>2700 min</td>
<td></td>
</tr>
</tbody>
</table>

#### Functions
- Sleeping
- Changing
- Private study
- Some papernowork or taking telephone calls

#### Relationship to other areas
- Near Officer Mess (if provided)
- Adjoining private en-suite (shower/basin) shared between two rooms

#### Special Room attributes
- Acoustic separation from other rooms and external noise generators (e.g. traffic)
- Openable windows to external wall – double glazed for noise privacy and thermal insulation as required

#### Door(s)
- Solid core 820 wide, can open in to single bedroom, fitted with acoustic seals
- Sliding doors not acceptable

<table>
<thead>
<tr>
<th>Glazing</th>
<th>Type</th>
<th>Window (Y/N)</th>
<th>Skylight (Y/N)</th>
<th>Internal blinds (Y/N)</th>
<th>Glass specification thickness (mm)</th>
<th>Shading co-efficient</th>
<th>U' value (W/m²K)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>TBC at design phase</td>
<td>JV Filter</td>
<td>TBC at design phase</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>User operated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Automated</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Finishes
- Type (to be read in conjunction with appendix of schedules): Reflectance, Finish
- Floor: Recyclable carpet tiles 6mm thickness, At least 15%, N/A
- Walls: Painted plasterboard, At least 50%, Semi-gloss
- Ceilings: Painted plasterboard, At least 70%, Satin

#### Services
- Ventilation: Clean or Transition area (C/T) C, Relative Pressure Neutral/Negative, Makeup Air No, Outside Air Yes via operable windows or mechanical ventilation
- Controls: Provide independently controlled air conditioning for “on demand” operation, Occupancy & BMS
- Heating: Provided Y, Set point °C 21, Setback temp °C 17, Individual Ducted Units
- Cooling: Provided Y, Set point °C 24, Setback temp °C 26
- Lighting: Lux Fitting Type Controls, 240 during study mode, F5 Fittings Separate, switch ceiling vs task/bedside lighting, Possible occupancy sensor
- Power: General power – 2 double GPO’s, Phone point (TBC), Data/LAN point (adjacent to desk location
- Fire: Sprinkler Y, Extinguisher N, Blanket N, Detection Y

#### Furniture / Equipment
- Single bed
- Desk
- Chair
- 2 coat hooks
- Built in lockers
- Refer to appendix of schedules
### 9.2.15 SO BEDROOM MODULE

**Room Data Sheet No: 15**

**Reference Plan No: 14,15,16**

<table>
<thead>
<tr>
<th>Floor Area</th>
<th>Desirable</th>
<th>Size</th>
<th>Min width</th>
<th>Min length</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 – 6 bay inclusive</td>
<td>10.8m²</td>
<td>2700</td>
<td>-</td>
<td>2700 min</td>
<td></td>
</tr>
</tbody>
</table>

**Functions**
- Sleeping
- Changing
- Private study
- Some paperwork or taking telephone calls

**Relationship to other areas**
- Near Officer Mess (if provided)
- Adjoining private en-suite (shower/basin) shared between two rooms

**Special Room attributes**
- Acoustic separation from other rooms and external noise generators (eg traffic)
- Operable windows to external wall – double glazed for noise privacy and thermal insulation as required

**Door(s)**
- Solid core 820 wide an open in to single bedroom, fitted with acoustic seals and door closer
- Sliding doors are not acceptable

<table>
<thead>
<tr>
<th>Door (undercut (mm))</th>
<th>Door transfer grille (free area m²)</th>
<th>Acoustic transfer grille</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>N</td>
<td>N</td>
</tr>
</tbody>
</table>

**Glazing**
- Type: Window (Y/N) Y/Skylight (Y/N) N
- Internal blinds: User operated Y/Automated N
- Glass specification thickness (mm): TBC at design phase
- Shading co-efficient: UV Filter
- "U" value (W/m²K): TBC at design phase

**Finishes**
- Type (to be read in conjunction with appendix of schedules): Reflectance
- Floor: Recyclable carpet tiles 6mm thickness
- Walls: Painted plasterboard
- Ceilings: Painted plasterboard

**Services**
- Ventilation: Clean or Transition area (C/T) C
- Relative Pressure: Neutral/Negative
- Exhaust: Yes to cupboards
- Makeup Air: No
- Outside Air: Yes via operable windows or mechanical ventilation
- Controls: Provide independently controlled air conditioning for "on demand" operation, Occupancy & BMS

**Heating**
- Provided Y
- Set point °C: 21
- Setback temp °C: 17

**Cooling**
- Provided Y
- Set point °C: 24
- Setback temp °C: 26

**Lighting**
- Lux: 240
- Fitting Type: T5 Fittings
- Controls: Separately switch ceiling vs task/bedside lighting. Possible occupancy sensor

**Power**
- General power – 2 double GPO's
- Phone point (TBC)
- Data/LAN point (adjacent to desk location)

**Hydraulic**
- Chilled Water fountain N
- Dom. Cold N
- Dom. Hot/Tepid Water N

**Fire**
- Sprinkler Y
- Extinguisher N
- Blanket N
- Detection Y

**Furniture/Equipment**
- Single bed
- Desk
- Chair
- 2 coat hooks
- Built in locker
- Refer to appendix of schedules
## 9.2.16 FIRE FIGHTER BEDROOM MODULE

### Room Data Sheet No: 16

#### Reference Plan No: 14,15,16

<table>
<thead>
<tr>
<th>Floor Area</th>
<th>Desirable</th>
<th>Size</th>
<th>Min width</th>
<th>Min length</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 – 6 bay inclusive</td>
<td>10.8m²</td>
<td>2700</td>
<td>-</td>
<td>2700 min</td>
<td></td>
</tr>
</tbody>
</table>

### Functions
- Sleeping – single bedroom for each fire fighter
- Changing
- Private study
- Each fire fighter has separate bedding which is stored in bedding locker (adjacent to bedrooms in corridor) between shifts

### Relationship to other areas
- Adjoining private en-suite (shower/basin) shared between two rooms

### Special Room attributes
- Acoustic separation from other rooms and external noise generators (eg traffic)
- Openable windows to external wall – double glazed for noise privacy and thermal insulation as required (a roof window is permissible alternative, eg Velux type)

### Door(s)
- Solid core 820 wide, can open in to single bedroom, fitted with acoustic seals and door closer
- Sliding doors not acceptable

### Glazing

<table>
<thead>
<tr>
<th>Type</th>
<th>Window (Y/N)</th>
<th>Skylight (Y/N)</th>
<th>Internal blinds (Y/N)</th>
<th>Glass specification thickness (mm)</th>
<th>Shading co-efficient</th>
<th>‘U’ value (W/m²K)</th>
<th>TBC at design phase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>UV Filter</td>
<td></td>
<td>TBC at design phase</td>
</tr>
</tbody>
</table>

### Finishes
- Type (to be read in conjunction with appendix of schedules)
- Reflectance
- Finish
- Floor: Recyclable carpet tiles 6mm thickness
  - At least 15%
  - N/A
- Walls: Painted plasterboard
  - At least 50%
  - Semi-gloss
- Ceilings: Painted plasterboard
  - At least 70%
  - Satin

### Services

<table>
<thead>
<tr>
<th>Ventilation</th>
<th>Clean or Transition area (C/T)</th>
<th>Relative Pressure</th>
<th>Exhaust</th>
<th>Makeup Air</th>
<th>Outside Air</th>
<th>Controls</th>
<th>Heating</th>
<th>Cooling</th>
<th>Lighting</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C</td>
<td>Neutral/Negative</td>
<td>Yes to cupboards</td>
<td>No</td>
<td>Yes via operable windows or mechanical ventilation</td>
<td>Provide independently controlled air conditioning for “on demand” operation. Occupancy &amp; BMS</td>
<td>Provided</td>
<td>Provided</td>
<td>Lux</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Controls</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>21</td>
<td>24</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>Heating</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Set temp ºC</td>
<td>Set temp ºC</td>
<td>Ducted</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>17</td>
<td>26</td>
<td>Individual Ducted Units</td>
<td></td>
</tr>
<tr>
<td>Cooling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lighting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>T5 Fittings</td>
<td>260 during study mode</td>
<td>Separately switch ceiling vs task/bedside lighting. Possible occupancy sensor</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Controls</td>
<td>Controls</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>General power – 2 double GPO’s</td>
<td>Power</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Phone point (TBC)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Data/LAN point (adjacent to desk location)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydraulic</td>
<td>Chilled Water fountain</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dom. Cold</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dom. Hot/Tepid Water</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fire</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Furniture/Fire Equipment
- Single bed
- Desk
- Chair
- 2 coat hooks
- Built-in locker
- Refer to appendix of schedules
**9.2.17 SHOWER / BASIN EN-SUITE BETWEEN TWO BEDROOMS**

Room Data Sheet No: 17

Reference Plan No: 17

<table>
<thead>
<tr>
<th>Floor Area</th>
<th>Desirable</th>
<th>Size (m²)</th>
<th>Min width (mm)</th>
<th>Min length (mm)</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 – 6 bay inclusive</td>
<td>4.8</td>
<td>1200</td>
<td>4000</td>
<td>2700</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Functions</th>
<th>Officer &amp; Firefighters ablutions</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Relationship to other areas</th>
<th>Situated between two bedrooms, shared facility</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Special Room attributes</th>
<th>As well as Mechanical extraction Natural light &amp; ventilation preferred</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Provide fixed signage on doors reminding occupant to lock &amp; unlock neighbours door before and after use, Signage 40mm Alum. Plate with black vinyl lettering 20mm high.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Glazing</th>
<th>Type</th>
<th>Window (Y/N)</th>
<th>Skylight (Y/N)</th>
<th>Additional information: Ensure obscure glazing and no blinds.</th>
<th>External solar shading provided (Y/N)</th>
<th>Fixed (Y/N)</th>
<th>Moveable (user operated) (Y/N)</th>
<th>Moveable (auto) (Y/N)</th>
<th>Internal blackout blinds (Y/N)</th>
<th>Openable windows (Y/N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal blinds (Y/N)</td>
<td>User operated (Y/N)</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Glass specification thickness (mm)</th>
<th>TBC at design phase</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Shading coefficient</th>
<th>UV Filter</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>&quot;U&quot; value (W/m² K)</th>
<th>TBC at design phase</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Finishes</th>
<th>Type (to be read in conjunction with appendix of schedules)</th>
<th>Reflectance</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor</td>
<td>Non slip ceramic floor tiles and skirt</td>
<td>At least 15%</td>
<td></td>
</tr>
<tr>
<td>Walls</td>
<td>Anti mould water resistant plasterboard</td>
<td>At least 50% above lockers</td>
<td>Semi-gloss</td>
</tr>
<tr>
<td>Ceilings</td>
<td>Anti mould water resistant plasterboard</td>
<td>At least 70%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Services</th>
<th>Ventilation</th>
<th>Clean or Transition area (C/T)</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Relative Pressure</td>
<td>Negative</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exhaust</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Makeup Air</td>
<td>Undercut</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Outside Air</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Controls</td>
<td>Occupancy &amp; BMS</td>
<td></td>
</tr>
<tr>
<td>Heating</td>
<td>Provided</td>
<td>N</td>
<td>Set point °C</td>
</tr>
<tr>
<td>Cooling</td>
<td>Provided</td>
<td>N</td>
<td>Set point °C</td>
</tr>
<tr>
<td>Lighting</td>
<td>Lux</td>
<td>T5 Fittings</td>
<td>Controls</td>
</tr>
<tr>
<td></td>
<td>Heat Lamp</td>
<td>Movement and Sound Sensor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pushbutton timer for heat lamps</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td>General power – 1 double GPO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydraulic</td>
<td>Chilled Water fountain</td>
<td>N</td>
<td>Fitted with shower, water saving shower rose, shower screen and hinged door, WC (low water use) and hand wash basin.</td>
</tr>
<tr>
<td></td>
<td>Dom. Cold</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dom. Hot/Tepid Water</td>
<td>Y</td>
<td>Floor waste gully</td>
</tr>
<tr>
<td>Fire</td>
<td>Sprinkler</td>
<td>Y</td>
<td>Fire Extinguisher</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Furniture/Equipment</th>
<th>Shelf or vanity cabinet under basin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Roll paper towel dispenser</td>
</tr>
<tr>
<td></td>
<td>Soap holder</td>
</tr>
<tr>
<td></td>
<td>Coat hooks</td>
</tr>
<tr>
<td></td>
<td>Refer to appendix of schedules</td>
</tr>
</tbody>
</table>
## 9.2.18 WC MODULE ASSOCIATED WITH BEDROOMS

**Room Data Sheet No:** 18

### Floor Area

<table>
<thead>
<tr>
<th>Desirable</th>
<th>Size</th>
<th>Min width</th>
<th>Min length</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 – 6 bay inclusive</td>
<td>2.9m²</td>
<td>1200</td>
<td>-</td>
<td>2700</td>
</tr>
</tbody>
</table>

### Functions

- **Toilet**
- Located near bedrooms ‘only’
- Provide natural daylight and ventilation where possible

### Door(s)

- Solid core with privacy latch

### Glazing

<table>
<thead>
<tr>
<th>Type</th>
<th>Window (Y/N)</th>
<th>Skylight (Y/N)</th>
<th>Additional information: where possible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>External solar shading provided (Y/N)</td>
</tr>
<tr>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Fixed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Internal blinds (Y/N)</th>
<th>User operated</th>
<th>Automated</th>
</tr>
</thead>
<tbody>
<tr>
<td>User operated</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Automated</td>
<td>N</td>
<td>Y</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Glass specification thickness (mm)</th>
<th>TBC at design phase</th>
<th>Internal blackout blinds (Y/N)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBC at design phase</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
</tbody>
</table>

### Shading coefficient

<table>
<thead>
<tr>
<th>UV value (W/m² K)</th>
<th>TBC at design phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>UV Filter</td>
<td>N</td>
</tr>
</tbody>
</table>

### Finishes

<table>
<thead>
<tr>
<th>Type (to be read in conjunction with appendix of schedules)</th>
<th>Reflectance</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non slip ceramic floor tiles and skirt</td>
<td>At least 15%</td>
<td>N/A</td>
</tr>
<tr>
<td>Anti mould water resistant plasterboard</td>
<td>At least 50%</td>
<td>N/A</td>
</tr>
<tr>
<td>Anti mould water resistant plasterboard</td>
<td>At least 70%</td>
<td>Semi-gloss</td>
</tr>
</tbody>
</table>

### Services

<table>
<thead>
<tr>
<th>Ventilation</th>
<th>Clean or Transition area (C/T)</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative Pressure</td>
<td>Negative</td>
<td></td>
</tr>
<tr>
<td>Makeup Air</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Outside Air</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Heating</th>
<th>Provided</th>
<th>N</th>
<th>Set point °C</th>
<th>N/A</th>
<th>Setback temp °C</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling</td>
<td>Provided</td>
<td>N</td>
<td>Set point °C</td>
<td>N/A</td>
<td>Setback temp °C</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lighting</th>
<th>Lux</th>
<th>Fitting Type</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power</th>
<th>General power – 1 double GPO</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Hydraulic</th>
<th>Chilled Water fountain</th>
<th>N</th>
<th>Fitted with shower, water saving shower rose, shower screen and hinged door, WC (low water use) and hand wash basin.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dom. Cold/Rainwater</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dom. Hot/Tepid Water</td>
<td>Y</td>
<td>Floor waste gully</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fire</th>
<th>Sprinkler</th>
<th>Y</th>
<th>Extinguisher</th>
<th>N</th>
<th>Blanket</th>
<th>N</th>
<th>Detection</th>
<th>Y</th>
</tr>
</thead>
</table>

### Furniture/Equipment

- Mirror
- Roll paper towel dispenser
- Toilet roll paper towel dispenser (not sheet feed)
- Soap holder
- Coat hooks
- Refer to appendix of schedules
## 9.2.19 PERSONAL DRYING ROOM

**Room Data Sheet No:** 19

<table>
<thead>
<tr>
<th>Floor Area</th>
<th>Size</th>
<th>Min width</th>
<th>Min length</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 - bay</td>
<td>3.5m²</td>
<td>1800</td>
<td>-</td>
<td>2700 min</td>
</tr>
<tr>
<td>3 - bay</td>
<td>4.5m²</td>
<td>2000</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>4 - bay</td>
<td>7m²</td>
<td>2500</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>5 - bay</td>
<td>10m²</td>
<td>3000</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>6 - bay</td>
<td>14m²</td>
<td>3500</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

### Functions
- Drying wet Personal clothing (after drill or gym work – not for PPE clothing)
- Walk in room with space for one set of clothing for each person on all four shifts

### Relationship to other areas
- Locate near lockers and showers

### Special Room attributes
- 

### Door(s)
- Solid core with door closer and air-relief grille near floor level

<table>
<thead>
<tr>
<th>Glazing</th>
<th>Type</th>
<th>Window (Y/N)</th>
<th>Skylight (Y/N)</th>
<th>Internal blinds (Y/N)</th>
<th>Glass specification thickness (mm)</th>
<th>Shading coefficient</th>
<th>U&quot; value (W/m² K)</th>
<th>Door undercut (mm)</th>
<th>Door transfer grille (free area m²)</th>
<th>Acoustic transfer grille</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>TBC at design phase</td>
<td>UV Filter</td>
<td>Fixed</td>
<td>N</td>
<td>Moveable (user operated)</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>TBC at design phase</td>
<td>UV Filter</td>
<td>Moveable (auto)</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N</td>
<td>TBC at design phase</td>
<td>UV Filter</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N</td>
<td>TBC at design phase</td>
<td>UV Filter</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N</td>
<td>TBC at design phase</td>
<td>UV Filter</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
</tbody>
</table>

### Finishes
- Type (to be read in conjunction with appendix of schedules)

| Services | Ventilation | Clean or Transition area (C/T) | Relative Pressure | Exhaust | Makeup Air | Door grille | Outside Air | Outside Controls | Heating | Provided | Y | N/A | Set point ºC | N/A | Setback temp ºC | N/A | Cooling | Provided | N | N/A | Set point ºC | N/A | Setback temp ºC | N/A | Lighting | Lux | Fitting Type | Controls | 30 | 15 Fittings | Movement Sensor | Power | Nil | Hydraulic | Chillinger Water fountain | N | Domestic Cold/Rainwater | N | Domestic Hot/Tepid Water | N | Fire | Sprinkler | Y | Extinguisher | N | Blanket | N | Detection | Y | 

- Refer to appendix of schedules
### 9.2.20 GENERAL STATIONARY STORE

**Room Data Sheet No:** 20

<table>
<thead>
<tr>
<th>Floor Area</th>
<th>Desirable</th>
<th>Size</th>
<th>Min width</th>
<th>Min length</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 – 6 bay inclusive</td>
<td>3.6m²</td>
<td>1800</td>
<td>-</td>
<td>2700</td>
<td></td>
</tr>
</tbody>
</table>

**Functions**
- Provide general administration storage facility

**Relationship to other areas**
- Locate reasonably close to SO Office and PPE Change Area

**Special Room attributes**

**Door(s)**
- Solid core door, lockable

<table>
<thead>
<tr>
<th>Type</th>
<th>Window (Y/N)</th>
<th>Skylight (Y/N)</th>
<th>Internal blinds (Y/N)</th>
<th>Glass specification thickness (mm)</th>
<th>Shading coefficient</th>
<th>&quot;U&quot; value (W/m² K)</th>
<th>TBC at design phase</th>
<th>Ventilation relief air provided via</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>N</td>
<td>N/NA</td>
<td>TBC at design phase</td>
<td>UV Filter</td>
<td>TBC at design phase</td>
<td></td>
<td>Fixed/Moveable (N/A/N/A)</td>
</tr>
</tbody>
</table>

**Ventilation**
- Clean or Transition area (C/T) C
- Relative Pressure Neutral
- Exhaust No
- Makeup Air No
- Outside Air No
- Controls Nil

**Heating**
- Provided N
- Set point °C N/A
- Setback temp °C N/A

**Cooling**
- Provided N
- Set point °C N/A
- Setback temp °C N/A

**Lighting**
- Lux Fitting Type Controls
- 160 T5 Fittings Movement Sensor

**Power**
- Nil

**Hydraulic**
- Chilled Water fountain N
- Dom. Cold/Rainwater N
- Dom. Hot/Tepid Water N

**Fire**
- Sprinkler Y
- Extinguisher N
- Blanket N
- Detection Y

**Furniture/Equipment**
- Shelving to one wall
- Lockable metal cabinet
- Refer to appendix of schedules

**Finishes**
- Type (to be read in conjunction with appendix of schedules) Reflectance Finish
- Floor Recyclable carpet tiles 6mm thickness At least 15% N/A
- Walls Impactshield Painted plasterboard At least 50% Semi-gloss
- Ceilings Painted plasterboard At least 70% N
### 9.2.21 GYMNASIUM / WEIGHT ROOM

Room Data Sheet No: 21

<table>
<thead>
<tr>
<th>Floor Area</th>
<th>Desirable</th>
<th>Size</th>
<th>Min width</th>
<th>Min length</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 - bay</td>
<td>52m²</td>
<td>6000</td>
<td>-</td>
<td>-</td>
<td>2700 min</td>
</tr>
<tr>
<td>3 &amp; 4 bay</td>
<td>51m²</td>
<td>6000</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>5 - bay</td>
<td>56m²</td>
<td>6000</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>6 - bay</td>
<td>34m²</td>
<td>7000</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

#### Functions
- Weight training/strength programmes, recreation and fitness maintenance

#### Relationship to other areas
- Locate near locker/shower change areas

#### Special Room attributes
- Requires natural daylight and natural ventilation
- Position equipment in circuit type arrangement to allow multiple users at the same times

#### Door(s)
- Solid core door and door closer from corridor

#### Glazing

<table>
<thead>
<tr>
<th>Type</th>
<th>Window (Y/N)</th>
<th>Skylight (Y/N)</th>
<th>Internal blinds (Y/N)</th>
<th>Glass specification thickness (mm)</th>
<th>Shading co efficient</th>
<th>U’ value (W/m²K)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>TBC at design phase</td>
<td>0.7</td>
<td>2.4</td>
</tr>
</tbody>
</table>

#### Finishes

<table>
<thead>
<tr>
<th>Type (to be read in conjunction with appendix of schedules)</th>
<th>Reflectance</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor</td>
<td></td>
<td>Rubber mat</td>
</tr>
<tr>
<td>Walls</td>
<td></td>
<td>Impactshield Water Resistant Painted plasterboard</td>
</tr>
<tr>
<td>Ceilings</td>
<td></td>
<td>Water Resistant Painted plasterboard</td>
</tr>
</tbody>
</table>

#### Services

<table>
<thead>
<tr>
<th>Ventilation</th>
<th>Clean or Transition area (C/T)</th>
<th>Relative Pressure</th>
<th>Exhaust</th>
<th>Makeup Air</th>
<th>Outside Air</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C</td>
<td>Neutral</td>
<td>No</td>
<td>Economy Cycle</td>
<td>Economy Cycle</td>
<td>Occupancy &amp; BMS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Heating</th>
<th>Provided</th>
<th>Y</th>
<th>Set point °C</th>
<th>13</th>
<th>Setback temp °C</th>
<th>N/A</th>
<th>Independent controlled for on demand operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling</td>
<td>Provided</td>
<td>Y</td>
<td>Set point °C</td>
<td>20</td>
<td>Setback temp °C</td>
<td>N/A</td>
<td>Independent controlled for on demand operation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lighting</th>
<th>Lux</th>
<th>Fitting Type</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 @ 1000AFL</td>
<td>T5 Fittings</td>
<td>Daylight dimming</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power</th>
<th>• Power – 2 No double GPO's</th>
<th>• Phone</th>
<th>• Power for equipment</th>
</tr>
</thead>
</table>

|-----------|------------------------|---|---------------------|---|----------------------|---|

<table>
<thead>
<tr>
<th>Fire</th>
<th>Sprinkler</th>
<th>Y</th>
<th>Extinguisher</th>
<th>N</th>
<th>Blanket</th>
<th>N</th>
<th>Detection</th>
<th>Y</th>
</tr>
</thead>
</table>

#### Furniture/Equipment
- Refer to Standard Gym Equipment Schedule
- Refer to appendix of schedules
9.2.22 PPE CHANGE & STORAGE AREA

Room Data Sheet No: 22

**Floor Area**

<table>
<thead>
<tr>
<th>Desirable</th>
<th>Size</th>
<th>Min width</th>
<th>Min length</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 - bay</td>
<td>35m²</td>
<td>5200</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5 - bay</td>
<td>46m²</td>
<td>5800</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 - bay</td>
<td>80m²</td>
<td>7600</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 - bay</td>
<td>96m²</td>
<td>7600</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 - bay</td>
<td>132m²</td>
<td>9400</td>
<td></td>
<td>2700 min</td>
</tr>
</tbody>
</table>

**Functions**
- An area immediately adjacent to the Appliance Bay where, at call out, fire fighters put on their PPE gear prior to boarding the appliance and shed their PPE gear on return to station before entering the station living quarters.

**Relationship to other areas**
- Access from all parts of the Fire Station living quarters prior to Appliance Bay.
- The room opens onto the Dispatch Alcove corridor (no doors from room to corridor).

**Special Room attributes**
- Natural daylight is desirable via UV filtered roof light.
- Room layout should maximise locker capacity and ease of access to Appliance Bay.

**Door(s)**
- 2 No separate access doors to Appliance Bay.

**Finishes**
- Type (to be read in conjunction with appendix of schedules)
- Reflectance
- Finish
- Floor - EP) Non-slip epoxy on concrete slab, (light grey colour), anti slip grates to floor wastes
- Walls - Anti mould, water & impact resistant plasterboard
- Ceilings - Anti mould water resistant plasterboard

**Services**
- Ventilation
- Cleaning or Transition area (C/T)
- Y
- Relative Pressure
- Positive
- Exhaust
- Yes via air to air heat exchanger
- Makeup Air
- Nil
- Outside Air
- Yes via air to air heat exchanger
- Controls
- Occupancy & BMS

**Heating**
- Provided
- Y
- Set point °C
- 16
- Setback temp °C
- N/A
- N/A
- Provide Infrared radiant heating panels and connect to BMS and local pushbutton. Celmec IRH units to operate only when room temperature is below setpoint and in turn out

**Cooling**
- Provided
- N
- Set point °C
- N/A
- Setback temp °C
- N/A

**Lighting**
- Lux
- N/A
- Fitting Type
- Controls
- No
- T5 Fittings
- Movement sensor and BMS

**Power**
- Y
- Power – 2 No double waterproof GPO’s

**Hydraulics**
- Chilled Water fountain
- N
- Dom. Cold/Rainwater
- N
- Dom. Hot/Tapd Water
- N

**Fire**
- Sprinkler
- Y
- Extinguisher
- N
- Blanket
- N
- Detection
- Y

**Furniture & Equipment**
- PPE racks 600 wide x 600 deep x 1800 high
- 2-Bay – 27 PPE racks req’
- 3-Bay – 46 PPE racks req’
- 4-Bay – 68 PPE racks req’
- 5-Bay – 90 PPE racks req’
- 6-Bay – 112 PPE racks req’
- Refer to appendix of schedules
## 9.2.23 PPE DRYING ROOM

**Room Data Sheet No:** 23

### Floor Area

<table>
<thead>
<tr>
<th>Type</th>
<th>Size</th>
<th>Min width</th>
<th>Min length</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 - bay</td>
<td>3m²</td>
<td>1500</td>
<td>-</td>
<td>2700 min</td>
</tr>
<tr>
<td>3 - bay</td>
<td>4.5m²</td>
<td>2000</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>4 - bay</td>
<td>7m²</td>
<td>2500</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>5 - bay</td>
<td>10m²</td>
<td>2500</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>6 - bay</td>
<td>14m²</td>
<td>3000</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

### Functions
- Drying wet PPE gear
- Walk in room with space for one set of clothing for each person on all four shifts

### Relationship to other areas
- Locate adjacent to and opening onto PPE Change/Storage area

### Special Room attributes
- Layout to suit maximum hanging space around perimeter of room

### Door(s)
- Solid core door with glazed top panel and door closer
- Ventilation relief air provided via:
  - Door undercut (mm)
  - Door transfer grille (free area m²)
  - Acoustic transfer grille

### Glazing
- Type: Window (Y/N) N, Skylight (Y/N) Y, Internal blinds (Y/N) N
- Additional Information:
  - External solar shading provided (Y/N) N
  - Internal blackout blinds (Y/N) N
  - Openable windows (Y/N) N
  - UV Filter (Y/N) N

### Finishes
- Type (to be read in conjunction with appendix of schedules)
- Reflectance: At least 15%
- Finish: Semi-gloss
- Floor (EP): Non-slip epoxy on concrete slab, (light grey colour), anti slip grates to floor wastes
- Walls: Face finished masonry preferred – prefabricated insulated sandwich panel OK
- Ceilings: Water Resistant Painted plasterboard

### Services
- Ventilation: Clean or Transition area (C/T) T, Relative Pressure: Negative, Exhaust: Yes (speed Controlled)
- Makeup Air: Via Undercut, Outside Air: No
- Controls: Humidity & BMS (exhaust and pushbutton heating)
- Heating: Provided Y, Set point °C 35, Setback temp °C N/A
- Cooling: Provided N, Set point °C N/A, Setback temp °C N/A
- Lighting: Lux 50, Fitting Type T5 Fittings, Controls Movement sensor
- Power: Power for Electric Radiant
- Fire: Sprinkler Y, Extinguisher N, Blanket N, Detection Y

### Furniture/Equipment
- Hanging rails
- Hot water panel heater
- Refer to appendix of schedules
### 9.2.24 DISPATCH ALCOVE

Room Data Sheet No: 24

<table>
<thead>
<tr>
<th>Floor Area</th>
<th>Desirable size</th>
<th>Min width</th>
<th>Min length</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 &amp; 3 - bay</td>
<td>8M²</td>
<td>2000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4 - bay</td>
<td>10M²</td>
<td>2500</td>
<td>-</td>
<td>2700</td>
</tr>
<tr>
<td>5 &amp; 6 bay</td>
<td>12M²</td>
<td>3000</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

#### Functions
- Supervision of all call out dispatches from the Dispatch printer
- Overlooking the Appliance Bay and opening off the PPE Change/Locker area
- Good access to the Station Office
- Direct open access to the Appliance Bay
- Natural daylight desirable (may be achieved indirectly through Appliance Bay)

#### Door(s)
- Not required
- Open onto PPE Change/ Lockers
- Glazed doors to SO Office (1000 wide)

#### Glazing

<table>
<thead>
<tr>
<th>Type</th>
<th>Window (Y/N)</th>
<th>TBC at design phase</th>
<th>Additional information: - roof light or referred light required</th>
<th>External solar shading provided (Y/N)</th>
<th>Fixed</th>
<th>Door undercut (mm)</th>
<th>Door transfer grille (free area m²)</th>
<th>Acoustic transfer grille</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skylight (Y/N)</td>
<td>Y</td>
<td></td>
<td></td>
<td>Moveable (user operated) N</td>
<td>Y</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Internal blinds (Y/N)</td>
<td>User operated</td>
<td>N</td>
<td></td>
<td>Moveable (auto) N</td>
<td>N</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Glass specification thickness (mm)</td>
<td>TBC at design phase</td>
<td></td>
<td></td>
<td>Internal blackout blinds (Y/N) N</td>
<td>N</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Shading coefficient</td>
<td>UV Filter</td>
<td>TBC at design phase</td>
<td></td>
<td>Mechanical ventilation provided (Y/N) N</td>
<td>N</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

#### Finishes

<table>
<thead>
<tr>
<th>Type (to be read in conjunction with appendix of schedules)</th>
<th>Reflectance</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor</td>
<td>Non slip ceramic floor tiles and skirt</td>
<td>At least 15%</td>
</tr>
<tr>
<td>Walls</td>
<td>Impactshield Water Resistant Painted plasterboard</td>
<td>At least 50%</td>
</tr>
<tr>
<td>Ceilings</td>
<td>Water Resistant Painted plasterboard</td>
<td>At least 70%</td>
</tr>
</tbody>
</table>

#### Services

<table>
<thead>
<tr>
<th>Ventilation</th>
<th>Clean or Transition area (C/T)</th>
<th>Relative Pressure</th>
<th>Exhaust</th>
<th>Makeup Air</th>
<th>Outside Air</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>T</td>
<td>Neutral</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Nil</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Heating</th>
<th>Provided</th>
<th>N</th>
<th>Set point °C</th>
<th>N/A</th>
<th>Setback temp °C</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling</td>
<td>Provided</td>
<td>N</td>
<td>Set point °C</td>
<td>N/A</td>
<td>Setback temp °C</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lighting</th>
<th>Lux</th>
<th>Fitting Type</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>320</td>
<td>F5 Fittings</td>
<td>Daylight dimming</td>
</tr>
</tbody>
</table>

#### Power
- Power – 2 No double waterproof GPO’s
- Access via cable trays to the Equipment/Communications room

#### Data points

#### Hydraulic
- Chilled Water fountain N
- Dom. Cold/Rainwater N
- Dom. Hot/Tepid Water N

#### Fire
- Sprinkler Y
- Extinguisher Y
- Blanket N
- Detection Y

#### Furniture/Equipment
- Key safe
- Counter style bench (half open under, half cupboards under)
- Touch screen computer
- Refer to appendix of schedules
### 9.2.25 CLEANER’S STORE

**Room Data Sheet No:** 25

<table>
<thead>
<tr>
<th>Floor Area</th>
<th>Desirable size</th>
<th>Min width</th>
<th>Min length</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 &amp; 3 - bay</td>
<td>3m²</td>
<td>1500</td>
<td></td>
<td>2700</td>
</tr>
<tr>
<td>4 &amp; 5 - bay</td>
<td>4m²</td>
<td>1500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 - bay</td>
<td>5m²</td>
<td>2000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Functions**
- Used for storage of equipment to be used for internal cleaning

**Relationship to other areas**
- Located off Appliance Bay with easy access to Mess Room(s) and easy access for Council street collection

**Special Room attributes**
- 820 wide solid core door, with closer, lockable, air relief grille from Appliance Bay

<table>
<thead>
<tr>
<th>Door(s)</th>
<th>Ventilation relief air provided via</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Door undercut (mm)</td>
</tr>
<tr>
<td></td>
<td>Y</td>
</tr>
</tbody>
</table>

**Glazing**

<table>
<thead>
<tr>
<th>Type</th>
<th>Window (Y/N)</th>
<th>Skylight (Y/N)</th>
<th>Internal blinds (Y/N)</th>
<th>Glass specification thickness (mm)</th>
<th>Shading co-efficient</th>
<th>'U' value (W/m²K)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>N</td>
<td>User operated N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Automated N/A</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Finishes**

<table>
<thead>
<tr>
<th>Type (to be read in conjunction with appendix of schedules)</th>
<th>Reflectance</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor Non slip ceramic floor tiles and skirt</td>
<td>At least 15%</td>
<td>N/A</td>
</tr>
<tr>
<td>Walls Impactshield Water Resistant Painted plasterboard</td>
<td>At least 50%</td>
<td>Semi-gloss</td>
</tr>
<tr>
<td>Ceilings Water Resistant Painted plasterboard</td>
<td>At least 70%</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Services**

<table>
<thead>
<tr>
<th>Ventilation</th>
<th>Clean or Transition area (C/T)</th>
<th>N</th>
<th>Relative Pressure</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exhaust</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Makeup Air</td>
<td>Undercut</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outside Air</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controls</td>
<td>Occupancy &amp; BMS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Heating</th>
<th>Provided</th>
<th>N</th>
<th>Set point °C</th>
<th>N/A</th>
<th>Setback temp °C</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling</td>
<td>Provided</td>
<td>N</td>
<td>Set point °C</td>
<td>N/A</td>
<td>Setback temp °C</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lighting</th>
<th>Lux</th>
<th>Fitting Type</th>
<th>Controls</th>
<th>5 Fittings</th>
<th>Movement and Sound Sensor</th>
<th>Heat Lamp</th>
<th>Pushbutton timer for heat lamps</th>
</tr>
</thead>
</table>

| Power | General power – 1 double GPO |   |              |          |

<table>
<thead>
<tr>
<th>Hydraulic</th>
<th>Chilled Water fountain</th>
<th>N</th>
<th>Dom. Cold</th>
<th>Y</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dom. Hot/Tepid Water</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Fire | Sprinkler | Y | Extinguisher | N | Blanket | N | Detection | Y |

**Furniture/Equipment**
- Slop hopper
- Shelving
- Mop/broom racks
- Storage of cleaning equipment and materials
- Refer to appendix of schedules
### 9.2.26 SPARE PPE STORAGE

#### Room Data Sheet No: 26

<table>
<thead>
<tr>
<th>Floor Area</th>
<th>Desirable Size</th>
<th>Min width</th>
<th>Min length</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 - bay</td>
<td>10m²</td>
<td>2200</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>3 - bay</td>
<td>14m²</td>
<td>2200</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>4 - bay</td>
<td>20m²</td>
<td>2200</td>
<td>-</td>
<td>2700</td>
</tr>
<tr>
<td>5 - bay</td>
<td>26m²</td>
<td>2200</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>6 - bay</td>
<td>32m²</td>
<td>2200</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

#### Functions
- Clean PPE clothing

#### Relationship to other areas
- Located adjacent to PPE Change area
- Separate convenient access from outside, or internal corridor

#### Special Room attributes
- Lighting to be artificial light only
- Room layout should maximise locker capacity

#### Door(s)
- 2 No access doors – solid core doors with glazed top panels and door closer
- 1 No access door from PPE Change area
- 1 No access door from internal corridor
- Ventilation relief air provided via
  - Door undercut (mm)
  - Door transfer grille (free area m²)
  - Acoustic transfer grille
  - N/A

#### Glazing
- Type (Window (Y/N)
- Skylight (Y/N)
- Additional information: all roof lights, skylights and glazing to be provided with UV blockout
- External solar shading provided (Y/N)
- Internal blackout blinds (Y/N)
- Openable windows (Y/N)

#### Finishes
- Type (to be read in conjunction with appendix of schedules)
- Reflectance
- Finish
- Non slip ceramic floor tiles and skirt
- At least 15%
- N/A
- Impactshield Painted plasterboard
- At least 50%
- Semi-gloss
- Water Resistant Painted plasterboard
- At least 70%
- Semi-gloss

#### Services
- Ventilation
  - Clean or Transition area (C/T)
  - Relative Pressure
  - Exhaust
  - Makeup Air
  - Outside Air
  - Controls
  - N/A
  - N/A
  - N/A
  - Nil
- Heating
  - Provided
  - N
  - Set point °C
  - N/A
  - Setback temp °C
  - N/A
- Cooling
  - Provided
  - N
  - Set point °C
  - N/A
  - Setback temp °C
  - N/A
- Lighting
  - Lux
  - Fitting Type
  - Controls
  - N/A
  - N/A
  - N/A
- Power
  - 2 No waterproof GPO’s
- Hydraulics
  - Chilled Water fountain
  - N
  - Dom. Cold/Rainwater
  - N
  - Dom. Hot/Tepid Water
  - N
- Fire
  - Sprinkler
  - Y
  - Extinguisher
  - N
  - Blanket
  - N
  - Detection
  - Y

#### Furniture/Equipment
- 400mm wide proprietary hanging rails for clean PPE clothing
- 2-Bay – 6.4 lin metres
- 3-Bay – 10.6 lin metres
- 4-Bay – 15.9 lin metres
- 5-Bay – 21.2 lin metres
- 6-Bay – 26.5 lin metres
- Refer to appendix of schedules
### 9.2.27 STATION STORE

**Room Data Sheet No:** 27

<table>
<thead>
<tr>
<th>Floor Area</th>
<th>Desirable size</th>
<th>Min width</th>
<th>Min length</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 &amp; 3 - bay</td>
<td>10m²</td>
<td>3000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 - bay</td>
<td>12m²</td>
<td>3000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 - bay</td>
<td>14m²</td>
<td>3000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 - bay</td>
<td>16m²</td>
<td>3500</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Functions**
- Used for general store of station supplies such as toilet rolls, cleaning products, cleaning equipment etc.

**Relationship to other areas**
- Located off Appliance Bay

**Special Room attributes**
- Nil

**Door(s)**
- 2.4m wide lockable roller-shutter access door (powdercoat finish)

<table>
<thead>
<tr>
<th>Glazing</th>
<th>Type</th>
<th>Window (Y/N)</th>
<th>Skylight (Y/N)</th>
<th>Additional Information:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>TBC at design phase</td>
<td>Y</td>
<td>- provide natural daylight via roof light is desirable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Glazing</th>
<th>Internal blinds (Y/N)</th>
<th>User operated</th>
<th>Automated</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Y</td>
<td>N</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Glazing</th>
<th>Glass specification thickness (mm)</th>
<th>TBC at design phase</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Glazing</th>
<th>Shading co-efficient</th>
<th>U' value (W/m²K)</th>
<th>TBC at design phase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>JV Filter</td>
<td></td>
<td>TBC at design phase</td>
</tr>
</tbody>
</table>

**Ventilation**
- Relief air provided via:
  - Door undercut (mm)
  - Door transfer grille (free area m²)
  - Acoustic transfer grille
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>TBC @</td>
<td>N</td>
</tr>
<tr>
<td>design phase</td>
<td>design phase</td>
<td></td>
</tr>
</tbody>
</table>

**Finishes**
- Reflectance Finish
  - Floor [EP] Non-slip epoxy on concrete slab, (light grey colour), anti slip grates to floor wastes: At least 15% N/A
  - Walls Face finished masonry preferred – prefinished insulated sandwich panel OK: At least 50% Semi-gloss
  - Ceilings Water Resistant Painted plasterboard: At least 70% Semi-gloss

**Services**
- Ventilation
  - Clean or Transition area (C/T) T
  - Relative Pressure Neutral
  - Exhaust No
  - Makeup Air No
  - Outside Air No
  - Controls Nil

<table>
<thead>
<tr>
<th>Heating</th>
<th>Provided N</th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling</td>
<td>Provided N</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lighting</th>
<th>Lux</th>
<th>Fitting Type</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lighting</td>
<td>50</td>
<td>T5 Fittings</td>
<td>Movement Sensor</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power</th>
<th>1 double weatherproof GPO</th>
</tr>
</thead>
</table>

**Hydraulic**
- Chilled Water fountain N
- Dom. Cold/Rainwater N
- Dom. Hot/Tepid Water N

**Fire**
- Sprinkler Y
- Extinguisher N Blanket N Detection Y

**Furniture/Equipment**
- Adjustable steel shelving
- Refer to appendix of schedules

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### 9.2.28 BA (BREATHING APPARATUS)

**Room Data Sheet No: 28**

#### Floor Area

<table>
<thead>
<tr>
<th>Size</th>
<th>Min. Width</th>
<th>Min. Length</th>
<th>Floor to Ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 &amp; 3 bay</td>
<td>10m²</td>
<td>3000</td>
<td>-</td>
</tr>
<tr>
<td>4 bay</td>
<td>12m²</td>
<td>3000</td>
<td>-</td>
</tr>
<tr>
<td>5 &amp; 6 bay</td>
<td>16m²</td>
<td>4000</td>
<td>-</td>
</tr>
</tbody>
</table>

#### Functions
- Used for cleaning, storage and checking of breathing apparatus
- Located off Appliance Bay
- Natural daylight desirable via roof light

#### Door(s)
- Solid core door 870mm wide with closer, lockable

#### Glazing

<table>
<thead>
<tr>
<th>Type</th>
<th>Window / Skylight / Internal blinds</th>
<th>TBC @ design phase</th>
<th>Additional Information</th>
<th>External solar shading provided (Y/N)</th>
<th>Fixed</th>
<th>Moveable (user operated)</th>
<th>Moveable (auto)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Y/N/ N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Finishes

<table>
<thead>
<tr>
<th>Type (to be read in conjunction with appendix of schedules)</th>
<th>Reflectance</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor (EP) Non-slip epoxy on concrete slab, (light grey colour), anti-slip grates to floor wastes</td>
<td>At least 15%</td>
<td>N/A</td>
</tr>
<tr>
<td>Walls Face finished masonry preferred – prefinished insulated sandwich panel OK</td>
<td>At least 50%</td>
<td>Semi-gloss</td>
</tr>
<tr>
<td>Ceilings Water Resistant Painted plasterboard</td>
<td>At least 70%</td>
<td>Semi-gloss</td>
</tr>
</tbody>
</table>

#### Services

<table>
<thead>
<tr>
<th>Ventilation Type of Transition area (C/T)</th>
<th>T</th>
<th>Relative Pressure</th>
<th>Negative</th>
<th>Exhaust</th>
<th>Yes (variable speed)</th>
<th>Makeup Air</th>
<th>Door Grille and Undercut</th>
<th>Outside Air</th>
<th>No</th>
<th>Controls</th>
<th>Occupancy and BMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating Provided</td>
<td>N</td>
<td>Set point °C</td>
<td>N/A</td>
<td>Setback temp °C</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooling Provided</td>
<td>N</td>
<td>Set point °C</td>
<td>N/A</td>
<td>Setback temp °C</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lighting Lux</td>
<td>Fitting Type</td>
<td>Controls</td>
<td>160</td>
<td>T5 Fittings</td>
<td>Movement and Sound Sensor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td>1 double weatherproof GPO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Furniture/Equipment
- Sprinkler
- Extinguisher
- Blanket
- Detection
- Bench
- Stainless steel trough (bowl size TBC)
- Whiteboard
- Paper towel dispenser
- EMR cabinet
- Separate HWS
- Refer to appendix of schedules
## Room Data Sheet No: 29
### 9.2.29 HOSE BAY / LINEN DROP OFF & PICK UP

#### Floor Area
<table>
<thead>
<tr>
<th>Desirable</th>
<th>Size</th>
<th>Min width X Min length</th>
<th>Floor to ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 &amp; 3 bay</td>
<td>10m²</td>
<td>3000 X -</td>
<td>2700 min</td>
</tr>
<tr>
<td>1 bay</td>
<td>12m²</td>
<td>4000 -</td>
<td></td>
</tr>
<tr>
<td>5 bay</td>
<td>14m²</td>
<td>4000 -</td>
<td></td>
</tr>
<tr>
<td>10 bay</td>
<td>16m²</td>
<td>4000 -</td>
<td></td>
</tr>
</tbody>
</table>

#### Functions
- Used for storage of hose racks
- Located off Appliance Bay
- Linen drop off and pick up point for outside contractor

#### Special Room Attributes

#### Door(s)
- Open bay, nil door, minimum opening width 1500mm

#### Glazing
<table>
<thead>
<tr>
<th>Type</th>
<th>Window TBC</th>
<th>TBC @ design phase</th>
<th>Additional Information</th>
<th>External solar shading provided (Y/N)</th>
<th>Fixed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skylight</td>
<td>Y</td>
<td></td>
<td>Natural daylight preferred, maybe by roof light</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Internal blinds (Y/N)</th>
<th>User operated</th>
<th>Automated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>N</td>
<td>N</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Glass specification thickness (mm)</th>
<th>TBC at design phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>UV Filter</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>'U' value (W/m²K)</th>
<th>TBC at design phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflectance</td>
<td>Finish</td>
</tr>
</tbody>
</table>

#### Finishes
<table>
<thead>
<tr>
<th>Type (to be read in conjunction with appendix of schedules)</th>
<th>Reflectance</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor</td>
<td>E/P Non-slip epoxy on concrete slab, (light grey colour), anti-slip grates to floor wastes</td>
<td>At least 15%</td>
</tr>
<tr>
<td>Walls</td>
<td>Face finished masonry preferred – prefinished insulated sandwich panel OK</td>
<td>At least 50%</td>
</tr>
<tr>
<td>Ceilings</td>
<td>Water Resistant Painted plasterboard</td>
<td>At least 70%</td>
</tr>
</tbody>
</table>

#### Services
<table>
<thead>
<tr>
<th>Ventilation</th>
<th>Clean or Transition area (C/T)</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative Pressure</td>
<td>Neutral</td>
<td></td>
</tr>
<tr>
<td>Exhaust</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Makeup Air</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Outside Air</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Controls</td>
<td>Nil</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Heating</th>
<th>Provided</th>
<th>N</th>
<th>Set point °C</th>
<th>N/A</th>
<th>Setback temp °C</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling</td>
<td>Provided</td>
<td>N</td>
<td>Set point °C</td>
<td>N/A</td>
<td>Setback temp °C</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lighting</th>
<th>Lux</th>
<th>Fitting Type</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>T60</td>
<td>T5 Fittings</td>
<td>Movement Sensor</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power</th>
<th>Double weatherproof GPO</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Hydraulic</th>
<th>Chilled Water fountain</th>
<th>N</th>
<th>Low temp hot water</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dom. Cold/Rainwater</td>
<td>N</td>
<td>Separate HWS TBC @ design phase</td>
</tr>
<tr>
<td></td>
<td>Dom. Hot/Tepid Water</td>
<td>N</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fire</th>
<th>Sprinkler</th>
<th>Y</th>
<th>Extinguisher</th>
<th>N</th>
<th>Blanket</th>
<th>N</th>
<th>Detection</th>
<th>Y</th>
</tr>
</thead>
</table>

#### Furniture/Equipment
- Racks for hoses (MFB supply item)
- Refer to appendix of schedules
## 9.2.30 DRILL EQUIPMENT / GEAR / BIKE STORE

### Room Data Sheet No: 30

<table>
<thead>
<tr>
<th>Floor Area</th>
<th>2 - bay 12m²</th>
<th>3 - bay 18m²</th>
<th>4, 5 &amp; 6 - bay 25m²</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Functions</td>
<td>Used for the storage of bicycles &amp; drill gear</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relationship to other areas</td>
<td>Located off Appliance Bay adjacent to Indoor Drill</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special Room attributes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Door(s)</td>
<td>A 2.4m wide lockable roller-shutter access door (powdercoat finish)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glazing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td></td>
<td>Window (Y/N) TBC at design phase</td>
<td>Additional information:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skylight (Y/N) Y</td>
<td>- natural daylight via roof light is desirable</td>
<td></td>
</tr>
<tr>
<td>Internal blinds</td>
<td>User operated N</td>
<td>Automated N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glass specification thickness (mm)</td>
<td>TBC at design phase</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shading coefficient</td>
<td>UV Filter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U' value (W/m² K)</td>
<td>TBC at design phase</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finishes</td>
<td></td>
<td>Type (to be read in conjunction with appendix of schedules)</td>
<td>Reflectance</td>
<td>Finish</td>
</tr>
<tr>
<td>Floor</td>
<td>(EP) Non-slip epoxy on concrete slab, (light grey colour), anti-slip grates to floor wastes</td>
<td>At least 15%</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Walls</td>
<td>Face finished masonry preferred – unfinished insulated sandwich panel OK</td>
<td>At least 50%</td>
<td>Semi-gloss</td>
<td></td>
</tr>
<tr>
<td>Ceilings</td>
<td>Water Resistant Painted plasterboard</td>
<td>At least 70%</td>
<td>Semi-gloss</td>
<td></td>
</tr>
<tr>
<td>Services</td>
<td></td>
<td>Ventilation</td>
<td>Clean or Transition area (C/T) T</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Relative Pressure</td>
<td>Neutral</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exhaust</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Makeup Air</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Outside Air</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Controls</td>
<td>Nil</td>
<td></td>
</tr>
<tr>
<td>Heating</td>
<td>Provided N</td>
<td>Set point °C N/A</td>
<td>Setback temp °C N/A</td>
<td></td>
</tr>
<tr>
<td>Cooling</td>
<td>Provided N</td>
<td>Set point °C N/A</td>
<td>Setback temp °C N/A</td>
<td></td>
</tr>
<tr>
<td>Lighting</td>
<td>Lux</td>
<td>Fitting Type Controls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydraulic</td>
<td></td>
<td>Chilled Water fountain N</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td>Sprinkler Y</td>
<td>Extinguisher Y</td>
<td>Blanket N</td>
<td>Detection Y</td>
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<td>Racks for Bicycles</td>
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<td>Refer to appendix of schedules</td>
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9.3 SITE SPECIFIC DATA BRIEFS’

9.3.1 SITE SPECIFIC DATA BRIEF 2 BAY FIRE STATION

Fire Station Accommodation Requirements

<table>
<thead>
<tr>
<th>Room data sheet No:</th>
<th>Fire Station</th>
<th>No: of Appliances/Vehicles</th>
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<tbody>
<tr>
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<td>Appliance Bays</td>
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<tr>
<td>3</td>
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<td>SO Office (10m2)/Station Office (14m2)</td>
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<td>5</td>
<td>SSO Office</td>
<td>24</td>
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<tr>
<td>6</td>
<td>Multi Purpose Room</td>
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<tr>
<td>7</td>
<td>Visitor Toilet (unisex disability)</td>
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<td>Male/Female Toilet Blocks module (6m2)</td>
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<td>9</td>
<td>Equipment/Communications Room</td>
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<tr>
<td>10</td>
<td>SO Mess Room /Lounge</td>
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<td>Fire Fighter’s Mess (separate Meals-Kitchen)</td>
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<td>3.6</td>
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<td>21</td>
<td>Gymnasium/Weight Room(suggested room size)</td>
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<tr>
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<td>23</td>
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<td>25</td>
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<td>26</td>
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<td>27</td>
<td>Station Store</td>
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<tr>
<td>28</td>
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<td>29</td>
<td>Hose Bay / Linen Drop Off &amp; Pick Up</td>
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<tr>
<td>30</td>
<td>Drill Equip/Gear/Bike Store/</td>
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<tr>
<td></td>
<td>Lift &amp; Stairs</td>
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</table>

Total Net Internal Area m²: 543.67

Add grossing factor of 30% for Circulation

Total Gross Building Footprint Area

Add External Areas (below) sqm: 436.0

Staff car parks (1space+driveway=30sqm) | 10P
Visitor car parks + DA (30+ disabled 36sqm) | 1 + 1DA
Contractor car parks (30sqm) | 1
Fire Fighter Recreation/ BBQ area (sqm) | 40

Add other Site Requirements (below)

Drill yard area (desirable) sqm (800)
Plant Room Area (TBC)
Front, rear & side setbacks (Site Specific)
Landscape buffers (Site Specific)
Other Agency’s requirements

Notional Total Site Area
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<tr>
<th>Room data sheet No:</th>
<th>Fire Station</th>
<th>No: of Appliances/Vehicles</th>
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<th>3 Bay Two level option</th>
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<tr>
<td>Staff</td>
<td></td>
<td>No of Fire Fighters per shift</td>
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<td>Ground First Suggested</td>
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<td></td>
<td>No of officers per shift</td>
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<td></td>
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<tr>
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<td></td>
<td>Staff Facility Factor (no. of lockers/staff per shift)</td>
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<td></td>
<td>Overload/ Contingency Capacity Factor</td>
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<td></td>
<td>Area/Roofs (m²)</td>
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<td>m²</td>
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<td>Larger if identified as ‘hub’ station</td>
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<td>4.37</td>
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<td>10</td>
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<td>Not Req</td>
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<tr>
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<td>28</td>
<td>BA (Breathing Apparatus)</td>
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<td>Hose Bay / Linen Drop Off &amp; Pick Up</td>
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<td>Total Gross Building Footprint Area</td>
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</tr>
<tr>
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<td>Add External Areas (below) sqm</td>
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<tr>
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<td>Staff car parks (1space+driveway =30sqm)</td>
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<tr>
<td></td>
<td>Visitor car parks + DA (30+ disabled 36sqm)</td>
<td>1 + 1DA</td>
<td>1 + 1DA</td>
<td>1 + 1DA</td>
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<td>Contractor car parks (30sqm)</td>
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<td>1</td>
<td>1</td>
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<td>Fire Fighter Recreation/ BBQ area (sqm)</td>
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<td>Drill yard area (desirable) sqm</td>
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<tr>
<td></td>
<td>Front, rear &amp; side setbacks (Site Specific)</td>
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<td>Landscape buffers (Site Specific)</td>
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<td>Other Agency’s requirements</td>
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<td><strong>Notional Total Site Area</strong></td>
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### 9.3.3 SITE SPECIFIC DATA BRIEF 4 BAY FIRE STATION

**Fire Station Accommodation Requirements**

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<th>No: of Appliances/Vehicles</th>
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<tr>
<td>No of Fire Fighters per shift</td>
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<tr>
<td>No of officers per shift</td>
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<td>Overload/ Contingency Capacity Factor</td>
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<td>Area/Rooms</td>
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<td>m²</td>
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</tr>
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<td>3 Switchboard Cupboard / Switch Room</td>
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</tr>
<tr>
<td>4 SO Office (10m²)/Station Office (14m²)</td>
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<tr>
<td>5 SSO Office</td>
<td>20</td>
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</tr>
<tr>
<td>6 Multi-Purpose Room</td>
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<td>Larger if identified as 'hub' station</td>
</tr>
<tr>
<td>7 Visitor Toilet (unisex disability)</td>
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<td>4.37</td>
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<tr>
<td>8 Male/Female Toilet Blocks module (6m²)</td>
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<tr>
<td>9 Equipment/Communications Room</td>
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</tr>
<tr>
<td>10 SO Mess Room /Lounge</td>
<td>42</td>
<td>42</td>
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<tr>
<td>11 Fire Fighter’s Mess (separate Meals-Kitchen)</td>
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<td>12 Fire Fighter’s Lounge</td>
<td>36</td>
<td>36</td>
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<tr>
<td>13 Break-Out Room</td>
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<td>14 SSO Bedroom module (even numbers 10.8m²)</td>
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<td>(2R) 21.6</td>
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<td>15 SO Bedroom module (even numbers 10.8m²)</td>
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<td>(2R) 21.6</td>
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<td>17 Shower/basin en-suite between two bedrooms (4.8m²)</td>
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<td>(8R) 38.4</td>
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<td>18 WC module associated with bedrooms (2.9m²)</td>
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<td>20 General Stationery Store</td>
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<td>21 Gymnasium/Weight Room (suggested room size)</td>
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<td>22 PPE Change &amp; Storage Area</td>
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<td>23 PPE Drying Room</td>
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<td>24 Dispatch Alcove</td>
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<td>25 Cleaners Store</td>
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<td>26 Spare PPE Storage</td>
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<td>27 Station Store</td>
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<tr>
<td>28 BA (Breathing Apparatus)</td>
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<td>29 Hose Bay / Linen Drop Off &amp; Pick Up</td>
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<td>12</td>
</tr>
<tr>
<td>30 Drill Equip/Gear/Bike Store/</td>
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<tr>
<td>Visitor car parks + DA (30+ disabled 36sqm)</td>
<td>2 + 1DA</td>
<td>2 + 1DA</td>
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<tr>
<td>Contractor car parks (30sqm)</td>
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<tr>
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<tr>
<td>Drill yard area (desirable) sqm</td>
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<td>(1300)</td>
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<td>Plant Room Area (TBC)</td>
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<td>Front, rear &amp; side setbacks (Site Specific)</td>
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<tr>
<td>Landscape buffers (Site Specific)</td>
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<tr>
<td>Other Agency’s requirements</td>
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### 9.3.4 SITE SPECIFIC DATA BRIEF 5 BAY FIRE STATION

Fire Station Accommodation Requirements

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<th>Room data sheet No.</th>
<th>Fire Station</th>
<th>No: of Appliances/Vehicles</th>
<th>5 Bay</th>
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<tr>
<td><strong>Staff</strong></td>
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<td>16</td>
<td>Ground</td>
</tr>
<tr>
<td>No of Fire Fighters per shift</td>
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<td>No of officers per shift</td>
<td>4</td>
<td>Ground</td>
<td>First</td>
<td>4</td>
</tr>
<tr>
<td>Staff Facility Factor (no. of lockers/staff per shift)</td>
<td>5.0</td>
<td>Ground</td>
<td>First</td>
<td></td>
</tr>
<tr>
<td><strong>Area/Roof</strong></td>
<td></td>
<td></td>
<td>m²</td>
<td>m²</td>
</tr>
<tr>
<td>1</td>
<td>Appliance Bays</td>
<td>446.40</td>
<td>18 x 24.80W</td>
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</tr>
<tr>
<td>2</td>
<td>Entrance Lobby</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>Switchboard Cupboard / Switch Room</td>
<td>TBC</td>
<td>TBC</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>SO Office (10m²)/Station Office (14m²)</td>
<td>24</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>SSO Office</td>
<td>24</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>6</td>
<td>Multi Purpose Room</td>
<td>40*</td>
<td>Larger if identified as 'hub' station</td>
<td>40*</td>
</tr>
<tr>
<td>7</td>
<td>Visitor Toilet (unisex disability)</td>
<td>4.37</td>
<td>4.37</td>
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<tr>
<td>8</td>
<td>Male/Female Toilet Blocks module (6m²)</td>
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<td>12</td>
</tr>
<tr>
<td>9</td>
<td>Equipment/Communications Room</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>10</td>
<td>SO Mess Room /Lounge</td>
<td>42</td>
<td>42</td>
<td>42</td>
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<tr>
<td>11</td>
<td>Fire Fighter’s Mess (separate Meals-Kitchen)</td>
<td>84</td>
<td>84</td>
<td>84</td>
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<td>12</td>
<td>Fire Fighter’s Lounge</td>
<td>41</td>
<td>41</td>
<td>41</td>
</tr>
<tr>
<td>13</td>
<td>Break-Out Room</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>14</td>
<td>SSO Bedroom module (even numbers 10.8m²)</td>
<td>(2R) 21.6</td>
<td>(2R) 21.6</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>SSO Bedroom module (even numbers 10.8m²)</td>
<td>(2R) 21.6</td>
<td>(2R) 21.6</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Fire Fighter Bedroom module (even nos. 10.8m²)</td>
<td>(16R) 179.2</td>
<td>(16R) 179.2</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Shwr/basin en-suite bet. two bedrooms (4.8m²)</td>
<td>(10R) 48</td>
<td>(10R) 48</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>WC module associated with bedrooms (2.9m²)</td>
<td>(5R) 14.5</td>
<td>(5R) 14.5</td>
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</tr>
<tr>
<td>19</td>
<td>Personal Drying Room</td>
<td>10</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>General Stationery Store</td>
<td>3.6</td>
<td>3.6</td>
<td></td>
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<tr>
<td>21</td>
<td>Gymnasium/Weight Room(suggested room size)</td>
<td>(56)</td>
<td>(56)</td>
<td>(56)</td>
</tr>
<tr>
<td>22</td>
<td>PPE Change &amp; Storage Area</td>
<td>96</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>PPE Drying Room</td>
<td>10</td>
<td>10</td>
<td></td>
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<tr>
<td>24</td>
<td>Dispatch Alcove</td>
<td>12</td>
<td>12</td>
<td></td>
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<tr>
<td>25</td>
<td>Cleaners Store</td>
<td>4</td>
<td>4</td>
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<tr>
<td>26</td>
<td>Spare PPE Storage</td>
<td>26</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Station Store</td>
<td>14</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>BA (Breathing Apparatus)</td>
<td>14</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>Hose Bay / Linen Drop Off &amp; Pick Up</td>
<td>14</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Drill Equip/Gear/Bike Store’</td>
<td>25</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td><strong>Lift &amp; Stairs</strong></td>
<td></td>
<td></td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total Net Internal Area m²</strong></td>
<td>1321.27</td>
<td>1336.27</td>
<td>321.0</td>
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</tr>
<tr>
<td>Add grossing factor of 30% for Circulation</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Gross Building Footprint Area</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Add External Areas (below) sqm</strong></td>
<td>1006.0</td>
<td>1006.0</td>
<td>1006.0</td>
<td>1006.0</td>
</tr>
<tr>
<td>Staff car parks (1space+driveway =30sqm)</td>
<td>25P</td>
<td>25P</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visitor car parks + DA (30+ disabled 36sqm)</td>
<td>2 + 1DA</td>
<td>2 + 1DA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contractor car parks (30sqm)</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire Fighter Recreation/ BBQ area (sqm)</td>
<td>100</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Add other Site Requirements (below)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drill yard area (desirable) sqm</td>
<td>(1400)*1500</td>
<td>(1400)*1500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plant Room Area (1B)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front, rear &amp; side setbacks (Site Specific)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landscape buffers (Site Specific)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Agency’s requirements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notional Total Site Area**
## 9.3.5 SITE SPECIFIC DATA BRIEF 6 BAY FIRE STATION

Fire Station Accommodation Requirements

<table>
<thead>
<tr>
<th>Room data sheet No:</th>
<th>6 Bay</th>
<th>6 Bay Two level option</th>
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</thead>
<tbody>
<tr>
<td><strong>Fire Station</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>No: of Appliances/Vehicles</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>No of Fire Fighters per shift</strong></td>
<td>20</td>
<td>Ground First</td>
</tr>
<tr>
<td><strong>No of officers per shift</strong></td>
<td>5</td>
<td>suggested</td>
</tr>
<tr>
<td><strong>Staff Facility Factor (no. of lockers/staff per shift)</strong></td>
<td>5.2</td>
<td></td>
</tr>
<tr>
<td><strong>Overload/ Contingency Capacity Factor</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Area/Rooms</strong></td>
<td>m²</td>
<td>m²</td>
</tr>
<tr>
<td>1</td>
<td>Appliance Bays</td>
<td>18 x 632.80</td>
</tr>
<tr>
<td>2</td>
<td>Entrance Lobby</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>Switchboard Cupboard / Switch Room</td>
<td>TBC</td>
</tr>
<tr>
<td>4</td>
<td>SO Office (10m²)/Station Office (14m²)</td>
<td>34</td>
</tr>
<tr>
<td>5</td>
<td>SSO Office</td>
<td>24</td>
</tr>
<tr>
<td>6</td>
<td>Multi-Purpose Room</td>
<td>50*</td>
</tr>
<tr>
<td>7</td>
<td>Visitor Toilet (unisex disability)</td>
<td>4.37</td>
</tr>
<tr>
<td>8</td>
<td>Male/Female Toilet Blocks module (6m2)</td>
<td>12</td>
</tr>
<tr>
<td>9</td>
<td>Equipment/Communications Room</td>
<td>12</td>
</tr>
<tr>
<td>10</td>
<td>SO Mess Room /Lounge</td>
<td>36</td>
</tr>
<tr>
<td>11</td>
<td>Fire Fighter’s Mess (separate Meals-Kitchen)</td>
<td>105</td>
</tr>
<tr>
<td>12</td>
<td>Fire Fighter’s Lounge</td>
<td>50</td>
</tr>
<tr>
<td>13</td>
<td>Break-Out Room</td>
<td>12</td>
</tr>
<tr>
<td>14</td>
<td>SSO Bedroom module (even numbers10.8m²)</td>
<td>(2R) 21.6</td>
</tr>
<tr>
<td>15</td>
<td>SO Bedroom module (even numbers10.8m²) *</td>
<td>(4R) 43.2</td>
</tr>
<tr>
<td>16</td>
<td>Fire Fighter Bedroom module (even nos.10.8m²) *</td>
<td>(20R) 216</td>
</tr>
<tr>
<td>17</td>
<td>Short basin en-suite bet. two bedrooms (4.8m²) *</td>
<td>13R(62.4)</td>
</tr>
<tr>
<td>18</td>
<td>WC module associated with bedrooms (2.9m²)</td>
<td>15R(14.5)</td>
</tr>
<tr>
<td>19</td>
<td>Personal Drying Room</td>
<td>14</td>
</tr>
<tr>
<td>20</td>
<td>General Stationery Store</td>
<td>3.6</td>
</tr>
<tr>
<td>21</td>
<td>Gymnasium/Weight Room (suggested room size)</td>
<td>(64)</td>
</tr>
<tr>
<td>22</td>
<td>PPE Change &amp; Storage Area</td>
<td>132</td>
</tr>
<tr>
<td>23</td>
<td>PPE Drying Room</td>
<td>14</td>
</tr>
<tr>
<td>24</td>
<td>Dispatch Alcove</td>
<td>12</td>
</tr>
<tr>
<td>25</td>
<td>Cleaners Store</td>
<td>3</td>
</tr>
<tr>
<td>26</td>
<td>Spare PPE Storage</td>
<td>32</td>
</tr>
<tr>
<td>27</td>
<td>Station Store</td>
<td>16</td>
</tr>
<tr>
<td>28</td>
<td>BA (Breathing Apparatus)</td>
<td>16</td>
</tr>
<tr>
<td>29</td>
<td>Hose Bay / Linen Drop Off &amp; Pick Up</td>
<td>16</td>
</tr>
<tr>
<td>30</td>
<td>Drill Equip/Gear/Bike Store/</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Lift &amp; Stairs</td>
<td>15</td>
</tr>
<tr>
<td><strong>Total Net Internal Area m²</strong></td>
<td>1611.47</td>
<td>1626.47</td>
</tr>
<tr>
<td><strong>Add grossing factor of 30% for Circulation</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>Total Gross Building Footprint Area</strong></td>
<td>386.0</td>
<td></td>
</tr>
<tr>
<td><strong>Add External Areas (below) sqm</strong></td>
<td>1176.0</td>
<td>1176.0</td>
</tr>
<tr>
<td><strong>Staff car parks (1space+driveway=30sqm/)</strong></td>
<td>30P</td>
<td>30P</td>
</tr>
<tr>
<td><strong>Visitor car parks + DA (30+ disabled 36sqm)</strong></td>
<td>2 + TDA</td>
<td>2 + TDA</td>
</tr>
<tr>
<td><strong>Contractor car parks (30sqm)</strong></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Fire Fighter Recreation/ BBQ area (sqm)</strong></td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td><strong>Add other Site Requirements (below)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Drill yard area (desirable) sqm</strong></td>
<td>1500</td>
<td>1500</td>
</tr>
<tr>
<td><strong>Plant Room Area (1BC)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Front, rear &amp; side setbacks (Site Specific)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Landscape buffers (Site Specific)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other Agency’s requirements</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Notional Total Site Area</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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9.4 FIRESTATION TEMPLATE PLAN MODULES
9.5 STATION DRILL YARD LAYOUTS & SIZES

9.5.1 SAMPLE STATION DRILL YARD AREAS

9.5.1.1 Sunshine FS 44
4 Appliance Station

9.5.1.2 Thomastown FS 7
3 Appliance Station
9.5.1.3 Burwood FS 23
1 Appliance Station (2 Appliance Design)

9.5.1.4 Eastern Hill FS 1
9.5.1.5 Oakleigh FS 25
4 Appliance Station

9.5.1.6 Ringwood FS 22
2 Appliance Station
9.5.2 TYPICAL DRILL YARD LAYOUTS

9.4.2.1 Typical 800 sqm Drill Yard Layout for 1 Appliance Station.

(a) Site Requirements:
- Net internal station area including grossing factor 30%. 637 sqm
- Car Parking (13 Bays). 396 sqm
- Recreational (BBQ) area. 40 sqm
- Drill Yard (Min 20m Width). 800 sqm
- Front, Rear & Side Setbacks, Landscape buffers
  and other agency areas as required.

(b) Site Considerations for Drill Yard Dimensions and Layout:
Area configuration should enable vehicles easy access and egress.
Sufficient clearances between vehicles and structures to enable safe and practical access to ladders and equipment during drill exercises.

(c) Site Layout

Note: The above scaled site layout is an example of one possible configuration of an 800 sqm Drill Yard for a 1 Appliance station. The station design in this example is conceptual only.
(d) Site Perspectives.

Note: The above scaled site layout is an example of one possible configuration of an 800 sqm Drill Yard for a 1 Appliance station. The station design in this example is conceptual only.
9.5.2.2 Typical 1200 sqm Drill Yard Layout for 2 Appliance Station.

(a) Site Requirements:
- Net internal station area including grossing factor 30%. 976 sqm
- Car Parking (17 Bays). 516 sqm
- Recreational (BBQ) area. 60 sqm
- Drill Yard (Min 20m Width). 1200 sqm
- Front, Rear & Side Setbacks, Landscape buffers and other agency areas as required.

(b) Site Considerations for Drill Yard Dimensions and Layout:
Area configuration should enable vehicles easy access and egress.

Sufficient clearances between vehicles and structures to enable safe and practical access to ladders and equipment during drill exercises.

(c) Site Layout

Note: The above scaled site layout is an example of one possible configuration of a 1200 sqm Drill Yard for a 2 Appliance station. The station design in this example is conceptual only.
(d) Site Perspectives.

Note: The above scaled site layout is an example of one possible configuration of a 1200 sqm Drill Yard for a 2 Appliance station. The station design in this example is conceptual only.
9.5.2.3 Typical 1500 sqm Drill Yard Layout for 3 Appliance Station.

(a) Site Requirements:
- Net internal station area including grossing factor 30%. 1371 sqm
- Car Parking (25 Bays). 756 sqm
- Recreational (BBQ) area. 80 sqm
- Drill Yard (Min 20m Width). 1500 sqm
- Front, Rear & Side Setbacks, Landscape buffers

(b) Site Selection Considerations for Drill Yard Dimensions and Layout:
Area configuration should enable vehicles easy access and egress.
Sufficient clearances between vehicles and structures to enable safe and practical access to ladders and equipment during drill exercises.

(c) Site Layout.

Note: The above scaled site layout is an example of one possible configuration of a 1500 sqm Drill Yard for a 3 Appliance station. The station design in this example is conceptual only.
(d) Site Perspectives.

**Note:** The above scaled site layout is an example of one possible configuration of a 1500 sqm Drill Yard for a 3 Appliance Station. The station design in this example is conceptual only.
9.5.2.4 Typical 1500 sqm Drill Yard Layout for Task Force staging.

(c) Site Layout.

(d) Site Perspective.

**Note:** The above scaled site layout is an example of one possible configuration of a 1500 sqm Drill Yard for Task Force vehicle staging. The station design in this example is conceptual only.
## 9.6 GYMNASIUM DESIGN, SPACE ALLOCATION & EQUIPMENT LIST

### 9.6.1 Standard Gymnasium Equipment List

<table>
<thead>
<tr>
<th>Rubber Ended Hexagonal Dumbbells</th>
<th>Fixed Dumbbells</th>
<th>Weight Plates</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 kg pair</td>
<td>3.5 kg pair</td>
<td>6 x 0.5 kg</td>
</tr>
<tr>
<td>10 kg pair</td>
<td>5.5 kg pair</td>
<td>6 x 1.25 kg</td>
</tr>
<tr>
<td>12.5 kg pair</td>
<td>7.5 kg pair</td>
<td>4 x 2.5 kg</td>
</tr>
<tr>
<td>15 kg pair</td>
<td></td>
<td>4 x 5.0 kg</td>
</tr>
<tr>
<td>17.5 kg pair</td>
<td></td>
<td>2 x 7.5 kg</td>
</tr>
<tr>
<td>20 kg pair</td>
<td></td>
<td>2 x 10 kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>General Equipment</th>
<th>Dimensions</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Rack</td>
<td>2200x2100</td>
<td>1</td>
</tr>
<tr>
<td>2/3 way exercise station: lat pull down, seated row, high-low pulleys</td>
<td>1500x1200</td>
<td>1</td>
</tr>
<tr>
<td>Flat bench</td>
<td>1200x500</td>
<td>1</td>
</tr>
<tr>
<td>Adjustable incline bench (0 to 90 degrees)</td>
<td>1200x500</td>
<td>1</td>
</tr>
<tr>
<td>AOK Swissball grey 65 cm</td>
<td>650</td>
<td>1</td>
</tr>
<tr>
<td>AOK Swissball red 55 cm</td>
<td>550</td>
<td>1</td>
</tr>
<tr>
<td>Storage bowls for Swissballs</td>
<td>n/a</td>
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</tr>
<tr>
<td>Dura disc set (includes 2 dura discs, 1 rectangular board, 1 round board)</td>
<td>450x750</td>
<td>1</td>
</tr>
<tr>
<td>Exercise mat 6 ft x 3 ft x 2&quot;</td>
<td>1830x920</td>
<td>2</td>
</tr>
<tr>
<td>Live Medicine balls - 3kg, 4kg, 5kg</td>
<td>700x400</td>
<td>1 set of 3</td>
</tr>
<tr>
<td>Weight tree for plates</td>
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</tr>
<tr>
<td>2 tier dumbbell rack</td>
<td>1600x600</td>
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</tr>
<tr>
<td>Polar Heart Rate Monitor</td>
<td>n/a</td>
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</tr>
<tr>
<td>Exercise Wall Charts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------</td>
<td>--------</td>
<td>----------------</td>
</tr>
<tr>
<td>Stations with 3-4 personnel</td>
<td>Central Zone</td>
<td>Northern Zone</td>
</tr>
<tr>
<td></td>
<td>18, 39</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>20, 24, 28, 29, 32, 33</td>
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<tr>
<td></td>
<td>Central Zone</td>
<td>Northern Zone</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aerobic Equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treadmill</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Concept Rowing Machine</td>
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<td></td>
</tr>
<tr>
<td>Exercise bike</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Skipping Rope</td>
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</tr>
</tbody>
</table>

| Stations with 5-8 personnel | Central Zone | Northern Zone | Southern Zone | Western Zone |
|  | 2, 3 | 5, 14, 30 | 22, 23, 26, 27, 31, 34 | 42, 43, 51 |
|  | Central Zone | Northern Zone | Southern Zone | Western Zone |
|  |  |  |  |  |
| Aerobic Equipment |  |  |  |  |
| Treadmill | 1 |  | 2110x950 |  |
| Concept Rowing Machine | 1 |  | 2500x750 |  |
| Exercise bike | 2 |  | 1100x650 |  |
| Skipping Rope | 2 |  | n/a |  |

| Stations with 9-14 personnel | Central Zone | Northern Zone | Southern Zone | Western Zone |
|  | 10, 35, 38 | 7 | 25 | 44, 47 |
|  | Central Zone | Northern Zone | Southern Zone | Western Zone |
|  |  |  |  |  |
| Aerobic Equipment |  |  |  |  |
| Treadmill | 2 |  | 2110x950 |  |
| Concept Rowing Machine | 2 |  | 2500x750 |  |
| Exercise bike | 2 |  | 1100x650 |  |
| Skipping Rope | 2 |  | n/a |  |
### 9.6.2 Eastern Hill Gymnasium Equipment List

**On-shift personnel, operational day workers and support staff**

<table>
<thead>
<tr>
<th>General Equipment</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Rack</td>
<td>1</td>
</tr>
<tr>
<td>7 way exercise station: lat pull down, seated row, leg press, shoulder press,</td>
<td>1</td>
</tr>
<tr>
<td>bench press, chin up, abdominal raise</td>
<td></td>
</tr>
<tr>
<td>Wall mounted High-low pulleys</td>
<td>1</td>
</tr>
<tr>
<td>Wall mounted chin up bar</td>
<td>1</td>
</tr>
<tr>
<td>Wall mounted dip bar</td>
<td>1</td>
</tr>
<tr>
<td>Flat bench</td>
<td>2</td>
</tr>
<tr>
<td>Adjustable incline bench (0 to 90 degrees)</td>
<td>2</td>
</tr>
<tr>
<td>AOK Swissball grey 65 cm</td>
<td>1</td>
</tr>
<tr>
<td>AOK Swissball red 55 cm</td>
<td>1</td>
</tr>
<tr>
<td>Storage bowls for Mediballs</td>
<td>2</td>
</tr>
<tr>
<td>Dura disc set (includes 2 dura discs, 1 rectangular board and 1 round board)</td>
<td>1</td>
</tr>
<tr>
<td>Exercise mat 6 ft x 3 ft x 2&quot;</td>
<td>3</td>
</tr>
<tr>
<td>Exercise Wall Charts</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aerobic Equipment</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept 2 Rowing Machine</td>
<td>2</td>
</tr>
<tr>
<td>Treadmill</td>
<td>2</td>
</tr>
<tr>
<td>Exercise bike</td>
<td>4</td>
</tr>
<tr>
<td>Skipping Rope</td>
<td>2</td>
</tr>
<tr>
<td>Ceiling mounted Boxing bag and mitts</td>
<td>1</td>
</tr>
<tr>
<td>Polar Heart Rate Monitor</td>
<td>1</td>
</tr>
<tr>
<td>Rubber Ended Hexagonal Dumbbells</td>
<td>Fixed Dumbbells</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td></td>
<td>Solid</td>
</tr>
<tr>
<td>8 kg pair</td>
<td>2 x 2.5 lb pair</td>
</tr>
<tr>
<td>10 kg pair</td>
<td>2 x 5.0 lb</td>
</tr>
<tr>
<td>12.5 kg pair</td>
<td>2 x 7.5 lb</td>
</tr>
<tr>
<td>15 kg pair</td>
<td>2 x 10.0 lb</td>
</tr>
<tr>
<td>17.5 kg pair</td>
<td>2 x 12.5 lb</td>
</tr>
<tr>
<td>20 kg pair</td>
<td>2 x 15.0 lb</td>
</tr>
<tr>
<td>2 x 17.0 lb</td>
<td>2 x 55.0 lb</td>
</tr>
<tr>
<td>2 x 20.0 lb</td>
<td>2 x 60.0 lb</td>
</tr>
</tbody>
</table>

**Squat plates**
- 1 upright barbell rack

**Individual bars**
- 2 x 1.25 kg
- 1 barbell

**Adj. dumbbells**
- 2 x 2.5 kg
- 4 dumbbells
- 1 horizontal barbell rack

**Collars**
- 2 x 5.0 kg
- 8 collars

**Fixed dumbbell floor racks**
- 2 x 10.0 kg
- 1 Squat Barbell

**Weight plate racks / trees**
- 2 x 15.0 kg
- 4 collars

**Medicine balls and rack**
- 4 x 20.0 kg
- 1 Squat rack

**Free standing barbell bench press**
- 1 Free standing barbell bench press
9.6.3 Thornbury Gymnasium Equipment List

On-shift personnel, operational day workers and support staff

<table>
<thead>
<tr>
<th># Rubber-Ended Hexagonal Dumbbells</th>
<th>Fixed Dumbbells</th>
<th>Weight Plates</th>
<th>Ancillary Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 kg pair</td>
<td>3.5 kg pair</td>
<td>6 x 0.5 kg</td>
<td>1 x weight tree for plates</td>
</tr>
<tr>
<td>10 kg pair</td>
<td>5.5 kg pair</td>
<td>6 x 1.25 kg</td>
<td>#1 x 2 tier dumbbell rack</td>
</tr>
<tr>
<td>12.5 kg pair</td>
<td>7.5 kg pair</td>
<td>4 x 2.5 kg</td>
<td>2 adjustable dumbbells</td>
</tr>
<tr>
<td>15 kg pair</td>
<td></td>
<td>4 x 5.0 kg</td>
<td>4 collars</td>
</tr>
<tr>
<td>17.5 kg pair</td>
<td></td>
<td>2 x 7.5 kg</td>
<td>2 barbells</td>
</tr>
<tr>
<td>20 kg pair</td>
<td></td>
<td>2 x 10 kg</td>
<td></td>
</tr>
</tbody>
</table>

**General Equipment**

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Rack</td>
<td>1</td>
</tr>
<tr>
<td>3 way exercise station: lat pull down, seated row, speed ball</td>
<td>1</td>
</tr>
<tr>
<td>Free standing high-low pulleys</td>
<td>1</td>
</tr>
<tr>
<td>Flat bench</td>
<td>1</td>
</tr>
<tr>
<td>Adjustable incline bench (0 to 90 degrees) free standing bench press</td>
<td>1</td>
</tr>
<tr>
<td>AOK Swissball grey 65 cm</td>
<td>1</td>
</tr>
<tr>
<td>AOK Swissball red 55 cm</td>
<td>1</td>
</tr>
<tr>
<td>Storage bowls for Mediballs</td>
<td>2</td>
</tr>
<tr>
<td>Dura disc set (includes 2 dura discs, 1 rectangular board and 1 round board)</td>
<td>1</td>
</tr>
<tr>
<td>Exercise mat 6 ft x 3 ft x 2&quot;</td>
<td>1</td>
</tr>
<tr>
<td>Exercise Wall Charts (refer to section 2.1)</td>
<td>7</td>
</tr>
</tbody>
</table>

**Aerobic Equipment**
<table>
<thead>
<tr>
<th>Equipment</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treadmill</td>
<td>1</td>
</tr>
<tr>
<td>Concept 2 Rowing Machine</td>
<td>1</td>
</tr>
<tr>
<td>Exercise bike (Repco Studio Cycle or LeMonde Cycle - to be reviewed)</td>
<td>2</td>
</tr>
<tr>
<td>Skipping Rope</td>
<td>2</td>
</tr>
<tr>
<td>Polar Heart Rate Monitor</td>
<td>1</td>
</tr>
</tbody>
</table>
### 9.6.4 Burnley Street Training College Gymnasium Equipment List

Recruits, on-shift personnel, operational day workers and support staff

#### (a) Resistance Training Area

<table>
<thead>
<tr>
<th>Resistance Training Equipment</th>
<th>Quantity</th>
<th>Dimensions (m)</th>
<th>Total Area (m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Rack</td>
<td>2</td>
<td>2.0 x 2.0</td>
<td></td>
</tr>
<tr>
<td>2 way exercise station: lat pull down, high-low pulleys.</td>
<td>2</td>
<td>3.8 x 2.8</td>
<td></td>
</tr>
<tr>
<td>Adjustable incline bench</td>
<td>3</td>
<td>2.0 x 2.0</td>
<td></td>
</tr>
<tr>
<td>Flat Bench</td>
<td>2</td>
<td>2.0 x 2.0</td>
<td></td>
</tr>
<tr>
<td>Dumbbell racks</td>
<td>3</td>
<td>2.5 x 1.0</td>
<td></td>
</tr>
<tr>
<td>Weight storage trees</td>
<td>3</td>
<td>1.0 x 1.0</td>
<td></td>
</tr>
</tbody>
</table>

#### Free Weights

<table>
<thead>
<tr>
<th>Rubber Dumbbells</th>
<th>Fixed Dumbbells</th>
<th>Fixed Barbells</th>
<th>Weight Plates</th>
<th>Individual bars</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 x 1.0kg pair</td>
<td>4 x 10.0 lb</td>
<td>1 x 20 lb</td>
<td>2 x 0.5 kg</td>
<td>2 standard barbells</td>
</tr>
<tr>
<td>2 x 2.0kg pair</td>
<td>4 x 15.0 lb</td>
<td>1 x 25 lb</td>
<td>4 x 1.25 kg</td>
<td>1 Olympic barbell</td>
</tr>
<tr>
<td>2 x 3.0kg pair</td>
<td>4 x 20.0 lb</td>
<td>2 x 30 lb</td>
<td>6 x 2.5 kg</td>
<td>1 Squat Barbell</td>
</tr>
<tr>
<td>2 x 4.0kg pair</td>
<td>4 x 25.0 lb</td>
<td>2 x 45 lb</td>
<td>6 x 5.0 kg</td>
<td>1 Ezy curl bar</td>
</tr>
<tr>
<td>2 x 5.0kg pair</td>
<td>4 x 30.0 lb</td>
<td>1 x 40 lb</td>
<td>8 x 7.5 kg</td>
<td></td>
</tr>
<tr>
<td>2 x 6.0kg pair</td>
<td>2 x 35.0 lb</td>
<td>1 x 50 lb</td>
<td>4 x 10 kg</td>
<td></td>
</tr>
<tr>
<td>2 x 7.0kg pair</td>
<td>2 x 40.0 lb</td>
<td>1 x 60 lb</td>
<td>2 x 20 kg</td>
<td></td>
</tr>
<tr>
<td>2 x 8.0kg pair</td>
<td>2 x 45.0 lb</td>
<td>1 x 70 lb</td>
<td>2 x 25 kg</td>
<td></td>
</tr>
<tr>
<td>2 x 9.0kg pair</td>
<td>2 x 50.0 lb</td>
<td>1 x 80 lb</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 x 10.0kg pair</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 x 12.5kg pair</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 x 15.0kg pair</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 x 17.5kg pair</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 x 20.0kg pair</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
(b) Aerobic Training Area

<table>
<thead>
<tr>
<th>Aerobic Equipment</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept 2 Rowing Machine</td>
<td>4</td>
</tr>
<tr>
<td>Exercise bike (Repco Studio Cycle / LeMonde Cycle)</td>
<td>6</td>
</tr>
<tr>
<td>Treadmill</td>
<td>2</td>
</tr>
<tr>
<td>Step-up Box</td>
<td>4</td>
</tr>
<tr>
<td>Polar Heart Rate Monitor</td>
<td>2</td>
</tr>
</tbody>
</table>

(c) Free Floor Space

<table>
<thead>
<tr>
<th>Equipment requiring free floor space</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portable Boxing Unit (heavy bag, speed ball &amp; floor to ceiling ball)</td>
<td>1</td>
</tr>
<tr>
<td>Boxing Mitts</td>
<td>2</td>
</tr>
<tr>
<td>Skipping Rope</td>
<td>10</td>
</tr>
<tr>
<td>AOK Swissball grey 65 cm</td>
<td>15</td>
</tr>
<tr>
<td>AOK Swissball red 55 cm</td>
<td>10</td>
</tr>
<tr>
<td>Storage bowls for Swissball</td>
<td>25</td>
</tr>
<tr>
<td>Live Medicine balls - 3kg, 4kg, 5kg</td>
<td>6</td>
</tr>
<tr>
<td>Dura disc set (2 dura discs, 1 rectangular board &amp; 1 round board)</td>
<td>2</td>
</tr>
<tr>
<td>Flexibility mats</td>
<td>10</td>
</tr>
</tbody>
</table>
# APPENDICES

## A: GUIDE CHECK LISTS

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Name of inspect</th>
<th>Date of check/review</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Has all supporting information been reviewed? (Y/N)
- Has the Safety File been approved by all the required authorities? (Y/N)
- Has the valuation been completed? (Y/N)
- Has the work been completed to the specification? (Y/N)
- Has the fire alarm system been tested? (Y/N)
- Has the fire extinguisher system been tested? (Y/N)
- Has the fire hydrant system been tested? (Y/N)
- Has the fire hose system been tested? (Y/N)
- Has the fire sprinkler system been tested? (Y/N)
- Has the fire barrier system been tested? (Y/N)
- Has the fire protection system been tested? (Y/N)
- Has the fire alarm system been commissioned? (Y/N)
- Has the fire extinguisher system been commissioned? (Y/N)
- Has the fire hydrant system been commissioned? (Y/N)
- Has the fire hose system been commissioned? (Y/N)
- Has the fire sprinkler system been commissioned? (Y/N)
- Has the fire barrier system been commissioned? (Y/N)
- Has the fire protection system been commissioned? (Y/N)

---

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Page | 182
<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Land Acquisition Stage</td>
<td></td>
</tr>
<tr>
<td>02</td>
<td>Planning</td>
<td></td>
</tr>
<tr>
<td>03</td>
<td>Building Control Approval</td>
<td></td>
</tr>
<tr>
<td>04</td>
<td>Construction</td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>Completion</td>
<td></td>
</tr>
</tbody>
</table>

Note: The table above represents the key stages in the design and delivery process for new and refurbished fire stations. Each stage involves specific actions and reviews to ensure compliance with regulations and standards. The table can be expanded to include additional stages or specific details as required.
<table>
<thead>
<tr>
<th>Action</th>
<th>Reasons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

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**DESIGN & DELIVERY MANUAL FOR NEW & REFURBISHED FIRE STATIONS**
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Yes</th>
<th>No</th>
<th>Pending</th>
<th>Item to be adorned with the Staff Star</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Identify and Inform Stakeholders**

- Identify stakeholders and their interests.
- Communicate project goals and objectives.
- Establish clear lines of communication.
- Resolve potential conflicts proactively.

**Additional Considerations**

- Ensure all stakeholders are informed of project updates.
- Regularly review and adjust stakeholder management strategies.
- Maintain open and transparent communication channels.

---

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**DESIGN & DELIVERY MANUAL FOR NEW & REFURBISHED FIRE STATIONS**

Page | 187
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Yes</th>
<th>No</th>
<th>Pending</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Development Design Stage and Issue Planning</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## B: MATERIALS & FINISHES SCHEDULE

### MATERIALS & FINISHES SCHEDULE

**Notes:**

1. Provide finished samples for approval prior to installation – 1 No. 600 x 600 samples unless otherwise noted.
2. Install in strict accordance with manufacturer’s specifications.

### AP

**ACOUSTIC PANEL**

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>WOVEN IMAGE (ph: 02 9913 8668)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>Echo Panel</td>
</tr>
<tr>
<td>Colour</td>
<td>TBA</td>
</tr>
<tr>
<td>Thickness</td>
<td>9mm</td>
</tr>
<tr>
<td>Panel Size</td>
<td>2700 x 1200mm</td>
</tr>
<tr>
<td>Fixing</td>
<td>Provide 20mm air gap behind (acoustic rating) using battens spaced at 450mm centres</td>
</tr>
</tbody>
</table>

### BK

**EXPOSED BLOCK WORK**

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>NUBRICK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Face Finish Concrete Block</td>
</tr>
<tr>
<td>Size</td>
<td>Refer Structural Engineer’s documents</td>
</tr>
<tr>
<td>Colour</td>
<td>TBA</td>
</tr>
<tr>
<td>Mortar</td>
<td>TBA</td>
</tr>
<tr>
<td>Joints</td>
<td>Rolled horizontal &amp; flush vertical joints</td>
</tr>
</tbody>
</table>

### CB

**COLORBOND® METAL SHEET CLADDING**

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>LYSAGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profile</td>
<td>Trimdeck</td>
</tr>
<tr>
<td>Thickness</td>
<td>0.48 BMT</td>
</tr>
<tr>
<td>Finish</td>
<td>COLORBOND® steel</td>
</tr>
<tr>
<td>CFC</td>
<td>COMPRESSED FIBRE CEMENT SHEET</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>CSR or CEMINTEL™ compressed sheet</td>
</tr>
<tr>
<td>Size</td>
<td>2400 x 1200mm sheets</td>
</tr>
<tr>
<td>Type</td>
<td>15mm square edge sheets (external use)</td>
</tr>
<tr>
<td>Fixing system</td>
<td>CEMINTEL Commercial Express Wall™ Façade System</td>
</tr>
<tr>
<td>Joints</td>
<td>expressed</td>
</tr>
<tr>
<td>Fixings</td>
<td>counter sunk screws</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CO1</th>
<th>COLOURED CONCRETE PAVING (to courtyard)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>TBA by CCS CONCRETE COLOUR SYSTEMS</td>
</tr>
<tr>
<td>Finished Surface</td>
<td>Exposed aggregate, high pressure wash finish</td>
</tr>
<tr>
<td>Sealant</td>
<td>Refer to Painting Schedule</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CO2</th>
<th>IN-SITU CONCRETE WITH EXPOSED AGGREGATE FINISH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>TBA</td>
</tr>
<tr>
<td>Finished Surface</td>
<td>Exposed aggregate, high pressure wash finish</td>
</tr>
<tr>
<td>Sealant</td>
<td>Refer to Painting Schedule</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CO3</th>
<th>COLOURED CONCRETE – HEAVY DUTY PAVING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>TBA</td>
</tr>
<tr>
<td>Finish Surface</td>
<td>Broom finish</td>
</tr>
<tr>
<td>Sealant</td>
<td>Refer to Painting Schedule</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CP1</th>
<th>CARPET TILES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>INTERFACE FLOR – (ph: 03 9214 0704)</td>
</tr>
<tr>
<td>Type</td>
<td>Tufted Multi Level Loop Pile Modular Carpet</td>
</tr>
<tr>
<td>Product</td>
<td>Solid Foundation</td>
</tr>
<tr>
<td>Colour</td>
<td>TBA</td>
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<tr>
<td>Section</td>
<td>Material Details</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Underlay</td>
<td>To manufacturer’s specifications</td>
</tr>
<tr>
<td>Trims</td>
<td>N/A – Carpet to finish flush with adjoining floor materials. Material change to align with wall. Provide 4 No. samples for approval.</td>
</tr>
<tr>
<td>CT</td>
<td>SUSPENDED CEILING TILES</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>ARMSTRONG</td>
</tr>
<tr>
<td>Product</td>
<td>Ultima</td>
</tr>
<tr>
<td>Edge Profile</td>
<td>Square edge with peak proud 24mm exposed tee grid</td>
</tr>
<tr>
<td>Sheet Sizes</td>
<td>600 x 1200mm</td>
</tr>
<tr>
<td>EM</td>
<td>EXPANDED MESH SHEETING</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>Locker Group</td>
</tr>
<tr>
<td>Product</td>
<td>Expanded Mesh JE1112 Security Mesh</td>
</tr>
<tr>
<td>Sheet Widths</td>
<td>1200mm wide</td>
</tr>
<tr>
<td>Finish</td>
<td>Galvanised finish</td>
</tr>
<tr>
<td>EP</td>
<td>EPOXY RESIN COATING</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>Parchem (Ph: 03 9380 2400)</td>
</tr>
<tr>
<td>Product</td>
<td>Durafloor HP (2 coats)</td>
</tr>
<tr>
<td>Slip Resistance</td>
<td>R12</td>
</tr>
<tr>
<td>Colour</td>
<td>TBA</td>
</tr>
<tr>
<td>FG</td>
<td>FIBREGLASS ROOF SHEETING</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>Ampelite Fibreglass P/L (Ph: 03 9794 0977)</td>
</tr>
<tr>
<td>Product</td>
<td>Wonderglass GC Industrial grade fibreglass roof sheet</td>
</tr>
<tr>
<td>Profile</td>
<td>Kliplok 700</td>
</tr>
<tr>
<td>Colour</td>
<td>TBA</td>
</tr>
<tr>
<td>Fixings</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>LA1</td>
<td>TIMBER VENEER JOINERY – Refer Joinery Schedule</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Product</td>
<td>LAMINEX</td>
</tr>
<tr>
<td>Colour</td>
<td>TBA</td>
</tr>
<tr>
<td>Substrate</td>
<td>E1 Particleboard</td>
</tr>
<tr>
<td>Sealant</td>
<td>Clear 2-pack low sheen seal</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LA2</th>
<th>LAMINATE JOINERY – Refer Joinery Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>LAMINEX</td>
</tr>
<tr>
<td>Colour</td>
<td>TBA</td>
</tr>
<tr>
<td>Substrate</td>
<td>E1 Particleboard</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MAT</th>
<th>ENTRANCE MAT – recessed matting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>BIRRUS MATTING SYSTEMS</td>
</tr>
<tr>
<td>Product</td>
<td>Matador</td>
</tr>
<tr>
<td>Colour</td>
<td>TBA</td>
</tr>
<tr>
<td>Size</td>
<td>Refer to plan for extend. Site measure &amp; install to size. Allow to set down matting flush with concrete paving; maximum 3mm floor level difference to adjacent surface to AS1428.1:200xDRAFT.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PPW</th>
<th>CONCRETE PRECAST PANEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>CONCRETE PRECAST LANDSCAPE WALL</td>
</tr>
<tr>
<td>Colour</td>
<td>TBA</td>
</tr>
<tr>
<td>Finish</td>
<td>Outer face: Class 1 off-form finish rib, pattern</td>
</tr>
<tr>
<td></td>
<td>Inner face: Class 1</td>
</tr>
<tr>
<td>Form Liner</td>
<td>RECKLI 1/171 Sinus 18/76</td>
</tr>
<tr>
<td>Panel Size</td>
<td>2600mm wide</td>
</tr>
<tr>
<td>Sealant</td>
<td>Outer face (public access): anti graffiti seal</td>
</tr>
<tr>
<td></td>
<td>Outer face (no public access): penetrating seal</td>
</tr>
<tr>
<td></td>
<td>Inner face: penetrating seal</td>
</tr>
<tr>
<td></td>
<td>PLASTERBOARD – ‘IMPACTCHEK’</td>
</tr>
<tr>
<td>---</td>
<td>---------------------------</td>
</tr>
<tr>
<td><strong>Product</strong></td>
<td>GYPROCK ‘Impactchek’</td>
</tr>
<tr>
<td><strong>Thickness</strong></td>
<td>13mm</td>
</tr>
<tr>
<td><strong>Sheets</strong></td>
<td>1200 x 2700mm, square edge</td>
</tr>
<tr>
<td><strong>Finish</strong></td>
<td>Paint Finish</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>PLASTERBOARD – ‘SOUND’</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product</strong></td>
<td>GYPROCK ‘Fyrechek’</td>
</tr>
<tr>
<td><strong>Thickness</strong></td>
<td>2 layers – 13mm fire rated plasterboard to both sides of RONDO quiet studs</td>
</tr>
<tr>
<td><strong>Insulation</strong></td>
<td>refer architectural specification</td>
</tr>
<tr>
<td><strong>Finish</strong></td>
<td>Paint Finish</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>PLASTERBOARD – ‘AQUACHEK’</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product</strong></td>
<td>GYPROCK ‘Aquachek’</td>
</tr>
<tr>
<td><strong>Thickness</strong></td>
<td>13mm</td>
</tr>
<tr>
<td><strong>Sheets</strong></td>
<td>1200 x 2700mm</td>
</tr>
<tr>
<td><strong>Finish</strong></td>
<td>Paint Finish</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>PLASTERBOARD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product</strong></td>
<td>GYPROCK (ceiling)</td>
</tr>
<tr>
<td><strong>Thickness</strong></td>
<td>10mm</td>
</tr>
<tr>
<td><strong>Finish</strong></td>
<td>Paint Finish</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>RUBBER FLOORING</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Manufacturer</strong></td>
<td>REGUPOL (Australia) (ph: 02 9820 1233)</td>
</tr>
<tr>
<td><strong>Product</strong></td>
<td>REGUPOL Everlast Flooring</td>
</tr>
<tr>
<td>Material</td>
<td>Supplier</td>
</tr>
<tr>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>SK SKIRTING</td>
<td>flat anodised aluminium 100mm high</td>
</tr>
<tr>
<td>SS STAINLESS STEEL</td>
<td>2mm stainless steel – cast, welded and folded as required by application</td>
</tr>
<tr>
<td>TB TIMBER BATTENS</td>
<td>Dressed Bevelled Edge Boards</td>
</tr>
<tr>
<td>TL1 CERAMIC TILES</td>
<td>Stroher Stalotec</td>
</tr>
<tr>
<td>TL2 CERAMIC TILES – BATHROOMS</td>
<td></td>
</tr>
<tr>
<td>Supplier</td>
<td>CERAMIC SOLUTIONS (ph: 03 9545 5322)</td>
</tr>
<tr>
<td>---------------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>Product</td>
<td>Stroher Secuton</td>
</tr>
<tr>
<td>Colour</td>
<td>TBA</td>
</tr>
<tr>
<td>Finish</td>
<td>8802 starpoint studded tile</td>
</tr>
<tr>
<td>Size</td>
<td>196 x 196mm, 10mm thick</td>
</tr>
<tr>
<td>Cove</td>
<td>8640 coved base, 196 x 96 x8mm</td>
</tr>
<tr>
<td>Grout</td>
<td>PCI Durafug NT – colour TBA</td>
</tr>
</tbody>
</table>

### TP  THERMOMASS CONCRETE PANEL

<table>
<thead>
<tr>
<th>Product System</th>
<th>CONCRETE PRECAST WALL – THERMOMASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>TBA</td>
</tr>
</tbody>
</table>
| Finish         | Outer face: Class 1 off-form finish rib, pattern  
                  Inner face: Class 1 |
| Form liner     | RECKLI 1/171 Sinus 18/76             |
| Panel Size     | 2600mm wide                         |
| Sealant        | Outer face: anti graffiti seal  
                  Inner face: penetrating seal |

### TV  TIMBER VENEER WALL LINING

<table>
<thead>
<tr>
<th>Product</th>
<th>LAMINEX ‘Natural Timber Veneers’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species</td>
<td>TBA</td>
</tr>
<tr>
<td>Substrate</td>
<td>12mm plywood</td>
</tr>
<tr>
<td>Sealant</td>
<td>Clear finish – refer to Interior Paint Schedule – Appendix B</td>
</tr>
<tr>
<td>Edging</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### VB  VILLABOARD SOFFIT LINING

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>JAMES HARDIE (ph: 131 103)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>6mm Villaboard</td>
</tr>
</tbody>
</table>
Control Joints: Flush joints 3.6m centres
Finish: Paint finish

### WAP AQUAPANEL WALL LINING

**Product:** LAMINEX Aquapanel Wet Area Panelling

**Thickness:** 2.7mm

**Finish:** Gloss

**Colour:** TBA

**Joints:** Install panelling without mouldings. Allow for expansion gaps. Seal joints with ‘LAMISEAL’; colour match to panelling

**Substrate Generally:** AQUACHEK moisture resistant plasterboard

**Substrate to Concrete:** Fix in accordance with manufacturers specifications; do not direct stick to concrete panels

### MANUFACTURERS/SUPPLIERS:

**RECKLI form liner available from:**

RECKLI
Building 1/123 Pipe Rd, Cnr Hume Rd
North Laverton VIC 3026
Ph: 0418 176 044
## C: SANITARY WARE SCHEDULE

### SANITARY WARE SCHEDULE

<table>
<thead>
<tr>
<th>Location</th>
<th>Item</th>
<th>Manufacturer/Supplier</th>
<th>Type</th>
<th>Colour</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appliance Bay</td>
<td>sink</td>
<td>BRITEX</td>
<td>HBS wall mounted sink without splashback</td>
<td>stainless steel</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>sink</td>
<td>ENWARE</td>
<td>Level Pillar Tap 15mm with aerated outlet 7 150mm lever</td>
<td>chrome plate</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 star rating (5.6lpm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>pre-mixed set temperature</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>pits</td>
<td></td>
<td>refer to Hydraulics Drawings</td>
<td>Heelguard (DDA compliant) slip resistant grates</td>
<td>6</td>
</tr>
<tr>
<td>Lecture Room</td>
<td>sink</td>
<td>CLARK</td>
<td>Benchmark No. 1003</td>
<td>stainless steel</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>930mm single end bowl LH</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 tap hole</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>sink mixer</td>
<td>POSH</td>
<td>Solus Sink Mixer (7.5Lt/min) with extended lever</td>
<td>chrome plate</td>
<td>1</td>
</tr>
<tr>
<td>Visitors' WC</td>
<td>toilet suite</td>
<td>CAROMA</td>
<td>Care Pan Concealed Trap with</td>
<td>white</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Sovereign 2000 cistern, push button option No. 405067</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Colani single flap seat No. 813000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- extended flush pipe in accordance with AS1428-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>wall basin with</td>
<td>CAROMA</td>
<td>Caroma Care Integra 500 No. 648210 with chrome covered uni plug</td>
<td>white &amp; vitreous china</td>
<td>1</td>
</tr>
<tr>
<td><strong>shroud</strong></td>
<td><strong>basin mixer</strong></td>
<td><strong>Basin Mixer</strong></td>
<td><strong>Count</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>----------------</td>
<td>-----------------</td>
<td>----------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAROMA</td>
<td>Solus basin mixer</td>
<td>Aerated outlet &amp; flow restrictor (7.5Lt/min) with 150mm extended lever</td>
<td>chrome plate</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**Mess (kitchen)**

<table>
<thead>
<tr>
<th><strong>sink</strong></th>
<th><strong>sink mixer</strong></th>
<th><strong>Sink Mixer</strong></th>
<th><strong>Count</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>CUSTOM MADE</td>
<td>CAROMA</td>
<td>Solus Sink Mixer (7.5Lt/min)</td>
<td>chrome plate</td>
</tr>
</tbody>
</table>

**Bathrooms**

<table>
<thead>
<tr>
<th><strong>toilet suite</strong></th>
<th><strong>wall basin with shroud</strong></th>
<th><strong>Basin Mixer</strong></th>
<th><strong>Count</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>CAROMA</td>
<td>Faun 450 No. 640210 &amp; shroud No. 651350 with chrome covered uni plug</td>
<td>white &amp; vitreous china</td>
<td>1 per room</td>
</tr>
<tr>
<td></td>
<td>POSH</td>
<td>Solus basin mixer</td>
<td>chrome plate</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>shower rose</strong></th>
<th><strong>shower mixer</strong></th>
<th><strong>Shower mixer</strong></th>
<th><strong>Count</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>POSH</td>
<td>POSH</td>
<td>Solus shower &amp; bath mixer</td>
<td>chrome plate</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>shower base</strong></th>
<th><strong>Count</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>POSH</td>
<td>Chrome plate</td>
</tr>
<tr>
<td>Cleaners’ Store</td>
<td>Item</td>
</tr>
<tr>
<td>-----------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td></td>
<td>cleaners’ sink</td>
</tr>
<tr>
<td></td>
<td>tap ware</td>
</tr>
<tr>
<td>Breathing Apparatus</td>
<td>spray gun</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>wall hook</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>adapter</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>trough &amp; bench</td>
</tr>
<tr>
<td></td>
<td>tap ware</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>External</td>
<td>garden taps</td>
</tr>
</tbody>
</table>

MANUFACTURERS/SUPPLIERS:

LW GEMMELL & ASSOCIATES
Ph: 03 9459 4411
## D: FITTINGS FIXTURES & FURNITURE SCHEDULE

### FITTINGS, FIXTURES & FURNITURE SCHEDULE

<table>
<thead>
<tr>
<th>Location</th>
<th>Item</th>
<th>Manufacturer</th>
<th>Type</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appliance Bay</td>
<td>soap dispenser &amp; refill</td>
<td>ECONOMIST AUSTRALIA</td>
<td>No. SZ5001 Spray Soap dispenser plus No. VU5001 800mm Soap hand lotion refill</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>paper towel dispenser</td>
<td>METLAM</td>
<td>No. ML4093 S/S Roll Towel dispenser, stainless steel</td>
<td>1</td>
</tr>
<tr>
<td>Public Entry</td>
<td>letterbox</td>
<td>THE LETTERBOX MAN</td>
<td>No. d. 3080 MB1 Front retrieval wall mounted box 175h x 250w x 350d, aluminium</td>
<td>1</td>
</tr>
<tr>
<td>Station Office</td>
<td>office chairs</td>
<td>TURNCO</td>
<td>refer Turnco quotation provided</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>pin board</td>
<td>TURNCO</td>
<td>a) 3400 x 430, b) 2400 x 1400, c) 1600 x 1400</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>white board</td>
<td>TURNCO</td>
<td>1200 x 1400</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>robe hooks</td>
<td>METLAM</td>
<td>No. ML4158 stainless steel hook</td>
<td>6</td>
</tr>
<tr>
<td>Lecture Room</td>
<td>lecture chairs</td>
<td>TURNCO</td>
<td>TBA</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>table</td>
<td>TURNCO</td>
<td>TBA</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>pin board</td>
<td>TURNCO</td>
<td>2400 x 1200</td>
<td>1</td>
</tr>
<tr>
<td>Item</td>
<td>Brand</td>
<td>Specifications</td>
<td>Quantity</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>----------------</td>
<td>-------------------------------------------------------------------------------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>white board</td>
<td>TURNCO</td>
<td>2400 x 1200</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>TV wall bracket</td>
<td>ATDEC or similar approved</td>
<td>Teledec minispace size according to weight</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>roll paper towel dispenser</td>
<td>METLAM</td>
<td>No. ML4093 S/S Roll Towel dispenser, stainless steel</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>robe hooks</td>
<td>METLAM</td>
<td>No. ML4158 stainless steel hook</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Visitors' WC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>shelf</td>
<td>JD MACDONALD</td>
<td>610 x 125mm surface mounted stainless steel shelf No. 0692-542 No. 4 satin finish</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>grab rail 1</td>
<td>JD MACDONALD or approved alternative supplier</td>
<td>No. 73 GRC00 18-gauge 304 stainless steel tubing satin finish install in accordance with AS 1428</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>grab rail 2</td>
<td>JD MACDONALD or approved alternative supplier</td>
<td>No. 73 GRC53 18-gauge 304 stainless steel tubing satin finish install in accordance with AS 1428</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>toilet roll holder</td>
<td>REECE</td>
<td>Phoenix – Gen X toilet roll holder with satin chrome plate</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>mirror above sink</td>
<td>PILKINGTON</td>
<td>Optimirror-Protect Grade A safety glass</td>
<td>1</td>
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<tr>
<td>Product Description</td>
<td>Brand</td>
<td>Description</td>
<td>Quantity</td>
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<td>-----------------------------</td>
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<td>Mirror full-length</td>
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<tr>
<td></td>
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<td>- clear</td>
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<td></td>
<td></td>
<td>- 1200 x 600 x 4mm thick</td>
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<td>- 12mm moisture resistant MDF substrate</td>
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<td>Soap dispenser &amp; refill</td>
<td>ECONOMIST AUSTRALIA</td>
<td>No. SZ5001 Spray Soap dispenser plus No. VU5001 800mm Soap hand lotion refill</td>
<td>1</td>
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<tr>
<td>Roll paper towel dispenser</td>
<td>METLAM</td>
<td>No. ML4093 S/S Roll Towel dispenser</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Robe hooks</td>
<td>METLAM</td>
<td>No. ML4158 stainless steel hook</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Mess (kitchen)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Table</td>
<td>TURNCO</td>
<td>TBA</td>
<td>2</td>
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<tr>
<td>Pin board</td>
<td>TURNCO</td>
<td>1800 x 900</td>
<td>1</td>
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</tr>
<tr>
<td>White board</td>
<td>TURNCO</td>
<td>1800 x 900</td>
<td>1</td>
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<tr>
<td>Bin drawer</td>
<td>KIMBERLEY</td>
<td>No. KRB14D 44ltr. Pull-out bin drawer with waste bin</td>
<td>2</td>
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<tr>
<td>TV wall bracket</td>
<td>ATDEC or similar approved</td>
<td>Teledec minispace size according to weight</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Lounge</td>
<td></td>
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<td>Roll Towel</td>
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<td>METLAM</td>
<td>No. ML4158</td>
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<td></td>
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<td>stainless steel</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td>hook</td>
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<td>1 per</td>
<td></td>
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<td>room</td>
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<td>METLAM</td>
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<td>hook</td>
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<td>REECE</td>
<td>1 per</td>
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<td></td>
<td></td>
<td>Phoenix – Gen X</td>
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<td></td>
<td></td>
<td>toilet roll</td>
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<td></td>
<td></td>
<td>holder with</td>
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<tr>
<td></td>
<td></td>
<td>satin chrome</td>
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<td>plate</td>
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<tr>
<td>soap dispenser &amp;</td>
<td>ECONOMIST</td>
<td>No. SZ5001 Spray</td>
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<tr>
<td>refill</td>
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<td>Soap dispenser</td>
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<td>No. VU5001 800mm</td>
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<td>Soap hand lotion</td>
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<td></td>
<td></td>
<td>refill</td>
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<tr>
<td>shower screen</td>
<td>HAWTHORN</td>
<td>hinged pivot</td>
<td>1 per</td>
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<td></td>
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<td>door with matt</td>
<td>room</td>
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<td>anodised frame &amp;</td>
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<td></td>
<td></td>
<td>safety glass to</td>
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<td>AS1288 &amp; AS2208</td>
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<tr>
<td>shelf</td>
<td>JD MACDONALD</td>
<td>610 x 125mm</td>
<td>1 per</td>
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<tr>
<td></td>
<td></td>
<td>surface mounted</td>
<td>room</td>
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<td></td>
<td></td>
<td>stainless steel</td>
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<td></td>
<td></td>
<td>shelf</td>
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<td></td>
<td>No. 0692-542 No.</td>
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<tr>
<td></td>
<td></td>
<td>4 satin finish</td>
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<td>Room</td>
<td>Item</td>
<td>Supplier</td>
<td>Model/Details</td>
<td>Quantity</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------------------</td>
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<tr>
<td>shower seat</td>
<td>JD MACDONALD</td>
<td>No. 8203-M-AU compact rectangular phenolic fold-up shower seat</td>
<td>1 per room</td>
<td>1</td>
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<tr>
<td>towel rail</td>
<td>JD MACDONALD</td>
<td>GRABRAIL Clean Seal</td>
<td>1 per room</td>
<td>1</td>
</tr>
<tr>
<td>roll paper towel</td>
<td>METLAM</td>
<td>No. ML4093 S/S Roll Towel dispenser</td>
<td>1 per room</td>
<td>1</td>
</tr>
<tr>
<td>robe hooks</td>
<td>METLAM</td>
<td>No. ML4158 stainless steel</td>
<td>2 per room</td>
<td>2</td>
</tr>
<tr>
<td>shower soap</td>
<td>No. H80533 Alpha Mouss Shower dispenser plus No. H80534 Alpha Mous 3 in 1 refill (300ml)</td>
<td>1</td>
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<td></td>
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<tr>
<td>Personal Drying</td>
<td>hanging rails</td>
<td>TBA</td>
<td>35mm dia. CHS brushed stainless steel</td>
<td>1</td>
</tr>
<tr>
<td>Room</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>PPE Change Room</td>
<td>PPE racks</td>
<td>R.E. WALTERS PTY LTD</td>
<td>600 x 600 Fileguard PPE Cages Powdercoat finish – colour TBA</td>
<td>49</td>
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<td>PPE Dry Store</td>
<td>hanging rail</td>
<td></td>
<td>35mm dia. CHS brushed stainless steel</td>
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<td>Turnout Alcove</td>
<td>drafting chair</td>
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<td>TBA</td>
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<td></td>
<td>pin board</td>
<td>TURNCO</td>
<td>a) 880 x 1000, b) 2300 x 1000</td>
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<td></td>
<td>key safe</td>
<td>FILEGUARD</td>
<td>MFESB Key Safe 60 key capacity</td>
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<tr>
<td>Cleaners' Store</td>
<td>mop/broom rack</td>
<td>METLAM</td>
<td>No. ML981 stainless steel mop &amp; broom rack with 5 holders (1168mm)</td>
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<td><strong>Spare PPE Storage</strong></td>
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<tr>
<td><strong>bench</strong> CUSTOM MADE</td>
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<tr>
<td>KDHW timber planks &amp; steel brackets fixed to wall</td>
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<tr>
<td><strong>hanging rails</strong></td>
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<td></td>
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<tr>
<td>35mm dia. CHS brushed stainless steel</td>
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<td><strong>Station Store</strong></td>
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<td><strong>adjustable shelving</strong> DEXICON</td>
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<td>Ultima Longspan 900w x 400d x 2000h</td>
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<td>Adjustable shelving with steel shelves</td>
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<td><strong>Breathing Apparatus</strong></td>
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<td>1</td>
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<tr>
<td><strong>white board</strong> TURNCO</td>
<td>2400 X 1200</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>roll paper towel dispenser</strong> METLAM</td>
<td>No. ML4093 S/S Roll Towel dispenser</td>
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<tr>
<td><strong>EMR cabinet</strong> PRINCIPAL SUPPLIED</td>
<td>Principal to install</td>
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<td><strong>Hose Bay</strong></td>
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<tr>
<td><strong>shelving</strong> PRINCIPAL SUPPLIED</td>
<td>Contractor to install</td>
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<td><strong>bike rack</strong> SECURABIKE or similar approved</td>
<td>CBR4SC – compact security bike rack (for 4 bicycles)</td>
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<tr>
<td>Galvanised finish</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>BBQ Area</strong></td>
<td></td>
<td></td>
<td>8</td>
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<td><strong>table</strong> TURNCO</td>
<td>TBA</td>
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<tr>
<td><strong>chairs</strong> TURNCO</td>
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</tbody>
</table>

**MANUFACTURERS/SUPPLIERS:**

**TURNCO COMMERCIAL FURNITURE**

962 Mount Alexander Rd

Essendon VIC 3040
Ph: 03 9375 4944
Mobile: 0411 880 728
Contact: Cheryl Moulin

R.E. WALTERS PTY LTD
3-11 Market Rd
Sunshine VIC 3020
Ph: 03 9310 1671
Contact: Pat O'Maley

HAWTHORN SHOWER SCREENS
Ph: 03 9853 0053

JD MACDONALD
65-73 Nantilla Rd
Clayton North VIC 3168
Ph: 03 9271 6400

METLAM AUSTRALIA
7 Sauer Rd
New Gisborne VIC 3438
Ph: 03 5428 4618

LW GEMMELL & ASSOCIATES
59 Kylta Rd
West Heidelberg VIC 3081
Ph: 03 9459 4411

THE LETTERBOX MAN
218 Lutwyche Rd
Windsor QLD 4030

SECURABIKE
2/89 Enterprise Way
## E: APPLIANCE SCHEDULE

<table>
<thead>
<tr>
<th>Location</th>
<th>Item</th>
<th>Model/Code</th>
<th>Type</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture Room</td>
<td>zip hydro tap</td>
<td>BCD60/85 Instant Boiling &amp; Chilled Filtered Water (under sink) unit No. 37676 with disabled lever.</td>
<td>Electric</td>
<td>Supplier: ZIP HYDRO TAP</td>
</tr>
<tr>
<td></td>
<td>zip hydro tap</td>
<td>“font” grille tray No. 90046</td>
<td></td>
<td>Supplier: ZIP HYDRO TAP</td>
</tr>
<tr>
<td>Mess (kitchen)</td>
<td>dishwasher</td>
<td>GOLDSTEIN ESWOOD built-in dishwasher No. UC25NDP</td>
<td>Electric</td>
<td>Commercial Grade Appliance</td>
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<tr>
<td></td>
<td>free standing oven/cooktop</td>
<td>GOLDSTEIN ESWOOD heavy duty static oven No. PE-6R-28 900 wide x 800 deep x 1120 high</td>
<td>Electric</td>
<td>Commercial Grade Appliance</td>
</tr>
<tr>
<td></td>
<td>griddle</td>
<td>GOLDSTEIN ESWOOD heavy duty griddle No. GPEDDB24</td>
<td>Electric</td>
<td>Note: Provide adequate ventilation between griddle 7 joinery.</td>
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<tr>
<td></td>
<td>rangehood</td>
<td>CUSTOM</td>
<td>Electric</td>
<td>Note: Custom stainless steel hood.</td>
</tr>
<tr>
<td></td>
<td>zip hydro tap</td>
<td>BC100/125 Instant Boiling &amp; Chilled Filtered Water (under sink) unit No. 30271</td>
<td>Electric</td>
<td>Supplier: ZIP HYDRO TAP</td>
</tr>
<tr>
<td></td>
<td>refrigerators (x 2)</td>
<td>WESTINGHOUSE No. WTM4200WB fridge &amp; freezer 1 x left hand, 1 x right hand opening</td>
<td>Electric</td>
<td></td>
</tr>
</tbody>
</table>
| BBQ Area | brick-in Electric Park Safe cooking system  
|          | No. BI-E-02 cooking insert  
|          | No. SSBT/1 bench top  
| Vacuum Plant | complete ducted vacuum system including plant, pump, hoses & fittings  
|             | Vacuum Pump: Rietshle SAP 530 side channel design (direct drive). Activated via low voltage control circuit at each inlet valve.  
|             | Motor: continuously rated 415 volt, 15 Amps. (72 dBA noise level).  
|             | Hoses: 3 x 8m x320 vacuum hoses  
|             | Inlets: metal square intels with surround, white. Mount 300mm affl.  
|             | Pipework: generally concealed in ceiling space. 1 x single exposed run at high level in appliance bay.  

**MANUFACTURERS/SUPPLIERS:**

**ZIP HYDRO TAP**

Ph: 02 9796 3100  
Mobile: 0418 227 242  
Contact: Vanessa Beever

**INDUSTRIAL VACUUM DESIGN**

0407 559 896

**GOLDSTEIN ESWOOD**
## F: DOOR SCHEDULE

### DOOR SCHEDULE

**Notes:**

1. All glazing in accordance with AS1288 & AS2208
2. Anodised aluminium shall be minimum 25 microns thick.
3. Double glazing to all external glazed doors unless otherwise specified.
4. CLEARSHIELD protective coating to outside face of all external doors and both faces of Appliance Bay doors.
5. Hinges external doors – McCALLUM No. A104NA Aluminium Heavy Duty Fast Fix Hinge
6. Hinges internal doors – LOCKWOOD No. LW10070BBFFSSS 100 x 70 x 2.5mm Fast Fix Hinge
7. All cylinders to be keyed alike.

<table>
<thead>
<tr>
<th>Type</th>
<th>Manufacturer/Product</th>
<th>Finish</th>
<th>Operator</th>
</tr>
</thead>
<tbody>
<tr>
<td>D01</td>
<td>Bi-fold lift-up glazed door (appliance bay)</td>
<td>ARCO COMMERCIAL DOOR SYSTEMS P/L or DOOR REPAIR AND MAINTENANCE PTY LTD</td>
<td>Frame: galvanised steel frame Glazing beads: natural anodised aluminium Glazing: 4mm toughened or 6.38mm laminated grey glazing Kick panel: anodised aluminium natural finish Signage: Appliance Bay door signage Motorised: motorisation control unit &amp; security &amp; electrical interface Indicator lights: refer specification Light beams: refer specification Controls: refer specification</td>
</tr>
<tr>
<td>D02</td>
<td>Automatic track &amp; mechanism: DORMA BWN AUTOMATICS EL301 Ezy Fit series Door frame: CAPRAL 200 Narrowline Window frame: CAPRAL 406 St Lucia</td>
<td>Frame: natural anodised aluminium finish Glazing: clear laminated glazing. Thickness in accordance with AS1288 Signage: Vision Strips to sliding door &amp; fixed panel Motorised: refer to manufacturer’s specification</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>Frame</th>
<th>Finish</th>
<th>Glazing</th>
<th>Lock/Latch</th>
<th>Furniture</th>
<th>Seals</th>
<th>Closer</th>
<th>Kick</th>
<th>Stop</th>
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</thead>
<tbody>
<tr>
<td>D05</td>
<td>CAPRAL ALUMINIUM 275 series external glazed hinged double doors</td>
<td>Door &amp; frame: anodised natural finish Vision strips</td>
<td>Electric mortice lock: LOCKWOOD No. 3582ELENOLSC 12VDC 23mm elec. Mort. Secure non. Mon. no cyl No. LC8810 277mm cable transfer device lead cover Card reader: to outside lever: LOCKWOOD No. 5905/70SC brass round short backset exterior plate cylinder &amp; lever No. 5905/70SC brass round short backset interior plain plate &amp; lever Threshold: CAPRAL EO854 Bottom seal: RAVEN nylon brush seal Head &amp; jambs: in accordance with CAPRAL specifications</td>
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</tbody>
</table>

2 x C1 N/A YES
<p>| | | | | | |</p>
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<thead>
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</thead>
<tbody>
<tr>
<td>D06</td>
<td>CAPRAL ALUMINIUM 275 series external glazed hinged door <strong>EXIT ONLY</strong></td>
<td>CAPRAL Aluminium 400 Narrowline</td>
<td>Door &amp; frame: anodised natural finish</td>
<td>G2 Vision strips</td>
<td>Electric mortice lock: LOCKWOOD No. 3582LENO12SC 12VDC 23mm elec. Mort. Secure non. Mon. no cyl  No. LC8810 277mm cable transfer device lead cover Card reader: to outside</td>
</tr>
<tr>
<td>D07</td>
<td></td>
<td>CAPRAL Aluminium 400 Narrowline</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>D08</td>
<td>CAPRAL ALUMINIUM 275 series external glazed hinged door</td>
<td>CAPRAL Aluminium 400 Narrowline</td>
<td>Door &amp; frame: anodised natural finish</td>
<td>G2 Fixed panel: paint finish</td>
<td>Electric mortice lock: LOCKWOOD No. 3582LENO12SC 12VDC 23mm elec. Mort. Secure non. Mon. no cyl  No. LC8810 277mm cable transfer device lead cover Card reader: to outside</td>
</tr>
<tr>
<td>D09</td>
<td>CAPRAL ALUMINIUM 275 series external glazed hinged door</td>
<td>CAPRAL Aluminium 400 Narrowline</td>
<td>Door &amp; frame: anodised natural finish</td>
<td>G2 Fixed panel: paint finish</td>
<td>Electric mortice lock: LOCKWOOD</td>
</tr>
<tr>
<td>D14</td>
<td>Solid core flush panel hinged door with grille</td>
<td>CAPRAL Aluminium 400 Narrowline</td>
<td>Frame: anodised natural finish</td>
<td>N/A</td>
<td>Mortice lock: LOCKWOOD No. 3572Z-LSC mortice escape lock with cylinder</td>
</tr>
<tr>
<td>D15</td>
<td></td>
<td></td>
<td>Door: paint finish</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D16</td>
<td>Solid core flush panel hinged door</td>
<td>CAPRAL Aluminium 400 Narrowline</td>
<td>Frame: anodised natural finish</td>
<td>N/A</td>
<td>Mortice lock: LOCKWOOD No. 3574SC mortice passage</td>
</tr>
<tr>
<td>D17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>with grille</td>
<td>Narrowline</td>
<td>finish</td>
<td>latch (no locking function)</td>
<td>exterior plate cylinder &amp; lever</td>
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<tr>
<td>D18</td>
<td>Solid core flush panel hinged double door with view panels</td>
<td>CAPRAL Aluminium 400 Narrowline</td>
<td>Frame: anodised natural finish</td>
<td>view panel with UV film</td>
<td>Push plate: LOCKWOOD No. 21407NNSS #214 series to both doors</td>
</tr>
<tr>
<td>D19</td>
<td>Flush panel hinged solid core door with grille above</td>
<td>CAPRAL Aluminium 400 Narrowline</td>
<td>N/A Mortice lock: LOCKWOOD No. 3574SC mortice passage latch (no locking function)</td>
<td>Lever: LOCKWOOD No. 3880/3881/37SC Daintree Gidgee on round rose full set</td>
<td>Head &amp; jambs: in accordance with CAPRAL specifications to suit 400 Narrowline frame</td>
</tr>
<tr>
<td>D21</td>
<td>Flush panel hinged double solid core door with view panel</td>
<td>CAPRAL Aluminium 400 Narrowline</td>
<td>Frame: anodised natural finish</td>
<td>view panel with UV film</td>
<td>Push plate: LOCKWOOD No. 21407NNSS #214 series to both doors</td>
</tr>
<tr>
<td>D22</td>
<td>Flush panel hinged solid core door undercut</td>
<td>CAPRAL Aluminium 400 Narrowline</td>
<td>N/A Mortice lock: LOCKWOOD No. 3572Z-RSCNCYL mortice escape lock no cylinder Bi-lock cylinder &amp; key: MFB to supply</td>
<td>Lever: LOCKWOOD No. 3880/3881/37SC Daintree Gidgee on round rose full set</td>
<td>Head &amp; jambs: in accordance with CAPRAL specifications to suit 400 Narrowline frame</td>
</tr>
<tr>
<td>D23</td>
<td>Flush panel hinged door with view panel</td>
<td>CAPRAL Aluminium 400 Narrowline</td>
<td>Frame: anodised natural finish</td>
<td>view panel</td>
<td>Mortice lock: LOCKWOOD No. 3574SC mortice passage latch (no locking function)</td>
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<tr>
<td><strong>D24</strong></td>
<td>Hinged glazed door</td>
<td>CAPRAL Aluminium 400 Narrowline</td>
<td>Frame: anodised natural finish</td>
<td>clear laminated glazing to AS1288</td>
<td>Mortice lock: LOCKWOOD No. 3574SC mortice passage latch (no locking function)</td>
</tr>
<tr>
<td><strong>D25</strong></td>
<td>Flush panel solid core hinged door</td>
<td>CAPRAL Aluminium 400 Narrowline</td>
<td>Frame: anodised natural finish</td>
<td>Door: paint finish</td>
<td>Ball catch: DALCO 70mm brass double ball catch</td>
</tr>
<tr>
<td><strong>D26</strong></td>
<td>Solid core flush panel hinged door undercut</td>
<td>CAPRAL Aluminium 400 Narrowline</td>
<td>Frame: anodised natural finish</td>
<td>Door: paint finish</td>
<td>Mortice lock: LOCKWOOD No. 3572EARSC mortice vestibule anti-lock-out privacy lock</td>
</tr>
<tr>
<td><strong>D27</strong></td>
<td>Glazed hinged cat &amp; kitten solid core door</td>
<td>CAPRAL Aluminium 400 Narrowline</td>
<td>Frame: anodised natural finish</td>
<td>Door: paint finish</td>
<td>Mortice lock: LOCKWOOD No. 3574SC mortice passage latch</td>
</tr>
<tr>
<td><strong>D28</strong></td>
<td>44mm flush panel hinged cat &amp; kitten solid core door with view panel</td>
<td>CAPRAL Aluminium 400 Narrowline</td>
<td>Frame: anodised natural finish</td>
<td>Door: paint finish</td>
<td>Mortice lock: LOCKWOOD No. 3574SC mortice passage latch (no locking function)</td>
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<tr>
<td>D29</td>
<td>LOTUS room divider No. 100S/45/CD2 100mm thick, Rw 45</td>
<td>LOTUS standard 10mm aluminium</td>
<td>Track &amp; frame: anodised natural finish</td>
<td>Door: echo panel pin boards to both sides No. 442</td>
<td>N/A</td>
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<tr>
<td></td>
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<td>Track: centre stacking No.1 track</td>
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<tr>
<td>D30</td>
<td>Solid core flush panel hinged cat &amp; kitten door with view panel</td>
<td>CAPRAL Aluminium 400 Narrowline</td>
<td>Frame: anodised natural finish</td>
<td>Door: paint finish</td>
<td>view panel</td>
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<tr>
<td>D31</td>
<td>Hinged glazed door</td>
<td>CAPRAL Aluminium 400 Narrowline</td>
<td>Frame: anodised natural finish</td>
<td>Door: paint finish</td>
<td>clear laminated glazing to AS1288</td>
</tr>
<tr>
<td>D34 to D34</td>
<td>44mm solid core flush panel hinged door – Acoustic rating Rw 32</td>
<td>CAPRAL Aluminium 400 Narrowline</td>
<td>Frame: anodised natural finish</td>
<td>Door: paint finish</td>
<td>N/A</td>
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<tr>
<td>D56</td>
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<tr>
<td>D42</td>
<td>Flush panel hinged door</td>
<td>CAPRAL Aluminium 400 Narrowline</td>
<td>Frame: anodised natural finish</td>
<td>Door: paint finish</td>
<td>N/A</td>
</tr>
<tr>
<td>D45</td>
<td>Flush panel hinged door</td>
<td>CAPRAL Aluminium 400 Narrowline</td>
<td>Frame: anodised natural finish</td>
<td>Door: paint finish</td>
<td>N/A</td>
</tr>
<tr>
<td>D46</td>
<td>Flush panel hinged door</td>
<td>CAPRAL Aluminium 400 Narrowline</td>
<td>Frame: anodised natural finish</td>
<td>Door: paint finish</td>
<td>N/A</td>
</tr>
<tr>
<td>D47 to D51</td>
<td>Hollow core cavity sliding door, undercut</td>
<td>CS CAVITY SLIDERS single 'Powderseal'</td>
<td>Door: paint finish</td>
<td>N/A</td>
<td>Lock &amp; latch: HANDLES PLUS No. 31601 Doors 6 circular cavity sliding door lock with external emergency release, satin nickel finish</td>
</tr>
<tr>
<td>D52</td>
<td>Smoke door flush panel hinged double door (35mm thick min.)</td>
<td>CAPRAL Aluminium 400 Narrowline</td>
<td>Frame: anodised natural finish</td>
<td>Door: paint finish</td>
<td>N/A</td>
</tr>
<tr>
<td>D53</td>
<td>35mm solid core flush panel hinged door</td>
<td>CAPRAL Aluminium 400 Narrowline</td>
<td>Frame: anodised natural finish</td>
<td>Door: paint finish</td>
<td>N/A</td>
</tr>
<tr>
<td>Door Type</td>
<td>Frame Material</td>
<td>Track</td>
<td>Pull System</td>
<td>Glazing</td>
<td>Closer</td>
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<tr>
<td>D55</td>
<td>CAPRAL Aluminium 275 series external glazed sliding door</td>
<td>N/A</td>
<td>CENTOR Airtrack A14 aluminium track (satin finish) recessed flush with the ceiling</td>
<td>VIRIDIAN ‘Thermo-tech’ 6mm ‘TS30 on clear’ heat strengthened glass (external side) 12mm argon filled cavity 6mm ‘clear float’ heat strengthened glass (internal side)</td>
<td>CENTOR surface mounted roller guide in overlap</td>
</tr>
<tr>
<td>D55</td>
<td>CAPRAL Aluminium 400 Narrowline</td>
<td>N/A</td>
<td>CENTOR Airtrack A14 aluminium track (satin finish) recessed flush with the ceiling</td>
<td>VIRIDIAN ‘V-LAM’ clear</td>
<td>CENTOR surface mounted roller guide in overlap</td>
</tr>
</tbody>
</table>

**DOOR LEGEND**

Where nominated, items shall be as follows:

- **BI-LOCK KEY**: MFB to supply cylinder & key, contractor to install
- **GLAZING**
  - G1 DOUBLE GLAZING UNIT (TINT) VIRIDIAN ‘Thermo-tech’ 6mm ‘TS30 on clear’ heat strengthened glass (external side) 12mm argon filled cavity 6mm ‘clear float’ heat strengthened glass (internal side)
  - G2 DOUBLE GLAZING UNIT (CLEAR) VIRIDIAN 6mm ‘Sunergy’ clear heat strengthened glass (external side) 12mm air gap 6mm ‘clear float’ heat strengthened glass (internal side)
  - G3 SINGLE GLAZING TOUGHENED (CLEAR) VIRIDIAN ‘V-LAM’ clear no. 12mm safety glass
- **CLOSER**
  - C1 No. TS83 EN1-5 door closer (transom fixing) with hold open device – silver finish
  - C2 No. TS83 EN1-5 door closer (transom fixing) – silver finish
  - C3 No. TS83 EN1-5 door closer (door leaf fixing) – silver finish
  - C4 No. TS83 EN1-5 door closer (door leaf fixing) with hold open device – silver finish
- **KICK PLATE**: Provide LOCKWOOD satin stainless steel countersunk drilled kick plate to all solid core doors to one side only (to opening face). Height 100mm; width to suit door
- **DOOR STOP**: METLAM No. ML0672 floor mounted door stop
| **DOOR SIGNAGE** | Room Names (General) | Type: Vinyl lettering, 80mm high, Arial font, lower case  
Size: 60mm  
Colour: White |
| --- | --- | --- |
|  | Appliance Bay Door Numbers | Type: Vinyl lettering, Arial font, lower case  
Size: 500mm high  
Colour: Black |
|  | D26 Visitors’ WC | Manufacturer: PICTOBRAILLE (ph: 07 3848 7371) or approved alternative supplier  
Type: Unisex & disabled access sign No. PB-UAT Blue with white lettering and Braille, 180 x 180 |
| **UV FILM** | Supplier: SOLARX (ph: 1300 765 213) |
| **VISION STRIPS** | Supplier: SOLARX (ph: 1300 765 213)  
Type: 3M window film – Illumina No. SH2FG IM dense white spot pattern |
G: WINDOW SCHEDULE

WINDOW SCHEDULE

Notes:
1. All glazing in accordance with AS1288 & AS2208
2. All double hung & casement sashes to have a restricted opening of 125mm maximum
3. All double hung & casement sashes shall be fitted with removable insect screens, aluminium framed, with metal mesh
4. All aluminium to be natural anodised. Anodising to be 25,000 Microns thick
5. Double glazing throughout unless otherwise specified
6. CLEARSHIELD protective coating to outside face of all external windows
# GATE SCHEDULE

<table>
<thead>
<tr>
<th>Type</th>
<th>Manufacturer</th>
<th>Frame &amp; Finishes</th>
<th>Hardware</th>
</tr>
</thead>
<tbody>
<tr>
<td>G01</td>
<td>ARCO</td>
<td>Frame: hot dipped galvanised steel; vertical supports to suit cladding  &lt;br&gt; Cladding: expanded mesh (material EM)  &lt;br&gt; Concrete footing: nominal 4000 x 800 x 500mm by builder. Final footing specifications to be confirmed by gate manufacturer.  &lt;br&gt; Receiver post: hot dipped galvanised steel  &lt;br&gt; Fence FN-2: by builder</td>
<td>Motorisation: 3 phase 0.75kW 100% duty cycle motor with torque limiting manual release gearbox &amp; independent limit switches.  &lt;br&gt; Cradle assembly, guides: cast in hot dipped galvanised cradle. Axle &amp; bearings to suit door weight operation.  &lt;br&gt; Controls: OMRON PLC with variable speed inverter drive in a lockable metal enclosure with input/output capacity to accommodate; radio receiver, induction loop, card reader, pedestrian mode, key switch.  &lt;br&gt; Access from street: by card reader (by security contractor) mounted to security access bollard (by gate manufacturer) and radio receiver.  &lt;br&gt; Access from drill yard: by vehicle exit loop (by gate manufacturer) and card reader (by security contractor).</td>
</tr>
<tr>
<td>G02</td>
<td></td>
<td>Frame: nominal 100 x 50 RHS with bracing, hot dipped galvanised steel  &lt;br&gt; Cladding: expanded mesh (material EM)  &lt;br&gt; Tongue: nominal 80 x 40 x 8mm steel plate with rounded end &amp; circular eyelet cut-out welded perpendicular to the face of both gates at 1000mm above ground level.</td>
<td>Padlock: AUSTRALIAN LOCK COMPANY bi-lock padlock master keyed with bi-lock cut key  &lt;br&gt; Drop bolts: both leafs (outside face)  &lt;br&gt; Door pulls: galvanised steel D-pull handle to both leafs welded perpendicular to the face of both gates at 1200mm above ground level.</td>
</tr>
</tbody>
</table>
## JOINERY SCHEDULE

Joinery Pulls manufactured by HAFELE D-pull No. 117.40.622 matt brushed stainless steel unless otherwise specified

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Finish/Colour</th>
<th>Hardware/Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Office</strong></td>
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<tr>
<td>Desk</td>
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<tr>
<td>- desktop</td>
<td>Desk top: 32mm MDF MR with LAMINEX premium grade laminate with matching 2mm rigid ABS edging</td>
<td>Laminate (LA2): LAMINEX white, 200, flint finish</td>
<td>Drawer pulls: HAFELE D-pull No. 117.40.622 matt brushed stainless steel</td>
</tr>
<tr>
<td>- drawers</td>
<td>Drawer fronts, exposed panels &amp; kicker: 18mm LAMINEX ‘Lamiwood MR’ prefinished board with matching 2mm rigid ABS edging to all exposed edges</td>
<td></td>
<td>Hinges: concealed</td>
</tr>
<tr>
<td>- open shelves</td>
<td>Internal carcass &amp; shelves: 18mm white melamine with matching melamine edging</td>
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<td></td>
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<tr>
<td></td>
<td>Open shelves: 18mm LAMINEX ‘Lamiwood MR’ prefinished board with matching 2mm rigid ABS edging to all exposed edges</td>
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<tr>
<td>Office</td>
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<tr>
<td>Office storage</td>
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<tr>
<td>- cupboards</td>
<td>Bench top: 32mm MDF MR with LAMINEX premium grade laminate with matching 2mm rigid ABS edging</td>
<td>Laminate (LA2): LAMINEX white, 200, flint finish</td>
<td>Door &amp; drawer pulls: HAFELE D-pull No. 117.40.622 matt brushed stainless steel</td>
</tr>
<tr>
<td>- drawers</td>
<td>Drawer fronts, exposed panels &amp; kicker: 18mm LAMINEX ‘Lamiwood MR’ prefinished board with matching 2mm rigid ABS edging to all exposed edges</td>
<td></td>
<td>Hinges: concealed</td>
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<tr>
<td>- pigeon holes</td>
<td>Internal carcass &amp; shelves: 18mm white melamine with matching melamine edging</td>
<td></td>
<td></td>
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<tr>
<td>- bench top</td>
<td>Open shelves: 25mm LAMINEX ‘Lamiwood MR’ prefinished board with matching 2mm rigid ABS edging to all exposed edges</td>
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<td></td>
<td>Pigeon holes: 16mm LAMINEX ‘Lamiwood MR’ prefinished board with matching 2mm rigid ABS edging to all exposed edges</td>
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<tr>
<td>Room</td>
<td>Area</td>
<td>Description</td>
<td>Laminate (LA2):</td>
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<tr>
<td>Lecture</td>
<td>Kitchenette</td>
<td>Desk top: 32mm MDF MR with LAMINEX premium grade laminate with matching 2mm rigid ABS edging</td>
<td>LAMINEX white, 200, flint finish</td>
</tr>
<tr>
<td></td>
<td>- bench top</td>
<td>Drawer fronts, exposed panels &amp; kicker: 18mm LAMINEX ‘Lamiwood MR’ prefinished board with matching 2mm rigid ABS edging to all exposed edges</td>
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<tr>
<td></td>
<td>- cupboards</td>
<td>Internal carcass &amp; shelves: 18mm white melamine with matching melamine edging</td>
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<tr>
<td></td>
<td>- drawers</td>
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<tr>
<td>Lounge</td>
<td>Cabinets</td>
<td>Bench top: 32mm LAMINEX Natural Timber Veneer veneered E1 particleboard with KDHW edge strip to match</td>
<td>LAMINEX Natural</td>
</tr>
<tr>
<td></td>
<td>- cupboards</td>
<td>Door fronts, exposed panels &amp; kicker: 18mm LAMINEX Natural Timber Veneer veneered particleboard with veneer edge strips to all exposed edges to match</td>
<td>Natural Timber Veneer Tasmanian Oak, crown cut</td>
</tr>
<tr>
<td></td>
<td>- video cabinet</td>
<td>Internal carcass: 18mm white melamine with matching melamine edging</td>
<td>5mm KDHW edge strip</td>
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<tr>
<td>Kitchen</td>
<td>Full height cupboards</td>
<td>Drawer fronts, exposed panels &amp; kicker: 18mm LAMINEX ‘Lamiwood MR’ prefinished board with matching 2mm rigid ABS edging to all exposed edges</td>
<td>LAMINEX white, 200, flint finish</td>
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<tr>
<td></td>
<td>- cupboards</td>
<td>Internal carcass &amp; shelves: 18mm white melamine with matching melamine edging</td>
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<tr>
<td></td>
<td>- open shelves</td>
<td>Open shelves: 18mm LAMINEX ‘Lamiwood MR’ prefinished board with matching 2mm rigid ABS edging to all exposed edges</td>
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<tr>
<td>Kitchen</td>
<td>Work Bench</td>
<td>Bench top: folded 1.6mm Grade 304 stainless steel to 38mm thick MR particleboard substrate with integrated sinks &amp; drains</td>
<td>LAMINEX white, 200, flint finish</td>
</tr>
<tr>
<td></td>
<td>- work bench</td>
<td>Splashback: stainless steel to water resistant substrate</td>
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<tr>
<td></td>
<td>- cupboards</td>
<td>Door, drawer fronts, exposed panels &amp; kicker: 18mm LAMINEX ‘Lamiwood MR’ prefinished board</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- pigeon holes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- drawers</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- integrated</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| **Firefighter Bedrooms** | **Desk** | Bench top: 32mm LAMINEX Natural Timber Veneer veneered E1 particleboard with KDHW edge strips to all exposed edges to match  
Bedside table: 32mm LAMINEX Natural Timber Veneer veneered E1 particleboard with KDHW edge strips to all exposed edges to match | Laminate (LA1): LAMINEX Natural Timber Veneer Tasmanian Oak, crown cut  
5mm KDHW edge strip | N/A |
| --- | --- | --- | --- | --- |
| **Firefighter Bedrooms** | **Bed** | Exposed panels: 18mm LAMINEX Natural Timber Veneer veneered E1 particleboard with KDHW edge strips to all exposed edges to match  
Bed slats: 90 x 45 KDHW timber planks  
Internal framing: KDHW framing | Laminate (LA1): LAMINEX Natural Timber Veneer Tasmanian Oak, crown cut  
5mm KDHW edge strip | N/A |
| **Bed Lockers** | **Lockers** | Door & exposed panels: 18mm LAMINEX ‘Lamiwood MR’ prefinished board with matching 2mm rigid ABS edging to all exposed edges  
Internal carcass & shelves: 16mm white melamine with matching melamine edging | Laminate (LA2): LAMINEX white, 200, flint finish  
Signage: 10mm high engraved locker numbers, Arial font | Door pull: HAFELE metal flush handle No. 151.38.002 stainless steel, matt brushed  
Magnet push mechanism  
Air vent: white, round, 75mm diam. To fit within depth of 18mm lamiwood  
Hinges: concealed  
Locks: heavy duty joinery lock |
<p>| <strong>Bathrooms</strong> | <strong>Recessed</strong> | Mirror door panel: 18mm LAMINEX | Laminate (LA2): | Door pulls: magnet |</p>
<table>
<thead>
<tr>
<th>Room</th>
<th>Feature</th>
<th>Material/Details</th>
<th>Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Turnout Alcove</strong></td>
<td>Work bench</td>
<td>Bench top &amp; step-in bench: 32mm MDF MR with LAMINEX premium grade laminate with matching 2mm rigid ABS edging</td>
<td>Laminate (LA2): LAMINEX white, 200, flint finish</td>
</tr>
<tr>
<td></td>
<td>- bench</td>
<td>Exposed backing panels: 16mm LAMINEX ‘Lamiwood MR’ prefinished board with matching 2mm rigid ABS edging to all exposed edges</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Equipment</strong></td>
<td>Work bench</td>
<td>32mm MDF MR with LAMINEX premium grade laminate with matching 2mm rigid ABS edging</td>
<td>Laminate (LA2): LAMINEX white, 200, flint finish</td>
</tr>
<tr>
<td></td>
<td>- bench</td>
<td></td>
<td>Bench leg: HAFELE Regula Furniture feet 25/25/700 SHS steel with M10 threaded plug – No. 635.45.370 matt black colour No. 651.01.304 30mm M10 adjusting screw</td>
</tr>
<tr>
<td><strong>Hose Bay</strong></td>
<td>Clothing cabinet</td>
<td>Door fronts &amp; exposed panels: 18mm LAMINEX ‘Lamiwood MR’ prefinished board with matching 2mm rigid ABS edging to all exposed edges</td>
<td>Laminate (LA2): LAMINEX white, 200, flint finish</td>
</tr>
<tr>
<td></td>
<td>- cupboard</td>
<td>Base/legs: black powder coated steel frame</td>
<td>Hanging rails: 30mm chrome finish</td>
</tr>
<tr>
<td></td>
<td>- hanging rails</td>
<td></td>
<td>Door &amp; drawer pulls: HAFELE D-pull No. 117.40.622 matt brushed stainless steel</td>
</tr>
<tr>
<td><strong>Lecture Room</strong></td>
<td>Computer desk</td>
<td>Bench top: 32mm MDF MR with LAMINEX premium grade laminate with matching 2mm rigid ABS edging. Provide 40 diam.circular cutouts in desk with plugs for computer cables</td>
<td>Laminate (LA2): LAMINEX white, 200, flint finish</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dividing panels: 9mm white Perspex sheeting – removable</td>
<td>Cable basket: plastic/metal basket mounted to underside of desks, full length of desk for excess computer cables</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Backing &amp; side panels: 16mm LAMINEX ‘Lamiwood MR’ prefinished board with matching 2mm rigid ABS edging to all</td>
<td></td>
</tr>
</tbody>
</table>

**Mirror Cabinet**
- Mirror to face of doors
- Fixed shelves
- ‘Lamiwood MR’ with matching melamine edging. Mirror to face of door.
- Carcass & shelves: 16mm white melamine with matching melamine edging
- LAMINEX white, 200, flint finish
- Push mechanism
- Mirror: 3mm thick, polish all exposed edges
exposed edges

Leg: 35 x 35 stainless steel legs with adjustable foot & base plate
### J: PROVISIONAL QUANTITIES

<table>
<thead>
<tr>
<th>Item</th>
<th>Where Specified</th>
<th>Provisional Quantities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply &amp; installation of Acrovlyn Corner Guards</td>
<td>TBA</td>
<td>TBA</td>
</tr>
</tbody>
</table>
K: FURNITURE SCHEDULE

STATION OFFICE
Office Chairs – standard MFB “new style”
Style: BOB 201 Mesh Chair with arms
Cost:

$485.00 ea

Pin Boards – silver anodised frame
Fabric: Prelude – colour TBA
Size:
3400 x 430
2400 x 1200
1600 x 1200

Whiteboard (vitreous)
Size: 1200 x 1400

LECTURE ROOM
Lecture Chairs (stackable)
Style: Meteor High Back – fully upholstered
Black 4 leg frame – sloping arms
Fabric: commercial grade – colour TBA

Lecture Room Folding Table
Top: Standard laminate range – 25mm
Size: 2100 x 900
Frame: Thinking Ergonomic “I am turn”

Pin Board – silver anodised frame
Fabric: Prelude – colour TBA
Size: 2400 x 1200

Whiteboard (vitreous)
Size: 1200 x 2400
KITCHEN MESS
Kitchen Mess Tables
Top: Standard laminate range – 25mm
Colour: TBA – 75mm radius corners
Size: 2400l x 80w0 x 735h
Frame: black heavy duty 4 leg (38 x 38 tube)

Pin Board – silver anodised frame
Size: 1800 x 900

Whiteboard (vitreous)
Size: 1800 x 900

GENERAL PURPOSE ROOM
Low Level Coffee Table
Top: Standard laminate range – 25mm
Colour: TBA
Size: 1200l x 600w x 450h
Frame: Black 4 leg powercoat

Pin Board – silver anodised frame
Size: 2400 x 1200

BREAKOUT
Low Level Coffee Table
Top: Standard laminate range – 25mm
Colour: TBA
Size: 1200l x 600w x 450h
Frame: Black 4 leg powercoat

BEDROOMS
Office Chairs – standard MFB “new style”
Style: BOB 201 Mesh Chair with arms
TURNOUT ALCOVE

Drafting Chair
Style: Henty HT 12
High back – no arms
265mm gas lift – foot ring
Fabric: commercial grade – colour TBA

Pin board – silver anodised fram
Fabric: Prelude – colour TBA
Size: 880 x 1000
2300 x 1000

BREATHING APPARATUS

Whiteboard (vitreous)
Size: 2400 x 1200

BBQ AREA

Hunter Outdoor Table
Size: 2200 x 1000
OR
Size: 2600 x 1200

Outdoor Chairs
Style: Kuranda
L: GENERAL ACCESS AND MOBILITY MANUAL MFB 2010

Purpose of the Manual

The Code aims to ensure that all members of staff and the community have unimpeded access to buildings, services and facilities which the MFB own, lease and operate.

Applications of the Manual

Disability Access relates to the all buildings and facilities, due to the fact that the MFB has Staff and Customers and Service Providers entering buildings who will be people with disabilities.

As per stringent requirements for all Operational Firefighters to be physically fit for duty, Operational Areas may be considered as areas which may not need to be fully compliant to D.D.A. (Disability Discrimination Act 1992) legislative requirements due to the nature of the use for the areas. As such, bedrooms, bathrooms and locker rooms, may not be areas where people with disability, injury or illness would be required to utilise for work purposes. People entering as a visitor or Non –Operational staff member, would be directed and assisted by staff on duty.

If a member of staff was to be located at a site which was not accessible for their needs, Workplace Modifications would be implemented to assist that person to complete the inherent requirements of their job.

The primary function of Fire Stations is to assist in the delivery of an emergency service with a quick and efficient egress through the building.

Why access and mobility is important

To ensure that the MFB comply with the Disability Services Act of 2006, it is imperative that all works to buildings and surrounding environments, meet a minimum Disability Discrimination Act 1992 (DDA) requirement when work is being planned and completed.

Public areas within a fire station relate to

- Car Parking
- Main principle entrance and entry foyer
- Accessible visitor bathroom
- Lecture room (Multipurpose room)
- Appliance bay
- Turnout alcove (to sign in and get through to the Appliance Bay)

The State Government of Victoria has legislative requirements under the Disability Services Act 2006 pertaining to Access to buildings for Statutory bodies.

The MFESB made the commitment to the community and Government in 2008, by endorsing its Disability Action Plan (2008-2011). An objective of this plan, is to incorporate physical
accessibility in plans for all building upgrades and new stations (6.1, MFESB Disability Action Plan 2008-2011)

Disclaimer
Whilst every effort has been taken to provide thorough information, this document is developed as a guide, and does not replace the use and reference of the Building Codes of Australia and Australia Standards.

Summary of key access requirements within the MFB

Generally, key access requirements must be considered within a building to ensure access for all is provided. Access issues relate to the following:

- Car parking
- Bathrooms and change facilities
- Colour contrasts
- Customer service areas
- Entrances
- Exits
- Floor surfaces
- Internal walkways and corridors
- Kerb ramps
- Kitchens / dining areas / tables
- Landscaping elements
- Lifts
- Meeting and multipurpose areas
- Pathways
- Ramps
- Signage and way finding
- Stairs
- Tactile Ground Surface Indicators
- Toilets (designated accessible toilets)

Summary of Australian Standards referred to within the manual

a) AS1428.1 Design for Access and Mobility – General Requirements for Access – New Building

b) AS 1428.2 Design for Access and Mobility – Enhances and Additional Requirements – Buildings and Facilities

c) AS1428.4 Design for access Mobility – Tactile Indicators

d) AS 1680.0 Interior Lighting – Safe Movement

e) AS 1735.12 Lifts, Escalators and Moving Walks – Facilities for persons with disabilities
f) AS 1735.14 Lifts for people with limited mobility – restricted use – low rise platforms

g) AS2220.2 Emergency warning and intercommunication systems in buildings – system design, installation and commissioning

h) AS 2890.1 Parking facilities: Part 1 – Off Street Car Parking

i) AS 2890.6 Parking Facilities: Part 6 – Off Street Parking for people with disabilities

j) AS 2899 Public Information Symbol Signs – Part 1 General Information signs

k) AS 4586 Slip resistance classification of new pedestrian surface materials

l) AS 1428 Draft Access to Premise Standards 2009

m) AS 1680.1 Interior lighting- General principles and recommendations

1.0 Accessible Car Parking

**AS 2890.1 Parking Facilities: Part 1 – Off Street Parking**

**AS 2890.6 Parking Facilities: Part 6 – Off Street Parking for people with disabilities**

Provide accessible off street parking, where possible, which enables a person to disembark from a vehicle safely, with a path which will enables a continuous accessible path of travel to the building entrance.

A minimum bay width of 3200mm and length of 5400mm is generally required to provide appropriate access for both the driver and the passenger to load and unload from the vehicle.

Other key elements include appropriate signage and line marking, kerb ramps, lighting, overhead clearance, and tactile ground surface indicators as per the Standards.

2.0 Built Form and Entrances

**AS 1428.1 Design for Access and Mobility**

**AS 1428.2 Design for Access and Mobility – Enhances and Additional Requirements – Buildings and Facilities**

**AS 1680.0 Interior Lighting – Safe Movement**

**AS 2899 Public Information Symbol Signs – Part 1 General Information signs**

**AS 1680.1 Interior lighting- General principles and recommendations**

**AS 4586 Slip resistance classification of new pedestrian surface materials**

Provide a continual accessible path of travel from the property line and accessible car park to the entry foyer of buildings. Principal public entrances should be wide, level, step free, with matting that is recessed into the flat surface of the ground.

Install ramps that have a gradient of no more then 1:14 as per AS 1428
Provide for colour contrasting to building features, such as bollards, walls and floors and Tactile Ground Surface Indicators (TGSI).

Provide compliant circulation space of all door width to a minimum of 850mm clear egress with a force less then 110 Newtons to open them, except where air circulation inhibits door closure.

Provide colour contrast and luminance contrast strips on all continuous glass walls and doors.

Provide compliant signage at AS1428 height requirements 1200-1600 mm above floor level.

Install door handles, intercoms, locks and security swipe units at AS1428 requirements of 900-1100mm.

3.0 Change and Shower Facilities

AS 1428.1 Design for Access and Mobility
AS 1428.2 Design for Access and Mobility – Enhances and Additional Requirements – Buildings and Facilities

Unisex facilities are preferred, which provide enough space to allow two adults to use, change, and shower simultaneously. Provision of an accessible shower seat, adjustable shower rose with vertical shower support grab rails, slip resistant and step free level floor surface, unobstructed circulation space appropriate hand rails, clothes hooks and/ or lockers at an accessible height. If a baby change table is provided, that it be placed where it does not obtruct the circulation space of the facility.

4.0 Toilets (Designated Accessible Toilets)

AS 1428.1 Design for Access and Mobility
AS 1428.2 Design for Access and Mobility – Enhances and Additional Requirements – Buildings and Facilities

Unisex facilities are preferred. Compliance with relevant Australian Standards is crucial in accessible toilets. The most important elements are the circulation area and the location of fittings.

Provide compliant signage at AS1428 height requirements 1200-1600 mm above floor level.

Install door handles, intercoms, locks and security swipe units at AS1428 requirements of 900-1100mm.

5.0 Lifts

AS 1735.12 Lifts, Escalators and Moving Walks – Facilities for persons with disabilities
AS 1735.14 Lifts for people with limited mobility – restricted use – low rise platforms
AS1428.1 Design for Access and Mobility
AS 1428.2 Design for Access and Mobility – Enhances and Additional Requirements – Buildings and Facilities

Passenger lifts should be provided in all new buildings with more than one level (See BCA for exemptions). The lift will incorporate sufficient space to allow a person using a wheelchair or scooter to enter and access the lift control functions. Signage should incorporate tactile elements and clear labelling. Handrails will be provided.
6.0 Stairs

AS1428.1 Design for Access and Mobility – General Requirements for Access – New Building
AS 1428.2 Design for Access and Mobility – Enhances and Additional Requirements – Buildings and Facilities
AS1428.4 Design for access Mobility – Tactile Indicators
AS 1680.0 Interior Lighting – Safe Movement

All stairs and steps shall be fitted with contrast on stair nosing, which incorporate enclosed risers with slip resistant surfaces as well as compliant handrails on both sides of the stairs. Tactile Ground Surface indicators are to be installed at the top and bottom of stairs and at landings as required. Appropriate lighting will be installed for night time use.

7.0 Meeting Spaces

AS1428.1 Design for Access and Mobility – General Requirements for Access – New Building
AS 1428.2 Design for Access and Mobility – Enhances and Additional Requirements – Buildings and Facilities
AS1428.4 Design for access Mobility – Tactile Indicators
AS 1680.0 Interior Lighting – Safe Movement
AS 1680.1 Interior lighting- General principles and recommendations

A continuous accessible path of travel shall be provided to and through any meeting areas. Provide appropriate seating with backs and arm rests, which allows integrated wheelchair space.

Proximity of Accessible Toilets and Emergency Exits is important. Provide access to stage and podium areas, and Audio systems which are at an accessible height. For large meeting rooms/lecture rooms install hearing augmentation systems and appropriate signage for the space covered.
M: EXECUTIVE DIRECTIVE MINIMUM CREWING

### EXECUTIVE DIRECTIVE

**MINIMUM CREWING**

**Issue Date:** 20/2/16  
**Replaces:** Minimum Manning  
**Page No.:** 1 of 1

At the commencement of each shift, the MFEBOQ employed crewing shall be in accordance with the attached Chart (CH 060221) with the following variations:

1. **Commander’s Location:**
   - Central, Western, Northern and Southern Zone shall each have a Commander on duty and on shift.

2. **Senior Station Officer Stations:**
   - (a) Station 1, 7, 25, and 44 shall have a Senior Station Officer on duty.
   - (b) Stations designated as Senior Station Officer Stations shall have, as a minimum, a Station Officer on duty acting as the Senior Station Officer on duty.
   - (c) Stations 4, 7, 25, and 44 shall also have a Station Officer on duty.
   - (d) Station 1 shall also have a Station Officer designated as the works officer.

3. **Command Levels - Fire Appliances:**
   - (a) Any appliance that is designated on the attached chart (CH 060221) as normally under the command of a Senior Station Officer may be commanded by a Station Officer (substantive) except where paragraph 2(c) above applies.
   - (b) Any appliance that is designated on the attached chart (CH 060221) as normally under the command of a Station Officer may be commanded by a Leading Firefighter (substantive).
   - (c) A Leading Firefighter may command an appliance that is designated as a Senior Station Officer appliance on a non-urgent move, up to a station where such station is normally under the command of a Station Officer.
   - (d) Any appliance that is normally under the command of a Leading Firefighter may in the absence of the Leading Firefighter be commanded by:
     - (i) Senior Firefighter (Qualified to Leading Firefighter) or
     - (ii) Qualified Firefighter (Qualified to Leading Firefighter), or
     - (iii) Senior Firefighter who has successfully completed an assessment in Command and Control.

4. **A Leading Firefighter may be in charge of a Fire Duty/Watching Duty provided that only one appliance is assigned to said fire (watching) duty.

5. **Flexible Crewing:**
   - **In Shift Emergency:**
     - An 'In Shift Emergency' occurs when a member of the Brigade who is on duty is required to be off duty on sick leave, casual leave, pressing necessity, or any other reason that makes it impractical to await for a stand by to arrive at the duty station.

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**THIS IS A CONTROLLED DOCUMENT**

Version: 2/02/2016

MFEBOQ - Emergency Response Managers

Changes made following discussions with Ken Brown on Fri. 24/02/2006
During an ‘In Shift Emergency’ the appliance will remain in commission with a reduced crew until such time as a standby can be effected and an extra MFRS primary appliance shall be recognised to all calls attended by the affected appliance.

If all zones are on Minimum Crewing and an In Shift Emergency occurs all four (4) crewed appliances with the exception of Pumpers at 1, 7, 25, 35 and 44 may be reduced to a crew of three to facilitate a standby to the affected appliance while arrangements are made to recall a firefighter which will be immediately initiated.

6. Overall Crewing Requirement:
   To enable MFRS employees capability to meet the changing and command levels designated in this Executive Directive and other activities these shall be an inclusive number of employees as follows:
   - 40 Commanders
   - 92 SSO’s
   - 308 Station Officers
   - 1130 Leading firefighters

7. Strategic Location Plan:
   Stations, Appliance, Staff, removed or relocated as a result of the progressive implementation of the Strategic Location Plan shall result in the release of chart C2022 to reflect these alterations.

8. Appliance Availability:
   There shall be a minimum of four rescue units and four aerial appliances in commission at all times. In the event that a further unit becomes unserviceable mechanical staff will immediately be recalled to effect repairs until restore the minimum number to four.

9. (A) Recall Considerations:
   Appliances temporarily out of service due to breakdown and unable to be repaired during that shift (eg two Rescue Units broken down) shall result in the appropriate staff numbers being available for standby and the overall minimum crewing requirements being temporarily reduced for up to one week, by that number, for the purposes of recall.

THIS IS A CONTROLLED DOCUMENT
Version: 24/03/2006 11:14 AM
Changes made following discussions with Ken Bow on Fri 24/03/2006
(B) Retaining

In the event that insufficient personnel to crew appliances in accordance with the minimum crewing chart present for duty at the commencement of any shift, substitute personnel, at appropriate ranks, to make up the discrepancy will be retained from the off-going shift and subsequently relieved by recall, at appropriate ranks, from on-duty staff.

II. Excess of Minimum Crewing:

Restored staff available over 30% may be used to provide crewing for the following:

a. Additional crewing of other appliances or
b. Commissioning of additional appliances etc.

As per the requirements of the Director Operations or Senior Duty Officer will give consideration to the risk environment, operational activity, training activity, the climate or other appropriate issues.

III. Emergency Move Up:

Nothing in this directive shall restrict the dispatch of crewed appliances to move up to provide fire cover in an emergency.

This Executive Directive is to be placed in the Brigade Order Book section of the Standard Procedures Manual (Volume 4) immediately following the General Orders.

A.J. Murphy
Director - Operations
N: LIFT UP GLAZED DOORS

PART 1: GENERAL

101 Scope

Supply and install two Fire Station appliance bay doors. The doors are to be of the walk-through, counweight balanced, "pull-up" type. They are to be motorised and constructed as outlined in the following specifications.

Front Door shall be approx. 4000 mm wide x 3000 mm high
Rear Door shall be approx. 6000 mm wide x 3000 mm high.

102 Shop Drawings

Provide Shop Drawings for major items supplied in accordance with the following directions:

1. Contract Drawings and details provided are indicative as to general and minimum requirements, and do not show conditions.
2. Develop details not shown and in conformity with the indicative details shown.
3. Measure and confirm dimensions on site, before preparing Shop Drawings where possible.

103 Defects

The Door Contractor shall guarantee the product against faulty workmanship and materials and accept liability for rectification of any fault free of charge, which occurs within twelve calendar months after the Builder’s practical completion, and is attributable to faulty design, workmanship or materials.

103.5 Optional warranty extension.

If a maintenance programme is entered into with the manufacturer the warranty shall be extended by up to three years. This shall be entered into prior to practical completion.

104 Performance and Operation

The Door Contractor shall repair or modify, at his own expense, any item of equipment forming part of the installation to ensure that the whole installation will operate and perform as specified. This obligation shall be in force for the duration of the Defects Liability Period if a running fault is found there must be a rectification procedure given and approved by the MFB at no cost to the MFB. Once approved, a completion date must be given in writing.
PART II MATERIALS

231 Bi-Fold Doors

1. General

   The Bi-fold doors shall be designed to withstand wind loads in accordance with
   AS1170 Part 2. In the closed position they shall have a maximum horizontal
   deflection (under design wind load) of 1 in 200 and a maximum vertical deflection
   of 1/8 in (under self-weight) loads.

   Frame members are to be designed to perform within their permissible working
   stress.

   All structural joints shall be fully welded and ground back where necessary.

   The force required for manual operation shall not exceed 16 kilograms.

   Hinges shall be made from machined steel and filled with bearing surfaces.

   All pins and rolling shafts shall be fitted with bushes and heavy-duty bearings
   respectively.

   The hinges required to accommodate the counterweights and their operation shall
   be arranged by means of metal covers. These covers are to be formed from 1/8 inch
   galvanized or insulating constant steel sheets and should be equal the height
   of the door. The counter weight covers shall be painted to match the doors frame.

   Whether seals shall be fitted in the bottom and sides of the doors. The bottom
   weather seal shall be fitted and appropriately sealed to take into account undulations
   in the finished floor level.

   Where the floor of the opening is significantly off-square the bottom of the doors
   shall be made to conform to it.

2. Emergency Operation

   In case of power failure, a quick release system to enable manual operation shall be
   fitted to the doors. This system will allow the door to be simply and quickly released by
   manual control at any position of its operation. Details of this mechanism's operation
   are to be supplied and approved by the MFB prior to manufacture.

3. Cables and Pulleys

   The door and counterweights will be connected with galvanised steel cables
   supported by a pulley system.

   The cable construction will suit "casing" type operators and have a "wire rope core".
   They will be designed with a safety factor of not less than 10.

   Each end of the cables will be fitted with a grooved bronze babbitt, suitable for
   connection to the door unless

   The completed cables must be certified, with a copy of the certificate included in the

   The ratio of pulley roof diameter to cable diameter shall be not less than 25:1.

   The dimensions of the pulley-cable grooves are to be in accordance with the
   instructions given in the Appendix of the Crane Code (AS1418). The
   Pulleys will be manufactured from steel billet and fitted with appropriately sized dual
   precision ball bearings.

   All cables and pulleys shall be in accordance with AS 1418, Part 1:1996 Crane
LIFT UP GLAZED DOORS

Glazing:
Powder-coated aluminium panels shall be glazed into the bottom of the door to form a kick-panel. In situations where the closed door faces East or West, the top row of glazing shall also be powder-coated aluminium panels. The remaining frontal area of the door shall be glazed with 4 mm toughened or 6-30 laminated grey glass.
An aluminium security glazing bead shall retain the aluminium and glass panels.
A maximum of Three (3) square metres per panel of glass.
The glazing bead shall be powder coated to a nominated colour.
The glazing beads shall be fitted into the door frame with an electrical insulating silicon gaskets and fixed with Tek screws (complied 10-24 x 1.6 mm or 300 mm nominal centres). At no point around the aluminium section be in direct contact with the steel frame.
Glass seal backing rods shall be used on either side of the glass prior to application of an admixture to glassing sealant.
The aluminium shall be prepared for powder coating by anodising it to give a "natural anodised" finish with a depth of 10 microns.
The Door Contractor shall be responsible for the supply and installation of all glazing and aluminium panels.

Decent Control Device:
An approved and tested by the MFS decent control device is to be fitted to all lift up doors greater than 4 metres in width. The system shall control vertical decent to a maximum speed of 300 mm per second. The device shall have a manual reset system and test function. This system shall be tested in the regular maintenance schedule.

Approved Supplies

Door systems shall be supplied and installed by one of the following contractors.

Avco Pty Ltd, G/32254/14
Door Repair & Maintenance Pty Ltd as a supplier.
Electrical Equipment

Fold-up Door Motorization

Each door shall be motorized by means of a three phase, 0.75kW, heavy duty, 100% duty cycle fan cooled motor and a torque master gearbox assembly. The drive will also incorporate a torque limiting clutch and independent limit switch assembly.

The torque limiter must be fitted on the output shaft of the gearbox. An isolated switch shall be fitted for each door in the door PLC control box.

All doors shall be fitted with a variable speed drive system in a soft start unit which has two program modes. One is for normal operation which will allow the door to operate at a minimum speed of 150mm per second. The second mode is for a quick opening mode to be used in the event of a fire alarm input. This will have an additional input from the BMS for activation. Option slow close shall be programmed into the door PLC for unmanned closing via remote or P.E. beams.

Controls:

Local push-button station to operate the raising, lowering and stopping of each door.

The push-button station shall incorporate a hold-in operation. The location of the push-button stations shall be approved by the Architect prior to installation and shall be clear of the travel of the doors whilst a person is standing by the push buttons. However, this location should be in clear view of the doors with visual in each bay.

Door operation will also be made from control panel in the Turnout Area. This panel will have raise and slow buttons only. It will also have single red and green indicator lights showing the door opening operations of the bi-fold doors.

The Door contractor supplies the control panel and the Door Contractor shall terminate the wiring from panel to the door PLC Control Unit. Note: the wiring is supplied and run by the electrical contractor. The door contractor is responsible for communicating with the site supervisor for cable type and location.

Photo-cells of the send/receiver type across the front door to close the door only when the appliance has departed provided the Fire Station PST key switch is in the unarmed mode and the correct sequence is followed. The PLC unit controlling this door is to be set up for one appliance departing before the door descends. Each door shall be individually controlled. Note: Optional slow close shall be programmed and activated if requested by the User.

Connection and fixing of one proximity switch at the rear of the Station to open the rear door by the security system.

A large mushroom electric switch located adjacent to the local push button at the front of the appliance bay. It is only to close the rear door when the Fire Station is in the unarmed mode. The purpose of this button is to allow staff having to close the rear door on the departure of the outgoing appliance in the case the front door will close automatically as the last appliance departs. The switch can be replaced by a touch remote control programmed to close the bay door on exit and close all appliance bay doors if unmanned.

Each door shall be fitted with two sets of drive indicator lights internally and two sets fitted externally for the rear door. They are positioned with one set of lights each side of the door mounted at a height that can be seen by the driver of the fire appliance. Each set shall consist of one red, amber and green indicator light mounted vertically. The lights shall be 24 volt high intensity
LIFT UP GLAZED DOORS

Wide angle LED's. The housing shall be adjustable to allow best view from the
drivers location.

The amber indicating lights must be strobing whilst the door is travelling and
whilst the door is on countdown for auto close function. The red shall be on
whilst stationary between full open and in the fully closed position. The green
lights are to indicate operational appliances are clear to exit and on in the fully
open position. The amber indicating lights shall perform an strobeLights 5
seconds prior and during the closing and opening of the appliance bay doors.
The amber indicating lights shall perform as strobe during the closing of the
appliance bay doors at all times.

Magnetic Reed security switches to interface via the door PLC terminals with
the MPB BMS shall be fitted to all doors by the Door Contractor. These are to
signal the MPB BMS and security units that doors have closed. Mounting
devices to be approved by the proprietor and be unaffected by wind or door
movement and must be operational even whilst the door is in manual
operation.

The power supply to the front and rear door motor shall be supplied through an
Omron variable speed drive with built in adjustable over load protection and
an output to the door PLC as to its status.

The green indicator lights beside each door shall be supplied through an
Omron LY2 Plug-in relay in 24V DC relays or equivalent. The red light is to
use a 24V DC solid state relay. Cables to each set of lights shall be fitted with
disconnect switches above the door to facilitate counterweight cover removal for
service.

All underground wiring shall be in heavy duty PVC conduit and to be copper
insulated PVC cable (Not tinned wire).
LIFT UP GLAZED DOORS

PLC Control Unit

The Door Contractor is to supply a separate item a programmable logic controller (PLC) to control all the doors. The short door using light beams to ensure the door is closed automatically on departure of the vehicles. The door shall be operated by manually operated controls only.

Light beams can be mounted on columns, on walls, or in specially designed products supplied by the Door Contractor. The holder is to mount the external beams at a location given by the door contractor.

The PLC to be located beside the MFB BMS.

The PLC unit shall interface with the:

- Local Door Controls
- Remote Control Panel
- Door Light Beam
- MFB Stations Routine System
- MFB Security System
- Motor Limit Switches
- MFB BMS
- Door Read Switches

A schematic of the control system is attached.

The Builder’s electrical contractor will be responsible for the following work:

- All power to Door PLC Cabinet
- Remote control panel and switches
- Main switchboard
- Cabling from the door PLC to each motor location in shielded cable
- Cabling and conduit to gate control box
- Cat5(c) cabling to all switch panels, photo beam, key switches, intercom, read switches and BMS data
- Co-ordinates the nominated Electrical Sub Contractor for the Bi-Fold door installation for his wiring being installed and to include all wiring, connection of equipment necessary for the complete installation of the Bi-Fold doors not being provided by the nominated Electrical Contractor
- All termination of control wiring shall be supplied and installed into position by the Door Contractor as well as the externally mounted key switch control

Wiring in the PLC Control Panel and at the Control Panel shall be by the Door Contractor. The Door Contractor shall be responsible for the supply and installation of motors, isolating switches, limit switches suitable speed drives and control relays.
LIFT UP GLAZED DOORS

The PLC Control Unit shall consist of Omron CJ series Programmable controller. The unit shall have a minimum of 80 I/O and be expandable. A Lithium battery shall maintain the programme memory with a 2 year data hold and memory retention. The actual size of the controller to be fitted shall be determined by the number of doors to be controlled at each station and the complexity of the program.

The PLC Unit is to be fitted with a 16In 16 Out I/O card, dedicated for the interface with the MFB BMS. The interface cable is to be supplied through a series of knurled disconnect switches so as to isolate the two PLC units from each other for maintenance and fault finding.

The PLC outputs shall be used to control current handing power relays and field effective transistors (FET). The relay outputs are to be fed through a NO relay contacts, which are to be held closed by the stop and safety circuits. This is to allow for the failure of the PLC where the relay will fail open.

Low voltage power supply is to be supplied using a regulated power supply with a 24V DC input and an output of 24V DC or a minimum of 2 amps.

The power supply unit shall be protected by an over temperature protection circuit.

The PLC power supply, relays and associated terminals and cabling shall be enclosed in an enclosure with an IP 55 protection rating. The enclosure shall be lockable, fitted with a PLC emergency light, finished with a peak light and scratch resistant paint to an approved colour.

Door PLC Program Requirements

Each door is controlled by a set of three push buttons (UP, STOP, DOWN) located adjacent to it. They can also be RAISED and STOPPED (but not lowered) by the two push buttons (UP, TOP) on the weatherproof control panel. Some of the doors will have an additional proximity switch located on the outside wall adjacent to the entrance. This proximity switch will be used to RAISE the door from outside the Station.

The Turn Out area control panel has an AUTO RAISE ON/OFF switch for each front door. This switch is used to enable or disable the automatically opening operation of the doors triggered by the DOORS UP pulse from the MFB BMS. This AUTO RAISE ON/OFF switch will have NO effect on the automatic opening operation of the doors and will not override the manual push buttons on the weatherproof control panel or in the engine bay. Each door has a set of (vehicle) driver indicator lamps at each side of the entrance. The GREEN lamp will light to indicate to the driver that the door is fully up and it is safe to drive through the entrance.

The Turn Out area control panel also has GREEN and RED near for each door which will duplicate the driver indicator lamps in the engine bay.

The door PLC program written by the contractor shall have the intellectual property rights transferred to the MFB. The MFB shall be the sole owner of the PLC program.
Appliance Bay Doors

Control requirements

The MFB BMS will provide the DOOR PLC with two control signals. These will be from normally open, voltage free relay contacts and are used to automatically control the closure of the fire engine doors.

1. **DOORS UP** - 3-second closure
2. **UNMANNED** - remain closed while the key switch in FIRE is in the unmanned position

Outputs to MFB BMS

The DOOR PLC will provide the MFB BMS with five status signals. These must be from normally open, voltage free relay contacts.

1. **DOORS LOWERING** - should remain closed while any of the engine bay doors are lowering
2. **DOORS DOWN** - should remain closed when all the engine bay doors are fully closed
3. **OVERLOAD** - an output for each P E beam status
4. **OPERATIONS** - a 1 second pulse for a counter for each door
5. **TRAVELL TIME** - if the travel time exceeds the door
6. **DOOR STAT** - door closed, part open and open
7. **ALWAYS ON** - power status on the door PLC

Closing of Front Engine Bay Doors

Each front door can be lowered by the lower push button located adjacent to it. This should not affect any PLC program.

The front doors are each fitted with two photoelectric beams, one across the inside entrance and the other across the outside entrance. These beams should not be obstructed by the DOOR when it is being lowered or raised. The beams are used to detect when an appliance or person is in the path of the door which is LOWERING. If any one of the beams is obstructed when the door is lowering the door will stop and auto close. When the beams have been cleared the door will wait 5 seconds before it can continue to lower. If the stop button is pressed at any time the door should remain stopped until either the raise or lower push buttons are pressed.

The UNMANNED input from the MFB BMS should not affect this operation.

The **DOOR UP** input from the MFB BMS should only cancel this operation and raise the pilote of the AUTO RANGE ON/OFF switch (on the master slave control panel) to arm.

The front engine bay door can also be closed automatically - this is explained in detail below.
**LIFT UP GLAZED DOORS**

**Automatic Close of Front Engine Bay Door**

The front door will close automatically when a number of conditions have been met:

1. The UNMANNED input from the MFR BMS must be present.
2. The photoelectric beam on the engine bay door should have been obstructed in the correct sequence. The correct sequence is as follows:

<table>
<thead>
<tr>
<th>INNER PHOTO ELECTRIC BEAM</th>
<th>OUTER PHOTO ELECTRIC BEAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLEAR</td>
<td>CLEAR</td>
</tr>
<tr>
<td>OBSTRUCTED &gt;2 seconds</td>
<td>CLEAR</td>
</tr>
<tr>
<td>OBSTRUCTED</td>
<td>OBSTRUCTED &gt;2 seconds</td>
</tr>
<tr>
<td>CLEAR</td>
<td>OBSTRUCTED</td>
</tr>
<tr>
<td>CLEAR</td>
<td>CLEAR</td>
</tr>
</tbody>
</table>

Only when the beam sequence has been detected by ANY ONE of the engine bay doors, will that particular door close after a 5-second delay. If any of the beams are obstructed before the 5-second delay has expired the door will still start to lower 5 seconds after the beams have cleared.

When the door begins to close it will follow the conditions as explained in the section CLOSING OF FRONT ENGINE BAY DOORS.

If the STOP button is pressed at any time, the automatic closing sequence will be cancelled and only restarted when the above conditions have again been met.
LIFT UP GLAZED DOORS

Opening of Front Engine Bay Door

Each front engine bay door can only be opened in three ways.

1. By the RAISE push button in the engine bay or the RAISE push button in the washroom control panel
2. Automatically by the DOORS UP pulse from the MFB PLC. This is established in the section below
3. By the proximity switch if fitted this will be located on the outside wall adjacent to the entrance.

The photoelectric beam on each door, if obstructed, should not effect the opening conditions.

Automatic Opening of Front Engine Bay Door

Each front engine bay door will open automatically only when:

1. In AUTO RAISE ON/Off switch is in the ON position
2. The DOORS UP signal pulse from the MFB PLC has been received.

If the doors are already lowering when the above conditions have been met, they should stop, pause for 0.5 secs and return to open.

The photoelectric beams, if obstructed, should not effect the opening of the doors at ANY time.

Rear Engine Bay Door

The rear engine bay doors can be controlled by a set of three push buttons located adjacent to it or RAISED and STOPPED by the two push buttons on the washroom control panel.

The rear doors have an additional MASTER REAR DOORS DOWN button located near the washroom. It can only be used to close the rear doors when the UNMANNED input from the MFB PLC is present.

The rear door may have a proximity switch located on the outside wall adjacent to the entrance. It will raise the door from outside the Station.

The rear doors are not controlled automatically.
LIFT UP GLAZED DOORS

Location of Light Beam Detectors

Bollards
Light beams can be mounted on external bollards provided by the Door Manufacturer or on walls or on specially designed brackets or stands supplied by the Door Contractor.

Front Door External Bollards
The bollards are to be supplied and installed by the Builder. The Door Contractor shall provide and install light beam components and wiring for each door and shall liaise with the Builder to fill the equipment appropriately.

Front Door Internal Brackets or Bollards
Three bollards where necessary shall be supplied and installed by the Door Contractor. These bollards shall be of a substantial nature made from a rectangular hollow-section.

The Door Contractor shall be responsible for liaison with the Builder for the installation of wiring or chase in the floor shall provide for the necessary wiring. The brackets or bollards themselves should have a height of approximately 1.5 metres overall for safety reasons.

205 Finish

Bi-Fold Doors
All door metalwork shall be sand blasting to class 2.6 AS 1657-1974 and coated.
Alternatively, the base metal must be of a guaranteed zincalume base and coated.
All walls and door panels to have an additional zinc primer.
Zinc based two pack etch primer to a thickness of 75 microns minimum.
Topcoat shall be two pack paint then baked, and shall conform to all relevant Australian Standards.

PART II EXECUTION

301 Installation

Carry out installation of all equipment and fittings in strict accordance with Manufacturer’s instructions.

302 Operating Instructions and Service Manuals

After completion of the work, the Door Contractor shall issue to the Architect, Isham (s.) complete sets of Operating and Maintenance Manuals and As Built Drawings.

The manuals shall include:
1. Index of Conditions
2. Description of doors
3. Full list of motors and equipment, detailing manufacturer, supplier, modal number and capacities
4. Operating instructions
5. Maintenance instructions for all plant and equipment
6. Technical information, operating and maintenance manuals, spare parts etc. on all equipment, as published by the manufacturers
7. Line diagrams and schematics of all systems, including electrical and control systems
8. The as Built Drawings shall clearly show all arrangements as finally installed
9. Copy of Quality maintenance and installation manuals
10. Copy of the door PLC program
11. As installed control wiring diagram showing all terminals interconnected on the door PLC...
LIFT UP GLAZED DOORS

303 Maintenance Schedule

The appliance bay doors are required to be checked at three (3) monthly intervals and a
written report sent to Brian Hardy at 453 Albert Street, East Melbourne.

Items that are to be checked:

1. Check door balance, disconnect door from motorisation and operate manually, and if the
door is balanced it will remain stationary in its 45° position.
   Adjust the door to bring it into balance if required.

2. Manually run the door up and down listening for any noise. Inspect the free running of
   the pulley sheaves and laser for any wire rope noise that could signal fraying or
   rubbing. Visually inspect the wire rope. Lubricate light and 3/0CH wire rope lubricant
   if required. Check the wire rope, replace the wire rope if frayed and give a full report
   as to why this has occurred.

3. With the door fully open inspect the top shaft wire ropeavage check that it has not or
   will not rub on the stops located on the vertical guides.
   Check wire rope, replace wire rope if frayed.

4. Reconnect the door and release, inspect the leaves of the door to check whether they
   are held together to achieve the full drive through.
   Adjust the upper limits as required.

5. Lower the door to 45° and stop, check both vertical spindles to ensure that the
   terrains are equal, but not overtight.
   Adjust the chain tension if needed by the adjusting bolts.

6. Lower the door down and check if the carriage over travels and the connecting wire
   can be easily removed.
   Make the required adjustments and lubricate the connecting pin shaft.

7. The above items are the most important, however, the following items are required to be
   checked when service is being carried out.
   The top shaft spindles alignment, adjust as required. Uneven wear on the bottom
   sprockets and bushes, replace if required.
   Check torque limiter for slippage, if it has been slipping dismantle the outer paw and
   inspect, if it has worn smooth either roughen up or replace the torque limiter sprocket
   plates and move the adjustments as required.
   Check clutch, the door should be able to be stopped by hand while to motor is in
   operation.
   Inspect the gearbox for oil leakage, replace as required as required.
   Record all maintenance report after each service.

Switchgear and Electrical Wiring

The switchgear is required to be checked at 3 monthly intervals.
The following maintenance recommendations are made to assure the
continued satisfactory operation of the switchgear, and the electrical wiring
installed as part of the controls for the appliance bay doors.

Items to be checked:

1. Contactors are clean and free from dust.
2. Contactors faces are clean and free of pitting, terminal connections are tight. If the contactors have become pitted they are to be
   replaced. (N.B. to be cleaned with emery tape).

At twelve (12) monthly intervals the switchboard should be thoroughly
inspected and tested by a Qualified Electrcian with the following work being
carried out.
LIFT UP GLAZED DOORS

1. Inspect all contacts and relays for the correct operation and contact alignment, lightly oil pivot points.
2. Clean and dress copper contact faces, do not dress alloy contact faces, wipe off carbon deposits. Replace the entire set of contacts if worn to about half the normal thickness.
3. Check the programmable Logic Controller thermal overrides and circuit breakers for the correct operation and setting.
4. Check and tighten all electrical connections. Check solder on lug for signs of discoloration due to heating, if present it apparent but no fault is located replace the lug.

Electrical Wiring

Wiring is to be inspected at twelve (12) monthly intervals by a Qualified Electrician and the following work carried out:
1. Check the tightness of all electrical connections, particularly motor isolating switches.
2. Check that all couplings are fixed in position and the joints are sound.

Electrical Motors

When the electrical motors are commissioned and every twelve (12) months thereafter, check each phase with an amp meter for overload. If overloaded, or current readings vary by more than 5% between phases, then check the line voltage at the motor at within permissible tolerances. Incorrect line voltage should be corrected, if current readings are still uneven refer to the motor manufacturer.

If the electric motor is overloaded and the voltages are normal, check and correct the causes of the overload. Always operate the electric motors with the thermal overload protection of the proper capacity.

At six (6) monthly intervals check the electric motors to ensure that the air passages are free of all foreign matter that may induce dust and strays lint and grease, etc.

Electrical Motor Bearings (Ball or Tapered)

The factory lubricated bearings should not require attention for at least twelve (12) months, unless operating under vigorous conditions. Lean and repack the bearings to about 2/3 capacity, DO NOT over grease, where the bearings are fitted with lubricators, add a little grease every six (6) months. ALWAYS replace the lubricator caps otherwise entry of grit will shorten the life of the bearings.
LIFT UP GLAZED DOORS

1) Photo Electric Switches

Photocell/beam devices are to be checked at three (3) monthly intervals, the front face or reflective mirror on both the transmitter and receiver units are to be cleaned.
Checking the operation of the indicating LED on the receiver should check the photocell switches for alignment. The LED should be fully on if it is impossible make the required adjustment so that the LED is not flashing on and off.

2) Indicator Lamps

The indicator lamps at the scene and in the winch silo need to be checked and replaced as required.

3) Programmable Logic Controller

The PLC is to check six (6) monthly, checking the tightness of all terminals and the operation of the individual LED’s, in particular the battery indicator. If the battery indicator is indicating that the battery is getting low or two or three after the completion of the Fire Station, the battery should be replaced for avoid the program being lost due to power failure.
O: S600 APOGEE OPERATING MANUAL TURNOUT CONTROL

SIMENS BUILDING TECHNOLOGIES
S600 APOGEE OPERATING MANUAL
TURNOUT CONTROL

MFESB STATIONS
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1. Introduction
The DDC system at MFESB ?????? Fire Station is based on the Siemens Building Technologies System 590 Apogee platform.

The system architecture consists of a Modular Building Controller (MBC) and sixteen 540-110 Terminal Equipment Controllers (TECs).

MBC controls the DDC system layout and the maintenance services within the fire station. These are discussed in a separate module. MBC is connected via a Apogee Ethernet Interconnect (AEM) to the NFBS Ethernet network. Which allows the DDC to be monitored from the main DDC terminal computer located at the NFBS Eastern Fire Station.

1.1 System Description
MBC will be located in an area to be agreed upon. It is powered from the 12V standby battery bank via a 12VDC to 240VAC inverter so that if it can continue to run in the event of a main power failure. The terminals for all field connections are located within the MBC02 enclosure.

The compliance by doors are controlled by a dedicated Programmable Logic Controller (PLC) supplied by the door manufacturer. This PLC is responsible for all aspects of door operation, including the monitoring of all safety and interlocks.

The DDC is limited to providing a single "doors up" signal to the door PLC in a turnout situation. The MBC also monitors the status of the doors via "alarm" outputs on the door PLC via 24VAC control.

The ?? Fire Station has an appliance bay with 2 front doors and 7 rear doors. Only the front doors operate automatically in a Turnout situation. The rear doors are controlled manually. The number and combination of front doors to be opened in a turnout is manually selected through the door PLC; it is NOT a DDC function.

The MBC communicates with the Station Security Panel (supplied by others) with the Fire Station Turnout System (FSTS). The MBC monitors inputs from the FSTS for initiation of the Turnout function.
2. Station Turnout Control system

2.1 General Overview.

The Siemens Building Technologies OCC station turnout control system controls the fire call turnout function. It receives a "fire alarm" or "flow cut" signal, arms the turnout alarm within the station and signals the door PLC to initiate the automatic appliance bay door sequence. Once the door PLC detects that the appliances have left and the appliance bay door(s) are shut, it signals this to the OCC. The OCC then dearms the station by locking the side door(s) and armig the security system.

The following terminologies are listed as outputs to various devices with a description of which inputs are used to enable them.

2.2 MBC Fall Indication Output

The output (point MBPSTATION7:PLCFAIL) indicates the status of MBC02. It is stenically ON indicating MBC02 is ON and turns OFF to indicate failure of MBC02. It is energized ON on initial start up of MBC02 and remains ON unless the following occurs:

1. The MBC02 power supply fails.

2. A program running in MBC02 detects a virtual point (MBPSTATION7:H8KEY) is the MBC02's database has stopped being pulsed at a 2-second rate for more than 10 seconds. This indicates that program execution has halted and is an error condition.

2.3 WR-BELLQ (Dispatch Area Bell) Output

This output (point MBPSTATION7:ON-BELLQ) energizes the fire alarm bell in the watch office and is energized (ON) when:

1. The WR-BELL input (point MBPSTATION7:WR-BELL) from the FSE panel is ON and both the SMS-ARMED (point MBPSTATION7:SMS-ARMED) input from the SMS Panel and SERVICE (point MBPSTATION7:SERVICE) input from the FSE are both OFF.

2. Either RDORING input (point MBPSTATION7:RDORING1 or MBPSTATION7:RDORING2) is pulsed after a 10-second delay from the first detector of the ring input. The output will only switch on while a pulse is present on the RDORING input.

3. The 10-second delay is controlled by the MBC while the bell warning is controlled directly from the ring detector relay.

The 10-second delay output is reset automatically 15 seconds from when the ring detector input has stopped ringing.
The WR-BELLQ output can be energized when:
1) The ACK (acknowledged) input from the FETS (point MBF?STATION?ACK) is ON.
2) The SERVICE input from the FETS (point MBF?STATION?SERVICE) is HIGH (ON).
3) The SMS ARMED input from the SMS Panel is HIGH (ON).

2.4 FA-BELLQ (Fire Alarm Bells) Output.
This output (point MBF?STATION?FA-BELLQ) energizes the turnout fire alarm bells. It is energized (ON) when:
1) The FA-BELLS input from the FSE (point MBF?STATION?BELLS) is HIGH (ON) and the SMS ARMED input from the SMS Panel and SERVICE input from the FSE are OFF.
2) The WR-BELLQ output has remained HIGH (ON) for 40 seconds. This output is also ON when:
   One of the two RINGING inputs is pulsed after a 30-second delay from the first detection of the ring input. The output will only switch ON while a pulse is present on the RINGING input.
   The 30 second delay is controlled by the 30 second delay output from the MEC while the pulsing of the bells is controlled directly from the ring detector interfacing relay.
   The 30 second delay output is reset automatically 15 seconds from when the ring detect input has stopped ringing.
   The FA-BELLQ output can be reset when:
   1) The ACK input from the FSE is HIGH (ON) and the FA-BELLQ input from the FSE is LOW (OFF).
   2) The SERVICE input from the FSE is HIGH (ON).
   The FA-BELLQ output shall be de-energized automatically after 10 minutes from when the bells were energized is none of the above occurs within the 10 minute period.

2.5 FA-LIGHTQ (Fire Alarm lights) Output.
This output (point MBF?STATION?FA-LIGHTQ) turns on all of the internal station lights during a turnout if the turnout occurs between the hours of 18:00 and 06:00. It is only energized when:
1) The FA-LIGHT input from the FSE (point MBF?STATION?FA-LIGHT) is pulsed HIGH (ON) and the SMS ARMED input from the SMS Panel and SERVICE inputs from the FSE are OFF.
2) The WR-BELLQ has remained HIGH (ON) for 40 seconds this output is automatically reset after 5 minutes. If the SMS ARMED input is ON then the FA-LIGHTQ will automatically reset after 90 seconds. A pulse at any time from the LIGHTOFF input shall also
reset the output.

3) The FA-BELLs Input is high (ON) and the SMS ARMED point and SERVICE input are OFF. While this input is high (ON), the output cannot be reset by the LIGHTOFF input from the FSE (point MFBSTATION?LIGHTOFF).

4) One of the two DDORING inputs is pulsing for longer than 30 seconds and the SMS ARMED point and SERVICE inputs are OFF. Under this condition, the output can be reset anytime by a pulse from the LIGHTOFF input.

The FA-LIGHTQ output is automatically reset after 90 seconds. In effect, this turns off the station internal lights once the firefighters have left the station. It will also be de-energized (OFF) if the SMS ARMED input from the SMS Panel should go high (ON). A pulse at any time (except when the FA-LIGHTS input from the FSE is ON) from the LIGHTOFF input shall also reset the output.

2.8 UN-SWQ (Station Unmanned) Output.

This output (point MFBSTATION?UN-SWQ) signals the door PLC that the turnout has completed and that the station is now in unmanned mode. It is set high (ON) when one of the following conditions has been met:

1) SMS ARMED input from the SMS Panel goes high (ON).

2.7 ISO240V (Isolate 240 volts) Output.

This output (point MFBSTATION?ISO240V) is normally ON and will only de-energize (OFF) when the SMS ARMED input is high. This shall be done at the end of the turnout sequence and it disconnects 240V power to the kitchen GPC's (excluding the fridge) and rear BBQ via a relay in the electrical switchboard, thus isolating these circuits. It shall be re-energized (ON) when the 240Vac Reset switch (locally positioned near the isolated devices) is depressed.

2.9 RED/LIGHT Output (Front and rear Red lights).

This output (point MFBSTATION?REDLIGHT) energizes the red turnout warning lights in the appliance bay and at the rear of the fire station (adjacent to the BBQ). It is only set high (ON) when the SMS ARMED input from the SMS Panel is low (OFF) and one or more of the following conditions have been met:

1) FA-BELLs input from the FSE is high (ON)
2) FA-LIGHT input from the FSE is high (ON)

These outputs will be reset automatically after 2 minutes.

2.9 DOORS-UP (Appliance bay Doors).

This output (point MFBSTATION?DOORS-UP) signals to the door PLC to initiate the automatic front appliance bay door open/close sequence during a turnout situation.

The doors are controlled by the door PLC, which provides status
Inputs to the NBC. The (simplified) door sequence is as follows:

1) The front appliance bay door(s) is raised. Note that the number and combination of front doors raised is NOT controlled by the DDC, but is actuated manually via the door PLC.

2) The door PLC checks that both the inner and outer door photoelectric beams are clear.

3) The door PLC detects that the inner door photoelectric beam is blocked while the outer photoelectric beam is clear, followed by both the inner and outer door photoelectric beam being blocked, indicating that the fire appliance is driving out.

4) The door PLC checks that the inner door photoelectric beam is clear after being blocked (with the outer beam still blocked), followed by both photoelectric beams being clear after being blocked. This indicates that the fire truck has completely left the appliance bay, cleared the doors and has driven out.

5) The door PLC then closes the front appliance bay door(s). The doors can be manually closed by one of the firefighters if one of the doors remain open.

Note that each of the appliance bay doors is fitted with its own inner and outer photoelectric beams and that the above sequence takes place at each door that was raised during the turnout.

Manual overrides switches on the door PLC determine the number and combination of front doors to be opened on a turnout. This is dependent both on the number of appliances in the appliance bay and the number of appliances required for the turnout. It is not controlled or monitored by the DDC.

The DOORS-UP output is only set high (ON) when the SMS ARMED point is set (ON) and one or more of the following conditions have been met:

1) The FA-BELL input from the FSE turns ON.

2) The FA-LIGHT input from the FSE turns ON. Between 23:00 and 06:00 there is a 15-second delay before this output will be set high.

The DOORS-UP output will be reset automatically after 3 seconds.

2.9.1 Door PLC Power ON Status.

The point [MF8?STATION1, PLC-STATUS] is ON whenever the door PLC is active and OFF whenever the door PLC is either failed or has no power.

2.10 PED-LIGHT (Pedestrian Lights) Output.

This output point [MF8?STATION1, PED-LIGHT] energizes the pedestrian warning lights at the front of the appliance bay, indicating that the appliance is about to drive out. It is energized shortly before the DOORS-UP output is energized.

This output will automatically be energized after a 45-second delay when the SMS ARMED point is ON and one or more of the
Following conditions have been met:
FA-BELLS input from the FSE is high (ON).
FA-LIGHT input from the FSE is high (ON).
The output will automatically reset after 2 minutes.

2.11 C-FANQ (Ceiling fans) Output.
This output (points MFB?STATION?C-FANQ and MFB?STATION?AB-FANQ) energises the appliance bay exhaust fans. It is energised when the C-FANS input from the FSE (point MFB?STATION?C-FANS) is pulsed high (ON). If this input is pulsed a second time the output is reset.
The output will automatically be energised (ON) after a 40-second delay when the SMS ARMED point is OFF and one or more of the following conditions have been met:
1) FA-BELLS input from the FSE is high (ON).
2) FA-LIGHT input from the FSE is high (ON).
The output will automatically reset after 10 minutes or at any time by a pulse on the C-FANS input.

2.12 EXTSPEAK (External speaker) Output.
The output (point MFB?STATION?EXTSPEAK) energises the external loudspeakers. It is turned on between 20:00 and 06:00.

2.13 EX-PH (External Phone speaker) Output.
The output energises the external telephone speakers. It is turned on between 20:00 and 06:15 or when the SMS ARMED input from the SMS Panel is ON.

2.14 External Hose Tower Floodlights (Where fitted)
The floodlights on the hose tower are energised via the output MFB?STATION?HT-LHTQ. This output is turned on and off via the time schedule.

2.15 External Bollards
The external light bollards, located around the perimeter of the fire station grounds, are energised on a time schedule via the output MFB?STATION?EXT-BOLLARDS.

2.16 Daylight savings.
The automatic daylight savings time adjustment is controlled by four virtual points.
MFB?STATION?DST.FMTH (Forward Month)
MFB?STATION?DST.FDAYOFMTH (Forward Day of Month)
MFB?STATION?DST.BMTH (Back Month)
MFB?STATION?DST.BDAYOFMTH (Back Day of Month)
2.17 Sequence of Events

SWS Armed to 240V
- After 15 seconds voicemail turns on.
- 240 Volts A/C to appliances turn off.
- Doors are commanded to stay close if a call is made to the station.
- External phone speaker on.

SMS Armed (Call is Activated)
- Voicemail is already on.
- 240 Volts A/C to appliances turn off.
- Doors are already commanded to stay close.
- External phone speaker is already on.
- If time is greater than 8 pm and less than 8 am, then on the security doorknobs.)
P: SLIDING GATE SPECIFICATION

Sliding Gate Specification

Scope of Works

The supply and installation of a completely operational set of auto sliding gate to the
main park entry at each of the fire stations. The Contractor shall include for the following:-

- Supply and installation of concrete footings, vehicle & pedestrian access gates
  where shown on the plans, and3facing facing sections as required.
- Electrical wiring and connection of all new power circuits from the fire station
  main electrical switchboard, including the upgrading of the switchboard
  legend.
- Wiring of 5 cabling to accommodate data and telephone circuits for current
  and future requirements as documented.
- Line marking.
- Maintenance and servicing of the gates during the warranty period.

Control of the gates shall be as follows:

- ENTRY: Access for MFB personnel to all gates will be via an OAS key switch
  located on a bollard at the right hand side of the driveway. Visitor access shall
  be via an intercom located on the entry bollard which connects to the station
  telephone system.
- Commander Australia shall be employed by the Gate Contractor to supply
  and install the intercom and gate open relay to operate via the station
  telephone system.
- Access for the fire appliances will be via remote control handsets. Remote
  control receivers shall be included within site, and two remote control
  handsets shall be provided to each fire station.
- EXIT: Auto vehicle exit operated by an in ground magnetic loop.

Specification

As a minimum, the gate installations shall include the following safety devices:

- PE cells shall be fitted to sight across the gate posts, to prevent the gate
  closing whilst a person or vehicle is within the gate line.
- Yellow powder coated bollards shall be located at the extremity of the gate
  open position fitted with PE cells, to prevent the gate closing whilst a person
  or vehicle is within the gate line.
- A torque limiting device shall be fitted to restrict the force applied in the event
  of a collision.
- Touch and go sensors shall be incorporated, to reopen the gates in the event of
  a collision.
GATES/FENCES

- Where shown in the plans, a matching fence extension shall be included to extend a 3 metre setback from the entry bollard to the face of the gate.
- The gate and fence sections shall be neatly finished and similar in appearance to the elevation drawings attached.
- The gates shall be of heavy duty industrial strength fully welded construction utilizing first quality square and rectangular hollow steel sections.
- Upright bars shall be welded to the frame with gaps not exceeding 120mm.
- The gate design shall be configured to ensure adequate penetration of all surfaces exposed to weather when receiving the galvanizing treatment.
- Upon completion of manufacture, all fabricated items shall be hot dip galvanised to AS 1650.
- No welding alterations shall be carried out to the gates, support posts, fence sections or other fittings after galvanising. All welding alterations are required to suit site conditions the affected items shall be regalvanised prior to installation.
- The contractor shall provide detailed engineering shop drawings prior to manufacture of any fabricated items. All engineering and as built drawings shall be provided on a disc for PDF viewing.
- Following completion of the installation, the gates shall receive preventative maintenance visits at intervals not exceeding 2 months, until expiry of the 12 month warranty period.

BOLLARDS

An entry bollard shall be installed 3 metres away from the gate line, to the right side of the fire station driveway on the entry side. The construction of the bollards shall be welded galvanized similar to the gates. The bollard shall have an electrical control panel protected from the weather at the top with a clear area 400mm high x 100mm wide, and 0 Ø0 key switch shall be fitted at the bottom of this panel. An intercom panel shall be mounted to the entry bollard as detailed in the scope of works.

The bollard control panels at all fire stations shall provide sufficient spare space for the installation of electronic swipe card controls.

Bollards shall also be located at the extremity of the gate open position, and PE cells shall be fitted to these bollards to prevent the gate operating when a person or vehicle is within the gate line. All bollards shall be galvanized and finished in safety yellow.

ACTUATORS

The gate actuators shall be sized to provide reliable operation over the 10 year anticipated life of each gate installation, and electric motors shall be selected for continuous duty.
ELECTRICAL WIRING

The entire electrical installation shall comply strictly to the requirements of AS 4000.

INTERCOM & GATE OPENING RELAY

Cat 5 wiring shall be installed from the entry bollard to the PARX catastor within the station, to accommodate the installation of an intercom and remote gate open function operating via the fire station telephone system.

Commander Australia shall employ the gate contractor to initial and commission an intercom system which allows communication between the entry bollard and any telephone set within the fire station. A "remote gate opening" function shall be included which shall be installed and commissioned by Commander Australia, which allows operation of the gate via the station’s telephone set.

In addition to the wiring detailed above, two pairs (2) Cat 5 cables shall be installed between the gate control cubicle and the telephone connection box located within the fire station, for future use by the MFR.

CONTROLS

- Master controls shall be solid state programmable logic controller (PLC) programmed to provide flexibility, with different modes of operation requiring only software changes. Software applicable to the installation shall be the property of the client, and the MFR shall be free to modify or make changes to software settings in system, without consultation with or approval by any other party. The system shall include all available security features to standard MFR personnel and equipment, including PT barriers, indicator lights, etc.

The PLC shall include options for the following functions:

1. Open / close gates.
2. Control safety modes.
3. Be fully programmable.
4. Remotely programmable for certification of faults.
5. Variable speed control.
6. Communicate with the existing Building Management System.
7. Offer connection for indicator lights.
8. Multi-function output for drive speed, fire alarm, etc.
9. Programmable option to vary mode for emergency or normal gate speed.
10. Able to store error history.

To cater for a possible future MFR property security upgrade, the gate PLC shall have the capability to provide the following functions:

INPUTS

- 20 Input/output functions.
- Normal access control momentary gate open request.
- Gate open/field open function.
- Gate stop.
- Gate close.
OUTPUTS

- Gate closed indicator
- Gate locked indicator
- Exit loop activate
- Exit loop activation status
- Safety loop activation status
- Safety beam status

- The remote gate opening magnetizer shall be programmed to a secure frequency
  common to all NFESR locations.
- The key switch is in an incident system connected to the station telephone
  system shall be mounted on a bollard, which is to be located about 3 meters
  outside the gate line. The intercom system with a remote gate opening shall be
  supplied, installed and maintained for 12 months after installation by Commander
  Australia.
- Vehicles shall be automatically controlled via in ground induction loops
  located inside the gates to detect vehicles as they approach the gates. The
  induction loop shall extend across the entire width of the gate opening.
- The gates shall incorporate 240 volt electrically operated actuators, selected for
  continuous duty.
- Preference will be given to actuators of a completely sealed design, which require
  no maintenance, greasing or oil replacement.
- A quick or quick disconnect facility shall be provided to allow the gates to be
  manually opened in case of power failure.
- The gates shall be operated by electromagnet locks or other approved
  electromechanical devices. The supplier shall provide details of the method
  proposed.
- A buffer shall be incorporated to reduce gate speed at the extremities of operation
  to reduce the effect of slamming when opening or closing.

GATE SPEED

Opening / closing times through the line shall not exceed 12 seconds.

LINE MARKING

Upon completion of each gate installation, the following line marking shall be
applied:

- Angled lines to indicate the swing arc which must be kept clear when the gate
  opens. Line marked KEEP CLEAR.

A STOP HERE sign marked on the ground in front of the exit sensor loop.
Warranty

The minimum acceptable warranty/defects liability period will be 12 months from the date of practical completion of the project, however suppliers are encouraged to offer details of additional warranty offered with their equipment.

Maintenance During Warranty

Following completion of each installation, preventative maintenance shall be carried out to the gate linkage, tracks, cable & chain drives, electric motors and associated control equipment at intervals not exceeding 3 months for the entire warranty period.
Q: SIEMENS TO DAIKIN INTERFACE SPECIFICATION

Siemens to Daikin interface for the Metropolitan Fire & Emergency Services Board.

Introduction
The interface between the Siemens Building Management System (BMS) and the Daikin Variable Refrigeration Volume (VRV) system is achieved via a High Level Interface (HLI). This interface allows for the transfer of data between the two systems that is not possible via low level (hardwired) communications. The Siemens HLI communicates to the Daikin Master Station via an RS232 communication port on the Master Station.

The interface is a mandatory requirement if the Daikin VRV units are to be monitored by the BMS or if any secondary hot water heating coils are used on a VRV unit. As any heating coil would be used as the first stage of heating, the BMS must control the heating coil and be able to override the VRV heating control. In order to control the heating coil, in the above manner, the BMS must also be able to view the local temperature and setpoint. Once again this is only possible via the HLI interface.

Requirements
Two main components are used for the communication between the two systems, these are the Daikin Master Station and the Siemens Daikin High Level Interface.

The additional equipment needed is:

1. One RS232 to RS485 adaptor, for the communication cable connecting the Master Station to the HLI. This is known as Trunk Interface and is a Siemens proprietary part.
2. Communications cards for each of the VRV units. This is a Daikin proprietary part.

The Master Station and VRV communication cards are supplied by Daikin and are used to connect all the VRV units in the installation together on a communications bus. The supply and wiring of the Daikin Master Station and the communication cards is the responsibility of the mechanical contractor (i.e. Supplied by Daikin, installed by the mechanical contractor’s electrician). The Master Station can be installed inside the mechanical services switch board or in an enclosure near the Siemens control panel, known as the air conditioning Molecular Building Controller (MBC). The communication cards are installed in each VRV unit.

The Siemens Daikin HLI and the Trunk Interface are supplied by Siemens and are fitted inside the Siemens air conditioning MBC. The supply of the HLI, the Trunk Interface and the installation of the communication cable between the HLI and the Master Station is the responsibility of Siemens.
Point Information

The following points are available from the Master Station to be used by the BMS:

Indoor unit start/stop, one point for each indoor unit connected to the master Station.
Indoor unit temperature setpoint, one point for each indoor unit connected to the master Station.
Indoor unit temperature, one point for each indoor unit connected to the master Station.
Indoor unit air conditioning mode, this indicates if the unit is on Fan, Heat or Cool, one point for each indoor unit connected to the master Station.
Indoor unit filter status, one point for each indoor unit connected to the master Station.
Indoor unit fan status, one point for each indoor unit connected to the master Station.
Indoor unit heater operation status, one point for each indoor unit connected to the master Station.
Indoor unit humidifier operation status, one point for each indoor unit connected to the master Station.
Compressor operation status, one point for each indoor unit connected to the master Station. Note: this point is shown as an individual point for each indoor unit, however as there is only one compressor for multiple indoor units all the points will be on wherever the compressor is on.

The above points are a mixture of read only points and points that can be commanded by the BMS. The read only points are:

The temperature, filter status, fan status, heater status, humidifier status and compressor status.

The points that can be commanded are:
The unit start/stop, temperature setpoint and air conditioning mode.

The read only points are used to provide information to the MFB for remote fault finding and monitoring. The commandable points are used both for monitoring and control of the units.
VRV Specifications

General
Unit shall be air-cooled, multi-split type multi-system air conditioner consisting of one outdoor unit and plural indoor units, each having capability to control or heat independently for the needs of the room. Up to 3 different type and OA 1-3HP capacity indoor units can be connected to the intelligent circuit units controlled individually.

Compressor shall be equipped with inverter controller and capable of changing the rotating speed to follow variations in cooling and heating load. Outdoor unit shall be suitable for mixed-match combination of following models.

- Ceiling Mounted Cassette Type (Double Flow)
- Ceiling Mounted Cassette Type (Multi Flow)
- 500x600 Ceiling Mounted Cassette Type (Multi Flow)
- Ceiling Mounted Cassette Concealed Type
- Slim Ceiling Mounted Outdoor Type
- Ceiling Concealed (Duct) Type (Australia exclusive use)
- Ceiling Mounted Built-In Type
- Ceiling Mounted Dust Type
- Ceiling Suspended Type
- Wall Mounted Type
- Floor Standing Type
- Concealed Floor Standing Type
- Ceiling Suspended Cassette Type (Connection Unit Series)
- Wall Mounted Type (Connection Unit Series)
- Floor Standing Type (Connection Unit Series)
- Refrigerant: R410A

Outdoor Unit
The refrigerant piping shall be extended up to 150m with 50m (+1) level difference without any oil traps. All conditioners shall operate continuously at the ambient temperature of -5°C in cooling & +5°C in heating. (Operating range -5°C to +5°C).

Each indoor and outdoor units are assembled, tested, and charged with refrigerant at the factory.

The value is based on the case where the outdoor unit is located above indoor unit. Where the outdoor unit is located under the indoor unit, the level difference is a maximum of 40m.

Outdoor Unit
The outdoor unit shall be a factory assembled unit housed in a sturdy weatherproof casing constructed from rust-proof mild steel panels coated with a baked enamel finish.

- The condenser unit shall have two (2) sets of scroll compressors and be able to operate even in case that one of compressors is out of order. The Outdoor unit of AHU shall have one scroll compressor (Heat Pump).
- The condenser unit of outdoor unit shall be from 0.8 to 10HP with all suction units. The suction level shall be more than 24 dB(A) (A sound at 1m) at normal operation measured horizontally 1m away and 1.5m above ground.

- The outdoor unit shall be modular in design and should be allowed for side-by-side installation.

Compressor
The compressor shall be of highly efficient hermetic scroll type and equipped with inverter control capability of changing the speed in accordance to the cooling or heating load requirement.

The outdoor unit shall have the multi-step of capacity control to meet load fluctuation and indoor unit individual control.
Heat Exchanger

The heat exchanger shall be constructed with copper tubing mechanically bonded to aluminum fins to form cross fins. The aluminum fins shall be heat treated by anodizing each fin.

Refrigerant Circuit

The refrigerant circuit shall include manifold gas shut off valves and a return line valve. All necessary safety devices shall be provided to ensure the safety operation of the system.

Safety Devices

The following safety devices shall be part of the outdoor unit:

- High Pressure Switch
- Overload Relay
- Inverter Overload Protector
- Fusible Plug

Oil Recovery System

The unit shall be equipped with an oil recovery system to ensure stable operation with long refrigerant cycling.

Indoor Units

Each indoor unit shall be of the Ceiling Mounted Cassette Type (Double Flow), or Ceiling Mounted Cassette Type (Multi Flow), or 800-800 Ceiling Mounted Cassette Type (Multi Flow), or Ceiling Cassette Corner Type, or Slim Ceiling Mounted Dust Type, or Ceiling Cassette (Direct Air), or Ceiling Mounted Built-in Type, or Ceiling Mounted Dust Type, or Ceiling Suspended Type, or Wall Mounted Type, or Floor Standing Type, or Concealed Floor Standing Type, or Concealed Cassette Type (Condensing Unit Series), or Wall Mounted Type (Concealed Unit Series), or Floor Standing Type (Concealed Unit Series). It shall have an electronic control valve which controls refrigerant flow rate in response to load variations of the room. The fan shall be of the axial flow type and statically and dynamically balanced to ensure low noise and vibration free operation.

* The address of the indoor unit shall be set individually in cases of individual and groupcontrol.
Wired Remote Controller  BRC1A61

Appearance and Functions

- Large liquid crystal screen displaying complete operating status
- Digital display with set temperature in °C units
- Individual program by (rise the respective digital display) or operation stop within a minimum of 72 hours (alarm function not available when connected to a control controller)
- Equipped with a thermostat sensor in the remote controller
- Monitor room temperature and set temperature by thermostat, enable operation mode automatically
- Ability to select cool/heat/fan operation mode with the remote controller
- Monitor malfunctions in the system, and "self-diagnosis function" that has yet been implemented
- Ability to carry out field settings by remote controller.

Simplified Remote Controller BRC2C51

Notes:
1. Following functions are not included in this controller.
   - Auto swing function
   - Timer setting function
   - Display of time to cancel alarm
DM8592ASL/DM8492ASL/DM8192ASL

Outlines and Features
1. Managing the information on 64 groups of air-conditioners (main unit only)
2. Up to 256 groups in multiple and controllable at once by adding the optional DM 8600
3. Packaging of air-conditioner objects
   * Compatible with BACnet (ANSI/ASHRAE-115)
   * Compatible with BACnet/IP (ANSI/ASHRAE-115a)
   * Compatible with IEEE 802.11b/g/n/AC (WIFI) and Ethernet of Fire Control Engineers of Japan
4. Conforming to European, Occasional, Safety, and EMC rules and regulations
5. IEC-specified multi-procedures (MDS20C system) readily available.

1.2.2 System Outline

- Design: Group of units connected to local remote controller
- Several groups are registered as a group button operation of the central remote controller. Control is then offered to the zone using the central remote controller.
- Black: White

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Outline of air-conditioner management system control devices:

**BACnet Gateway**
D03D202A31
Interface unit to allow communication between VLV and BMS-EMIS and to control and monitor the air conditioning systems through BACnet communications.

**Optional DIII Board**
DAM311A1
Permissive kit, installed on the BACnet Gateway (D03D202A31), to provide 3 more DIX-NET communication ports. Not indepedent. Up to 250 groups.

**Optional DIII Board**
DAM410A1
Permissive kit, installed on the BACnet Gateway (D03D202A31), to provide 18 more waassembler pulses input points. Not indepedent.
R: LOCKWOOD BRASS LEVER & KNOB FURNITURE

Brass Door Furniture

Lockwood Brass Lever & Knob Furniture (continued)

Cabinet 73

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
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<tr>
<td>Projection</td>
<td>33 mm</td>
</tr>
<tr>
<td>Finger clearance</td>
<td>30 mm</td>
</tr>
</tbody>
</table>

Description:
A set of modern handles comprising separate components, including a slender lever knob.

View 74

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>178 mm</td>
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<tr>
<td>Projection</td>
<td>56 mm</td>
</tr>
<tr>
<td>Finger clearance</td>
<td>48 mm</td>
</tr>
</tbody>
</table>

Description:
Handy, long and slender, having a flush handle. The strong design makes it ideal for interiors.

Cabinet 78

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
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<tr>
<td>Projection</td>
<td>52 mm</td>
</tr>
<tr>
<td>Finger clearance</td>
<td>32 mm</td>
</tr>
</tbody>
</table>

Description:
The open design of the lever,idual, is the focus on elegance.

View 79

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
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</tr>
<tr>
<td>Projection</td>
<td>38 mm</td>
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<tr>
<td>Finger clearance</td>
<td>29 mm</td>
</tr>
</tbody>
</table>

Description:
Contemporary style, with single or double handle for doors.
Brass Door Furniture

1220 Series Symphony Cylinder & Turn Escutcheons (continued)

1226 Emergency Turn Escutcheon

Application
Designed to use with 1230 Series MDF Mortise Locks.

Description
Complement your mortise door furniture with this brass emergency release escutcheon. For use in multiple door applications.

1228 Privacy Indicator Emergency Turn Escutcheon

Application
Designed to use with lockwood 1280 Series Mortise Locks.

Description
Complement your mortise door furniture with this brass emergency release escutcheon. For use in multiple door applications.

1229 Hotel-Motel Escutcheon

Application
Designed to use with 1220 Series Mortise Locks.

Description
The rounded brass escutcheon is ideally suited to 1220 Series Mortise Locks. Suitable for multiple door applications.

1231 Small Turn Escutcheon

Application
Designed to use with lockwood 1270 Series Mortise Locks.

Description
Complement your mortise door furniture with this brass emergency release turn escutcheon. Suitable for multiple door applications.

1255 Small Emergency Turn Escutcheon

Application
Designed to use with lockwood 1270 Series Mortise Locks.

Description
Complement your mortise door furniture with this brass emergency release turn escutcheon. Suitable for multiple door applications.
Brass Door Furniture

1220 Series Symphony Cylinder & Turn Escutcheons

1220 Round Escutcheon

Application
- Designed for use with locksets and 360-degree trim rings.

Description
- Made from brass and finished with a variety of finishes and finishes, including polished nickel.

1220C Round Cylinder Escutcheon

Application
- Designed for use with locksets and 360-degree trim rings.

Description
- Made from brass and finished with a variety of finishes and finishes, including polished nickel.

1227 Turnlock Escutcheons

Application
- Designed for use with locksets and 360-degree trim rings.

Description
- Made from brass and finished with a variety of finishes and finishes, including polished nickel.

1227F Privacy Indicator Turnlock Escutcheons

Application
- Designed for use with locksets and 360-degree trim rings.

Description
- Made from brass and finished with a variety of finishes and finishes, including polished nickel.

1227DF Disabled Turn Escutcheons

Application
- Designed for use with locksets and 360-degree trim rings.

Description
- Made from brass and finished with a variety of finishes and finishes, including polished nickel.
S: FIRE STATION SHOWER SPECIFICATION

PART I GENERAL

Scope
Supply and install shower screens with necessary accessories and related equipment required for the work.

PART II MATERIALS

Materials
New shower screens shall be supplied by Haworth Shower Screens Pty. Ltd.
Shower screens shall be fabricated with frames made from extruded aluminium sections. All aluminium shall have a bright polished finish.
Doors shall be hinged type with magnetic catches.
Fixed side panels (where applicable) shall be fabricated from similar materials to doors.
Screens shall be complete with all hardware including handles and seals.
All shower screens shall be glazed with laminated ‘satinlite’ obscure glass 8.0mm thick.

Note: Shower Screens are required to have screen doors higher than would normally be provided.

PART III EXECUTION

Installation
Install in accordance with manufacturer’s instructions.
All internal and external windows in PPC storage areas (this includes the PPE transition/change room and the clean PPE storage room), including door viewing panels, need to be treated with clear UV protective film. This film needs to meet the requirements of Thomson's Specification.

Thomson's Specification states that transmission through the film at a wavelength of 400nm shall be less than 50% of transmission at 500nm, and transmission at 500nm and 380nm each shall be less than 1% of transmission at 500nm.

Each window pane with UV protective film applied needs to have a "UV FILM ADHERED TO GLASS - CLEAN WITH SOAP & WATER ONLY" sticker applied in the corner of the pane of glass.

All fluorescent light fittings in PPC storage areas need to be CE, Envir-A-Guard Starcoat fluorescent lamps or equivalent.

All skylights into these PPC storage areas need to have a glass polycarbonate cover (filter at sitting level) to stop UV from entering the room.

Please get back to me if you have any questions on UV protection requirements for the new PPC.
T: SIGNAGE SPECIFICATION

Signage Specifications

Door / Room Identification

Typical door sign placement

The current AS 1428 as well as the Access to Premises Standard 2009 states that any information presented to the public should accessible for all. The height of text on any information should be located at a height no greater than 1600mm above floor level (AFL).

Typical door sign design

- Aluminium plate 40mm(H) x length to suit(L)
- Black vinyl lettering 20mm(H)
- Arial lower case with capital e.g. PPC Dry Room

Typical Room Names

S.O.s Office
Lecture Room
Gymnasium
Store 1
Store 2
Comms Room
Mess
Lounge
PPC
PPC Dry Room
Rescue Store
Drying Room
F.F. Bedroom 1
F.F. Bedroom 2
Lockers 1
Lockers 2
Change Room 1
Change Room 2
Breakout
PPC Storage
Cleaning Store
BA Room
S.O. Bedroom 1
S.O. Bedroom 2
S.O. Lockers
S.O Change Room
Access WC

Provide compliant signage incorporating the International symbol for Access which incorporates Braille at AS1428 height requirements 1200-1600 mm above floor level.

Car Parking / Designated Access Parking Bay

Appropriate International symbol for designated Accessible Parking Bays should be used as specified in AS 1428.1 Parking Facilities, and AS 2890.1 and AS 2890.6:

- Background Colour: Ultramarine B21
- Symbol: Wheelchair on Square background
- Colour: Vivid White on Ultramarine

Station Name Plates Front of Station

The current AS 1428 as well as the Access to Premises Standard 2009 states that any information presented to the public should accessible for all. The height of text on any information should be located at a height no greater than 1600mm above floor level (AFL). The MFB would like to include the board crest and logo in the appropriate lay out and size as governed but the MFB board approved style guide.

Crest – Front of Station

Refer to the Corporate Style Guide on the MFB Intranet under the Corporate, Organisational Information Tab

Swoosh – Front of Station

Refer to the Corporate Style Guide on the MFB Intranet under the Corporate, Organisational Information Tab

Electronic Signage – Front of Station

See attached specifications

*Note only applicable if review of Test Sign located at FS14 Bundoora is successful

Emergency Procedure Plans

The current AS 3745 calls for a clear and concise lay out of the evacuation plan and assembly area set out on A3. The plans are required to be positioned as close as practicable to any external door. Plans are required to be orientated so that the plan is visually constant throughout the building. The plans will be fixed to wall surfaces at a height no greater that 1600mm AFL and dated at the time of production.
The MFB would like to include the board crest and logo in the appropriate lay out and size as governed but the MFB board approved style guide. If the plans are not update due to construction works at a building the legislation calls for an update in three years.

Hygiene Plans

The Occupational Health and Safety Act 2004 place stringent obligations on employers (and designers of infrastructure) in controlling workplace hazards via appropriate design. The MFESB, in meeting its obligations, has demonstrated commitment to achieve best practice in exposure control at fire stations.

Currently the hygiene plans are located at all MFB sites and are on an A3 poster. These posters clearly identify the Clean & Transition Areas within that work location:

- Transition areas - Engine Bay, Yard, PPE Room, BA Room, Storerooms
- Clean areas - All other station areas

The station hygiene plan is developed and signed off by UFU, HSR’s and Operations.

It displays the MFB Crest, UFU logo and the H&S department logo. In addition to the A3 poster, every door entering into the ‘Clean’ area [from a dirty area] currently has an A4 sign reminding staff of the hygiene plan.
U: FIRE STATION REFURBISHMENT PRINCIPLES PAPER

FIRE STATION REFURBISHMENT

PRINCIPLES PAPER

Foreword

It is incumbent on the Metropolitan Fire and Emergency Services Board to meet changing community values, expectations and meet changing social needs. The privacy principles have been developed to ensure all personnel have the ability to shower, change and use toilet facilities in a secure and private location away from interruption and exposure to colleagues, or members of the general public visiting the station.

The driving force behind this change is recognition by the MFB of the need to ensure the organisation complies with relevant legislation and the station environment reflects the expectations of our workforce and that of contemporary society.

To meet this changing environment the MFB is in the process of upgrading facilities at all fire stations. These upgrades involve in most cases, redesigning dormitory sleeping quarters into individual bedrooms, converting existing unisex toilets and shower facilities into individual bathrooms and finally modifying large locker rooms/change rooms into small functional locker alcoves and removing the ability for these rooms to be change rooms.

This document outlines the guiding principles which will be used when determining the new modified layout at fire stations. These guiding principles will need to be used in a ‘common sense approach’ due to the fact existing station layouts vary widely in size and design.

A further matter that needs addressing is that of acceptable station dress particularly whilst moving around the station. This standard defined as “Acceptable Station Etiquette” promotes an ethical standard of behaviour and dress that should be maintained at all times.

The “Acceptable Station Etiquette” is stated as being:-

- Minimum dress standard within the station is shorts and tee shirt.
- Always get changed behind a locked door out of sight of other personnel on station.
- Locker rooms are not change rooms.
- Change in appropriate areas only.
- There is to be no nudity in the station unless it is behind a locked door.
STATION REFURBISHMENTS

GUIDING PRINCIPLES

This document outlines the design principles that will be taken into account when individual fire stations are being upgraded. Whilst the design principles stipulate the minimum area for bedrooms and bathrooms, a common sense approach will need to be observed at stations where design is restricted due to available area. In this situation the minimum areas nominated should be regarded as nominal sizes. Final building design in relation to layout is governed by building footprint and age. Bedroom/Bathroom/Locker room sizes or numbers must not be compromised by gym/recreation areas.

Bedrooms

Bedrooms are to become single rooms. The bedrooms shall be a minimum of 7m². This area is adequate for housing a king sized single bed 1500mm x 2000mm long and a desk beside the bed. Bedroom doors will be fitted with a locking device which can only be activated from inside.

The number of beds provided will be determined on an individual station basis and will be dependent on the number of appliances situated at the station. Single appliance stations will, if at all possible, have a minimum of four (4) bedrooms.

Bathrooms

Bathrooms will have a desirable area of 5m². They should be located as close as practicable or possible to bedrooms. Bathrooms shall have a toilet, hand basin and a shower cubicle.

The nominal number of bathrooms for one (1) appliance stations is 2. The nominal number of bathrooms for two (2) appliance stations will be 4. The nominal number of bathrooms for three (3) or more appliances will be determined individually for each station.

Personal Lockers

Lockers shall be located as close as practicable to the bathrooms and bedrooms. They shall be clustered in groups of 8-12 in alcoves outside the entry to the bathroom. This configuration will be adopted if existing walls, circulation spaces etc. allow. Otherwise personal lockers will be located together in a room adjacent to the bathrooms.
METROPOLITAN FIRE AND EMERGENCY SERVICES BOARD

Design Guide Review

Prepared by:
StrataPNA
88 Hawthorn Grove
Hawthorn
Victoria 3122

30 June 2010 - Rev D
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Site Specific Data Brief

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- 2 Appliance Station – one and two levels
- 3 Appliance Station – one and two levels
- 4 Appliance Station – one and two levels
- 5 Appliance Station – one and two levels
Guide checklist

- Checklist – Brief
- Checklist – Land Assessment
- Checklist – Land Procurement
- Checklist – Schematic Design
- Checklist – Developed Design

Fire Station Template Modules

- Template plan for 2 Bays, 1 Appliance - single level
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- Template plan for 3 Bays, 2 Appliances - single level
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Function Specific Plans

- Bedroom/Bathroom/Locker Plan
- Bedroom Locker Elevation
- Kitchen Layout
- Mess Room Personal Gear Store
- Gymnasium Equipment Plan
- Clean/Transition/Vehicle Response Bay - Flow Diagram

Minutes of Meetings at Selected Fire Stations

- FS 26 – Croydon fire station
- FS 27 – Nunawading temporary fire station
- FS 30 – Templestowe fire station
- FS 31 – Glen Waverley fire station
- FS 01 – Eastern Hill central fire station
- FS 47 – Footscray fire station
- FS 43 – Deer Park fire station

Minutes of Meetings with MFB Committees

- ACFO
- Commanders
- Facilities
- Health & Safety
- Station Design

Workshops 1

- Worksheet Responses
1.0 EXECUTIVE SUMMARY

1.0.1 INTRODUCTION

In January 2010, StrataPNA was invited to a meeting with the Property Manager and the Design Steering Committee to discuss issues that have troubled the MFB in the delivery of Fire Station facilities. Some of the matters discussed included issues of accountability, incomplete consultation, lack of transparency and inadequately resolved functional solutions. At the meeting StrataPNA gave an informal presentation and was invited to submit a fee proposal for specialist services to research, address and provide recommendations to address these issues.

StrataPNA was engaged in March 2010 and completed the review and report at the end of June 2010.

1.0.2 SCOPE

To fully understand the underlying problems with the issues identified, StrataPNA prepared a program of activities to encourage dialogue with the end users including informal group discussions at fire stations, inspections of existing facilities, meetings, discussion forums and workshops. The scope of the design guide review was broken into four major stages; Identification, Preparation, Application and Implementation.

Initially, the focus of the Design Guide Review was primarily about the design and delivery of fire station facilities. However, as matters unfolded and in order to fully appreciate the multitude of drivers and influences affecting the design guide, the scope of the review was expanded to take into account a wider range of influences including site selection, land procurement, strategic and organisational policies, stakeholder engagement and product delivery.

1.0.3 BACKGROUND

The process to uncover the issues and deficiencies in the current facilities design guides and facilities delivery methodology involved a process of discovery that included the review of existing design documents, interviews with proponents, managers, facilitators, staff and users of fire stations, discussions with specialists and specialist groups, inspections of built facilities, research and theoretical ‘test’ applications of different design templates. To assist with the understanding of the issues facing the design and delivery of fire station facilities, the following activities were undertaken:

a) Inspections and informal discussions with Fire-fighters

Representative fire-fighters were interviewed and visual inspections were conducted at the following stations:

- FS 26 – Croydon fire station
- FS 27 – Nunawading temporary fire station
- FS 30 – Templestowe fire station
- FS 31 – Glen Waverley fire station
- FS 01 – Eastern Hill central fire station
- FS 47 – Footscray fire station
- FS 43 – Deer Park fire station
b) **Meetings**

Meetings and discussions were held with various focus groups including:

- Design steering committee
- Zone Commanders
- Facilities
- Health, safety & environment
- ACFO

c) **Review of current guides and standards**

The following MFB documents were provided for review:

- MFB Design and delivery manual, dated Sept 2005
- Project management guidelines, updated 7 Jan 2010
- Zone infrastructure implementation model
- Fire station refurbishment – Principles paper
- Contractor OH&S induction
- Gymnasium design and Space allocation
- Fire station design guidelines – intranet suggestions (ongoing)

d) **Workshops**

Two workshop sessions were conducted and attended by representatives from:

- ACFO
- Zone commanders
- Facilities
- Property Development
- Environment
- Health & Safety
- Fire-fighter’s union representative

The first workshop session was conducted to flesh out areas of concerns within the context of the Facilities Design Guide and the delivery processes and to define the issues already identified as deficient via the interview process. The outcome of this workshop and major elements of concerns that were uncovered were converted into design guide solutions, new design templates and recommendations.

Solutions to the issues uncovered from the first two phases of the program were converted into generic design templates, site specific design guides, checklist and recommendations. During the middle ‘Preparation’ and ‘Application’ stages of the program, further discussions were conducted with managers from the Building Development office and Facilities department, culminating in meetings with the CFO and CEO.

The second workshop session involved the trial implementation of the recommended changes and amendments via their application on fire station sites. The objective of the exercise was to uncover deficiencies or anomalies with the proposed recommended changes prior to formal adoption.

At this workshop session, major recommendations of the report were tested against two real fire station sites;

- an existing site established in readiness for construction and,
- a ‘proposed’ site with limited land area located in a built-up area of inner Melbourne.

Checklists and site specific information were established for these sites and implemented via design layout ‘test’ scenarios. The outcome of the exercises conducted at the workshop supported and augmented the recommendations of the report.
1.0.4 OBJECTIVES

The objective of the design guide review is to deliver a set of design tools that will facilitate improved practices for the selection of fire station sites and the design and delivery of fire station facilities. The design tools will consist of:

- Recommendations for the adoption of a more efficient macro distribution model for fire station facilities which will facilitate better use of resources and delivery of services,
- Recommendations for the adoption of a process for future proofing of fire stations via the early identification of contingency or overload capacity,
- Guide templates and checklists to facilitate the comprehensive and uniform process of assessment and procurement of suitable sites for fire stations,
- The implementation of a definitive Site Specific Data Brief for each site prior to the commencement of the design process,
- New design templates, changes to the current room data sheets, guides to facilitate more efficient utilisation of space and function for a fire station,
- Recommendations and checklists to facilitate a ‘continuity of process’ as a project progresses from one stage to another.

This report and its recommendations are limited in its scope by the issues uncovered through the process of this review. There will be other issues or matters which will require additional review as they have not been ‘discovered’ during the current review process or as a consequence of the adoption of some of the recommendations of this report. The intention of this review is to ensure that the recommendations and guides provided with this report are kept ‘live’ by the ongoing maintenance of the guides.
1.0.5 CONCLUSION

The process of informal discussions with the end users uncovered many of the fire-fighters concerns and dissatisfactions. Not all issues were able to be addressed however, recurring issues that were meritorious were addressed by changes to the design guides and brief. A major change in the design brief was the adoption of the combined bedroom/locker room model. The adoption of this room arrangement not only resolved some functional deficiencies, it also removed a potential major privacy issue for the organization, by providing dedicated locker/change area for the individual. For the smaller two and three bays stations, this model will also be able to deliver a more efficient floor plate and smaller footprint.

Another important tool to address regional and local needs is the formulation of a ‘Site Specific Data Sheet’ which will be required to be updated by the Zone Steering Committee prior to the commencement of each project. Each ‘Site Specific Data Sheet’ is essentially an area schedule of all spaces required for a specific facility. The data sheet not only allows the steering committee to identify areas of special needs ie hub station requirements, overload facilities, etc, it will also identify areas allocated to each space, which will assist with the formulation of a project’s total area and footprint at the commencement of a project. A default ‘Site Specific Data Sheet’ has been formulated for 2 to 5 bays stations. As each zones plans and appropriates resources, these data sheets can be fine-tuned to address local requirements and space allocations. Each zone’s input in completing the ‘Data Sheet’ will assist with cost planning and will facilitate a sense of ownership for the zone for each project.

In response to the objectives of the Design Review, this report has been able to make recommendations, changes and additions to the current design guidelines and room data sheets via the following mechanisms:

- Facilitate a more efficient allocation of resources and a better delivery of product via the adoption of the concept of a ‘hub and spoke’ stations.

- Facilitate better checks and balances in the assessment of land and the design and delivery of fire station projects via the application of pre-defined Checklists and prompters,

- Facilitate the early understanding and allocation of appropriate internal and external floor areas via Site Specific Data Briefs,

- Deliver a better fire station product via the adoption of a variety of spatial templates and suggested changes to the current design brief and room data sheets.

- Deliver a better distribution of floor areas from underutilised spaces to high use spaces without necessarily involving a significant increase in overall gross building area.

- Demonstrate that a well considered design for a two storey fire station could be a viable solution for locations where large land parcels are at a premium or unavailable for purchase when required.
2.0 PROGRAM

The program for the design review commenced on the 22 March 2010. The anticipated date of completion was the end of June 2010. The original program envisaged a 5 stage program over a 12 to 14 week program. In the original time-line, it was anticipated that the completion of the two phases of stage 1 was to have been achieved by 16 April 2010. However, due to the increased scope of work to take into account a wider range of influences on the design of fire stations at the Identification and Preparation stages, the program was reformulated with the merging of the Preparation and Application stages. For the penultimate stage of the program, the Implementation Stage, recommendations of the report were tested against real site layout design exercises at the second workshop session. The final report and recommendations will be delivered prior to the end of June 2010 as originally envisaged.

Original project program

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Actual project program
3.0 WORKSHOP OUTCOMES

The issues discovered and uncovered during the Identification stage of this project can roughly be categorised into the following headings. The decisions and recommendations resulting from the stage 1 workshop session are summarised below:

Strategy
Policies and decisions that influence the design of fire stations at the strategic level which include determinants governing land procurement and strategic locations. Decisions for this category are usually made at the zone or manager level. This review report will look to provide guide recommendations for this category.

Policy
Corporate level decisions that affect the short to long term goals of the organisation including the need to define what a ‘specialist station’ is. Decisions for this category are usually made at the director or board level. This review report will look to provide guide recommendations for this category.

Process
This review will look to recommend a methodology to ensure that there is ‘continuity of review’ as a project progresses from the early stage of land identification and procurement to project handover. The review report will look to provide recommendations for checklists to be signed-off at each stage.

Facilities and Building Design
The outcome of the review of the ‘Design and Delivery Manual’ for new and refurbished fire stations will form the main component of this report. Deficiencies and improvements identified in the DDM will be addressed by the provision of amended static room data sheets, the inclusion of diagrams, drawings, templates and flow charts and written recommendations.

4.0 WAY FORWARD
This report has recommended changes to current procedures and guidelines on policy and strategic matters. Design and building matters that have received general acceptance through discussions and workshop sessions have been included as amendments to Room Data Sheets. Amendments have been supplemented by flow charts, template floor plans and checklists.

With the implementation of the recommendations from this report, the MFB will have to have a process in place to maintain the currency of the documents referred to above.

The recommended checklists, templates and schedules attached to this report are static documents. The Room Data Sheets, Site Specific Data Brief and Checklists attached to this report have been designed to be easily amended or have additional items added where required. However, there should be a process in place to identify issues, or where issues are discovered in the field, a process to easily update data files and design templates for future application.

It is recommended that a process be implemented to allow the formulation of the attached checklists, templates and schedules into programmable documents with links to MFB’s data bases and reference documents with the view to ensure that the documents and templates are able to be regularly updated and kept ‘live’.

---

### 5.0 WORKSHOP RECOMMENDATIONS

#### 5.1.0 STRATEGIC

1.1 Strategic Location and Land Procurement

Two issues were identified on this worksheet:
• What drives the need for a new fire station and the time-lines for delivery?
• What determines the geographical location and catchment area for a fire station?

The delineation of geographical ‘catchment’ areas or ‘response time’ areas is a vital component for the formulation of policies regarding the strategic location of new fire stations and where upgrades are required to be prioritised for existing stations. The determinants that govern the delineation of these geographical areas could be a combination of a number of factors including:
  • current population densities and projected population growth,
  • predominant fire source feature ie grass fire, dwelling type, high rise offices etc,
  • existing and future access routes,
  • proximity to other emergency services etc.

There is the need to develop a process to identify and assess land within an agreed strategic location. Strategies to procure land that meet prioritised determinants including the process for compulsory acquisition of land are currently being developed by the Property Development group.

Prioritised determinants should also include the element of ‘time’ where time is an imperative due to the age of the station, health & safety etc. Where a number of shortlisted land parcels are available for consideration, a list of prioritised determinants will assist with the decision on whether sites under consideration will meet the essential requirements of the proposed station needs or, on the occasion where secondary sites are selected, the level of compromise that will have to be made.

1.1.1 It is recommended that the responsibility for the development of the process to identify land, strategies to procure land and the process for compulsory acquisition within a target time frame be clearly defined. It is recommended that strategic location determinants and drivers be identified and documented for each project. Each of these determinants should be weighted and prioritised to reflect the importance of the determinants to the particular project.

1.1.2 It is recommended that a checklist be developed for the feasibility assessment of all target sites under consideration. This checklist should contain prompters for the assessors to promote a uniform approach towards land viability assessment. Checklists should include environment prompters ie noise, vibration, fumes, contamination, cultural (indigenous land and vegetation), neighbourhood amenity etc.

1.1.3 Items within the checklist that have not been addressed should be able to be brought forward to the next stage after the land is procured to ensure continuity of process.

1.2 Land size determinants

Two issues were identified on this worksheet:
  • What are the determinants for an optimum land size based on a proposed station’s needs?
  • Consider two storey options for inner city areas where large land allotments are at a premium.
The spatial requirement of a station is readily defined by the spaces identified in the Room Data Sheets. For the more common smaller two and three bay stations, there are no reasons why template footprints cannot be established to assist with land size determination. For the larger stations where zone strategies may require additional facilities or specialist functions, the spatial demands for these areas will have to be developed at project inception.

The issue of whether a functioning fire station can be located over two levels was discussed at the workshop. The current Consultants’ Design brief, section 4.2.3 (ii) states “two storeys should only be considered where the site size cannot possibly accommodate a single storey building”. This section also lists two areas able to be located on the upper level of a two level building i.e., “Gymnasium/Weight room and Change/WC/Shower suites and adjacent Locker areas and non PPE drying room”. These areas in total make up a small proportion of the total floor area and do not represent good value if located on a separate floor when the cost of the additional building envelope and mechanical vertical connections are taken into account.

For a viable two storey option, there will have to be more areas located on the upper level. Another alternative canvassed at the workshop was the location of additional daytime activity areas on the upper level including; Kitchen, Mess room, Lounge, Meeting rooms, Gymnasium etc. Functions essential for ground level operations including Bedrooms, Locker rooms, Bathrooms, Turn-out alcove and Administrative Offices would remain at the operational floor level. The argument for the above is based on the premise that emergency turn-out procedures at night should not be carried out over two levels for obvious safety reasons. However, it was argued that turn-outs during the day should not be adversely hindered by personnel having to negotiate stairs. If this principle were to be adopted for situations where large land areas are at a premium, there is the potential to significantly reduce footprint areas and at the same time deliver structurally efficient two level buildings on smaller allotments. It should be noted that vertical transportation to comply with DDA requirements will have to be factored in the overall costs for a two level fire station.

1.2.1

| It is recommended that for localities where existing land size cannot accommodate the requirements of a single storey building, the above principle “that only daytime functional spaces be allocated on the upper floor of a two level building” be adopted. |

1.2.2

| It is recommended that typical guide footprint templates be developed for 2, 3 and 4 bay stations including two storey options. To guide land viability assessment, associated spatial constraints (ie, boundary setbacks, landscape buffers, car parking, drill yard space, vehicle turning circles, approach and exit driveways, site contours, land batters and retaining walls, sightlines, future expansion etc) typical to each site should be added to the basic station footprint templates to form the notional land area required for a project. |
1.2.3

It is recommended that a Site Specific Data Sheet be developed by the Zone Steering Committee for each project. Major determinants for a project’s Site Specific Data Sheet should include a list of all the main functional areas required for a fire station including, number of appliance bays, number of bedrooms, area allocation for Kitchen, Mess room, Lounge room, Gymnasium, Lecture room, Administration and Offices, PPE turn-out room etc plus a percentage factor for contingency capabilities (overload facility, future growth etc), a percentage factor for circulation and external areas including the number of car parks required to be located on site.

1.3 Specialist Stations

Two issues were identified on this worksheet:

- What are the determinants that define a Specialist Station or Hub Station?
- What additional facilities are required in such a station?

The concept of specialist or hub stations located geographically central to ‘satellite’ or ‘spoke’ stations was discussed at the workshop. It was envisaged that the hub stations could be functioning fire stations with additional facilities ie overflow lockers, spare bedrooms, spare parking, larger training yard, larger lecture rooms, larger Mess and Lounge rooms. These stations could also be staffed with specialists and equipped with specialised rescue and fire fighting equipment.
A strategically located hub station could also be equipped for contingency capabilities, for example, with ‘overflow’ capacity to temporarily take on personnel and appliances from other stations that are undergoing renovation or during the period of construction of a new fire station located within the zone or for the deployment of additional staff during periods of high seasonal demands for fire fighting services.

The hub stations could also be built incorporating environmentally sustainable design solutions and equipped with measurable energy usage devices for ‘benchmarking’ of energy use against other stations. An internally benchmarked system comparing ‘like for like’ facilities would be beneficial for the organisation in developing an understanding of the efficacy of current energy use programs, for the education of station personnel and for the implementation of future efficient energy use program. Facility specific lessons ie reduced energy use practices, learnt from hub station practices could also be gradually rolled out to other stations where appropriate.

Hub stations will allow the concentration of specialist equipment and skills in central locations, will reduce duplication and could assist in the reduction of spatial demands from associated ‘satellite’ stations especially for existing stations located within inner city areas where large land allotments are at a premium.

1.3.1

It is recommended that the concept of specialist or ‘hub’ stations supporting smaller ‘spoke’ stations be adopted for further development by the appropriate zones and project development committees. The contingency capabilities of each ‘hub’ station will have to be defined to ensure that adequate functional and spatial support elements are included in the design brief. ‘Enhance’ facilities could include; spare bedrooms, additional offices, larger meeting rooms, dedicated lecture theatres, larger Mess and Lounge rooms, space appliance bays, specialised rescue equipment, overflow car parking spaces, larger drill yards, ESD elements, measurable energy and water usage devices etc.

1.4 Overload/Contingency Capacity

Two issues were identified on this worksheet:

- What are the current (and future) designed overload determinants for fire stations?
- What facilities need to be considered to accommodate overload demands?

The question of whether a fire station should be designed and built with overload or contingency capacity is one that will need to be discussed in depth and substantiated by current demands and future changes. Demand can be generated from a number of sources including; crewing changes, equipment use changes, changes in government policy, mergers with other emergency services agencies etc. Future demand for increased crewing, flexible work choices etc could lead to increased demands for beds, lockers, mess room area, on–site parking etc. A factor over and above the current crewing number per shift will be required to be formulated to determine spatially, the overload requirements.
Current Design Brief requires a staff facility factor of 5.3. This factor should be reviewed against current and projected demands. With the adoption of the combined bed/locker room model incorporating a part ensuite between two bedrooms, this factor will vary between 5.0 and 6.0 (Refer to proposed Site Specific Brief).

Overload capacity for a station should be formulated at the strategic level and determined prior to the commencement of a project. The overload capacity for a station can be captured in the Site Specific Brief under Staff Facility Factor. This factor will determine the number of bedrooms (bedrooms numbers will always be even as each module contains two bedrooms with a shared part ensuite in-between) and associated lockers which will always be in multiples of 5 (5 lockers per bedrooms).

Attention is drawn to Worksheet 1.3 where the definition of a specialist or ‘hub’ stations could include some of the requirements of ‘overload capacity’.

1.4.1

It is recommended that a Site Specific Data Brief be developed to encompass all the spatial requirements of a proposed station prior to the commencement of the project. This Site Specific Data Brief shall include a Staff Facility Factor which will dictate overload or contingency capacity where required. Refer to Site Specific Brief proforma attached to this report.

1.4.2

It is recommended that the requirement for overload or contingency capacity be built into some stations, preferably identified ‘hub’ stations. It is suggested that protocols be developed for decisions to incorporate overload or contingency capacity where required to be incorporated in new/refurbished station designs.

1.5 Room Data Sheet (RDS)

1.5.1 RDS 01.

Single width ‘fold-up’ doors are the default standard for all appliance bays. Double width ‘fold-up’ doors should be considered where turning circle and sightlines are limited due to site constraints. Note that with double width doors, there is the associated issue of the shared safety beam across the doorway not being able to identify a second vehicle exiting after the first. For double width doors, it is recommended that a second safety beam be installed across the opening and programmed to activate after the initial activation by the first vehicle across the beam. For bays accommodating ladder appliances, the second beam could be located at a higher level to pick up booms protruding pass the front of the appliance.

The distance between a fixed wall and appliance bay should be specified to ensure that doors can be opened without undue interference into paths of travel. Refer to typical Appliance Bay layout template.

1.5.2 RDS 06
Current design guide allows the data/LAN/TV video cabinet to be located on the floor of lecture room. For security and safety reasons, a dedicated AV cupboard or joinery fixture should be provided for this equipment.

1.5.3 RDS 07
The ‘Visitor Toilet’ should be acoustically attenuated, refer worksheet 2.8.

1.5.4 RDS 10 – Firefighter’s Mess.
The Kitchen and Meals areas are two separate functional areas and should not be combined. Refer worksheet 2.6.

1.5.5 RDS 15 – Bedrooms.
Level of acoustic separation should be prescribed, refer worksheet 2.8.

Current standards allow the utilisation of ‘velux’ type roof windows to substitute for external windows to firefighters’ bedrooms that do not have an external wall. Standards will need to clarify situations where internally located bedrooms are permissible.

1.5.6 RDS 16 – Bed lockers.
Total numbers should include a provision for ‘overload’ or relief crewing over minimum. Refer to worksheet 2.1.

1.5.7 RDS 24 – Gymnasium/Weight room.
Review the ‘relationship to other areas’ where double doors access into the Appliance Bay is a prescribed requirement. Consider safety and separation between a clean and a ‘vehicle parking and response’ area.

1.5.8 RDS 25 – PPE Change.
Consider deletion of ambiguously worded “No access doors to Appliance Bay” and replace with a flow diagram.

1.6 Room Data Sheet (RDS)

It is recommended that the following current standards be reviewed to incorporate the recommendations:

1.6.1 RDS 27
Review equipment and fittings located in Turn-out dispatch console area. This ‘transition’ area should not be used for any activities other than for the dispatch of turn-out information.

1.6.2 RDS 28 – Circulation corridors.
Review current recommended wall finishes to high-use corridors for cleaning and maintenance purposes. For motion detected lighting, consider breaking up light circuits in corridors to enable lowered lighting levels to prevent ‘all on’ or ‘all off’ situations.
1.6.3 RDS 34 – Plant Room Area.

The plant room is a workplace for plant maintenance service personnel. Avoid locating plant and equipment at the roof level where ‘fall from height’ is a potential risk. OH&S, Section 28 recommends the ‘elimination of hazard’ as the first order of control.

1.6.4 Corporate Signage

Project delivery manual should refer to the new corporate signage specification package for, mandatory signage, door and room signage, station identification signage, external illuminated corporate signage.

5.2.0 BUILDING AND DESIGN

2.1 Locker/Bathroom/Bedroom relationship

One issue was identified on this worksheet:

- Anecdotal evidence suggests that current policy requiring users to change in bathrooms has not generally been practised.

Current bedroom/locker/bathroom arrangement is separated from each other. Bathroom/change room is located off the common locker area. Anecdotal evidence suggests that users are reluctant to change within the privacy of the bathrooms but prefer to change directly in front of their lockers for a variety of reasons including; wet bathroom floors, distance from clothing lockers. If this practice is continued, there is a potential problem regarding privacy and associated issues with harassment.

The location of the WC within the bathroom potentially doubles the amount of time the bathroom is occupied.

An alternative bedroom/locker arrangement with clothing and bed lockers located within the bedrooms, has been successfully utilised by another emergency services agency over a number of years. Under this model, two bedrooms share a semi-ensuite equipped with a shower and a vanity. WCs are located separately. This bedroom/locker model allows disrobing and changing within the privacy of the bedroom with direct (but shared) access to a shower and vanity.
Under this alternative model, each bedroom will contain five combined lockers for bedding and clothing, a desk and a bed. As this arrangement requires two bedrooms per semi-ensuite, the number of bedrooms will always be even.

This alternative model of rooms/lockers could potentially be less spatially demanding than the current arrangement of separate bedrooms and locker areas. Refer to attached suggested floor plan of this alternative bedroom/locker room model.

2.1.1

| It is recommended that the alternative bedroom/locker and shared semi-ensuite arrangement of rooms be adopted for all future new stations. |

2.2 Clean/Transition/Appliance Bay flow diagram

One issue was identified on this worksheet:

- Clearly define the use of these areas and what is allowed in each area.

Refer to Flow Diagram attached. The flow sequence for a turn-out should be Clean – Transition/Turn-out alcove – Appliance Bay. On return, the flow is reversed except for the possibility of the insertion of a shower room with direct access from the Appliance Bay to enable firefighters to shower off residues and remnant dirt (ash) from a job.

2.2.1

| Turn-out alcove in the transition zone should only be used for dispatch of information and not be equipped with a work station for prolonged administration work. |

2.2.2

| RDS should specify double swing doors with vision panels located between the transition area and the Appliance bay. Ensure that the doors are of sufficient width to comfortably allow a fully equipped firefighter safe access through the doors. Swing tension should be adjustable. |

2.2.3

| New Personal Protection Equipment and Clothing are highly susceptible to UV degradation. RDS should include specifications that all glazing to appliance bays and PPE store be coated with UV limiting properties and that artificial lighting to these areas be fitted with UV filters. |
2.3 Lecture Room

One issue was identified on this worksheet:

- Anecdotal evidence from stations visited suggests that lecture rooms are infrequently used for their intended purpose ie lectures, community use.

Most lecture rooms visited were used as multi-purpose rooms or alternative small group lounge. In some of the newer stations, this room is equipped with an operable wall to enable ‘spill-over’ use from the adjoining Gymnasium.

There are two inherent issues with the location of the Gymnasium with the Lecture room;
a) the location of the Gymnasium room adjacent the Lecture room will require the Gymnasium to be located near the front entry. In most situations, this location is not ideal as this will locate the Gymnasium away from the showers and change rooms which are usually located at the rear of a station,
b) the finishes for a Gymnasium and a Lecture room are not necessarily compatible.

Anecdotal evidence gathered from discussions with the fire fighters from a number of stations appears to suggests that skills maintenance training is conducted in a variety of areas in a station including the Lounge or Mess room and the Lecture room. Evidence also appears to suggest that the majority of time fire fighters spend at a station is in the Mess room. As there are pressing spatial demands for a larger Mess room due to the separation of the Mess and Kitchen areas, Lounge rooms if recliners are to be provided and the Gymnasium, it is suggested that the current space allocation for the Lecture Room be reduced and redistributed to other areas.

2.3.1

It is recommended that in future spatial briefs, the Lecture room be renamed ‘Multi Purpose Room’ and be reduced in size and the ‘saved’ area be re-allocated to other functional areas.
2.4 Gymnasium dimensions and layout

One issue was identified on this worksheet:

- Size of Gymnasium is inadequate.

Anecdotal evidence suggests that the gymnasium is used by a number of people at the same time; typically, by the members of a shift doing a gym program or circuit training. Staggering usage appears to be impractical as activities ie turn-outs, skills maintenance training, cleaning, cooking etc are usually carried out by all members of a shift working as an integral unit. It is suggested that every gymnasium should be able to comfortably fit personnel from one shift ie 3-4 persons, each person having sufficient space to train on a separate piece of gym equipment in a ‘circuit-type’ arrangement.

2.4.1

It is recommended that future Gym designs include equipment template layouts to demonstrate spatial separation between equipment and the useability of the space for 3-4 persons. The default size Gymnasium should be a minimum of 42sqm and increased where appropriate to accommodate additional equipment for larger stations.
2.5 Provision of lockers for personal use

Two issues were identified on this worksheet:

- Current locker space provision is insufficient for storage of personal gear ie Gym bags.
- Storage lockers (for access to personal gear) are too remote from living areas.

Feedback provided by the station users suggest that there is a need for the temporary storage of:

a) personal clothing bags (usually a gym bag). There is no defined area to store this type of bag used to ferry clothing and personal effects between home and work.

b) personal effects bags (usually a small back pack) in the location where the majority of time is spent ie, the Mess room. Personal effects in this instance could include; mobile phone, wallets, non perishable food, drinks, reading material etc.

2.5.1 In the first instance, the adoption of the combined bedroom/locker model will provide the storage space in the bedroom storage cupboards for empty gym bags as well as bedding.

2.5.2 In the second instance, it is recommended that a pigeon hole-type storage cabinet be provided in the Mess area for the storage of a small bag and personal effects. Typically, this cabinet could be incorporated on the Mess room side of a Kitchen prep bench as part of the Kitchen joinery design.
2.6 Kitchen Design

One issue was identified on this worksheet:

- The Kitchen is a high-use area with potentially hazardous uses. Under the current Design Guide, the kitchen can be combined with the mess room.

Kitchen design should facilitate hygienic food handling practices, the safe handling of hot food and liquids and sharp instruments etc. Good ergonomic design where the relationship between cooktop, wash-up sink and food store (incl fridge) should be a consideration in the design of the Kitchen layout. Food preparation should not be interspersed between food consumption and other activities.

2.6.1

It is recommended that the Kitchen and Mess room be kept contiguous but separate from each other.

2.6.2

It is recommended that consultants be asked to prepare detailed kitchen plans and elevations for presentation to users as a requirement for the engagement of the end-user stakeholders. Consider the provision of three bin bays for general rubbish, recyclables and compostable waste.

2.6.3

It is recommended that the non slip flooring be prescribed in the RDS for all wet areas.
2.7 Kitchen Appliances

Two issues were identified on this worksheet:

- Kitchen appliances – type and quantity have not been prescribed in the Design Guide.
- Consider gas or induction coils for cook tops. Consider the provision of dishwashers.

The quantity of kitchen appliances ie cooktops, sinks, fridges etc should be prescribed in the design guide to identify and accommodate the needs of the larger station especially during shift change. It has been suggested that a three level kitchen appliance provision standard be adopted.

- Level 1 - the default level of kitchen appliance (600 wide) as prescribed in the current RDS and including a dishwasher to be provided for all stations with shifts up to 5 people.
- Level 2 – duplicated cook tops, ovens and fridges to be provided for all stations with shifts between 5 to 10 people.
- Level 3 – duplicated 900 wide cook tops, ovens, fridges and wash up area for all stations with shifts in excess of 10 people.

2.7.1

Induction cooktops utilises a magnetic field to transfer energy directly to a cooking vessel and is ideal for turn-out situations as no remnant heat remains on the cooktop when the switch is turned off. Induction cooktops are highly efficient appliances but will require cooking vessels to be made of magnetic materials ie stainless steel, cast iron. Consider the use of induction cooktops for fire station applications.

2.7.2

RDS should include a prescribed standard for rangehoods including its mounting height to allow sufficient head height clearance for tall personnel.

2.7.3

MFB should include a list of approved kitchen appliances that meets the organisation’s standards in regard to energy efficiency, level of local content, operational reliability, after sales service reliability etc.
2.8 Acoustics

Two issues were identified on this worksheet:

- The Design Guide for acoustics separation of nominated spaces does not contain measurable acoustic standards.
- Review current acoustic separation requirements.

It is recommended that the RDS should include prescribe measurable ie FSTC (Field Sound Transmission Class) levels of acoustic attenuation required for specific rooms.

2.8.1

It is recommended that a four-level acoustic attenuation standard (FSTC, Rw or other equivalent acoustic definitions) be adopted for the design guide to define acoustic separation for different functions:

- Raised voice confidential privacy (FSTC 45) ie bedrooms
- Normal voice confidential privacy (FSTC 40) ie private offices, toilets, lounge, lecture rooms
- Normal voice privacy (FSTC 35) ie general office areas, mess room, gymnasium
- Poor privacy (less than FSTC 30) ie store rooms, PPE rooms
2.9 Exit and Approach Drives

Two issues were identified on this worksheet:

- Approach driveways that are shared with the public have been problematic during peak periods.
- All exit driveways should be checked for unobstructed views and turning circle clearances.

2.9.1

It is recommended that:

- Where approach driveways are shared with the public, consider the current and potential future use and impact of increased traffic demands.
- Include an assessment of view angles and turning circle clearances at the land assessment and selection stage.
- Where the location of approach and exit driveways are in close proximity to road junctions, a thorough traffic flow investigation should be conducted to examine congestion and safe passage from and into the site.
### 2.10 External Areas

Three issues were identified on this worksheet:

- Details of the BBQ area are not prescribed. Areas for clothes drying line, compost, gardening, service yard, secure bicycle store have not been prescribed.
- Areas of roadways for Fire Appliances should be constructed in concrete.
- Fencing type required for stations has not been clearly prescribed.

It is recommended that:

<table>
<thead>
<tr>
<th>2.10.1</th>
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</thead>
<tbody>
<tr>
<td>A RDS be created for the external BBQ area including the total area to be allocated, type of roof cover, proximity to other functions, services, furniture &amp; fittings to be provided etc.</td>
</tr>
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<table>
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<tr>
<th>2.10.2</th>
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</thead>
<tbody>
<tr>
<td>If Kitchens are to be allocated bin space for general rubbish, recyclables and compostable waste, then an outdoor area should be set aside for composting (perhaps a concrete area with a hose and waste outlet adjacent the area for the compost bins).</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>2.10.3</th>
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<tbody>
<tr>
<td>External floor material for Drill yard, driveways and turning areas should not be constructed in asphalt but are to be in concrete.</td>
</tr>
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<th>2.10.4</th>
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<tr>
<td>The issue of glare reflected off light coloured concrete surfaces is apparently an issue at some stations. Consider the addition of a colour to the concrete to reduce glare.</td>
</tr>
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<table>
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<tr>
<th>2.10.5</th>
</tr>
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<tbody>
<tr>
<td>There are a number of fence types listed in the RDS. The RDS should nominate a default fence type for perimeter boundary fencing unless prescribed otherwise; suggest colorbond 2100m high, of colour to be selected.</td>
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</tbody>
</table>
2.11 Administration Office

This item was identified as deficient outside the workshop sessions:

- There should be a general administration office incorporating the Watchroom and current SO office that will allow fire-fighters to carry out general office duties including report writing, office administration, professional development, logging of attendance to call-outs etc.

2.11.1

| It is recommended that the RDS’s ‘SO Office’ be amended to ‘Administration Office’ and the dimensions of this room be increased to a size capable of accommodating work stations to enable the general staff of the station to carry out office administration duties. The actual room dimensions are to be commensurate with the size of the station and to be determined by an agreed workstation to staff ratio. |
5.3.0 POLICY

3.1 Environmentally Sustainable Design

Two issues were identified on this worksheet:

- MFB has adopted Green Star compliance. To what extent is Green Star to be applied to staged renovation of existing operational stations?

The MFB has adopted Green Star compliance as a best practice policy to reduce the carbon footprint of the organisation. Green Star assessment is proposed to be conducted by external accredited GBCA assessors. There is no model for fire station assessment so current modelling will have to be based on an office-type use. A fire station specific model is currently being developed by external consultants.

3.1.1

The MFB organisation is unique in that it has multiple facilities performing identical functions located within areas with geographical and meteorologically similar profiles. There is the opportunity to internally benchmark stations against each other for energy use with the view to reduce the organisation’s carbon footprint. Energy efficient stations can be identified, studied and utilised as benchmark target stations where efficient energy use equipment and good energy use practices can be identified and replicated at other stations. Internal benchmarking can be carried out to meet standards similar to ‘green star’ but will not require external assessment. With an internal benchmarking system in place, the organisation would essentially run a MFB specific energy monitoring and assessment system which can be better utilised to achieve energy targets and reduction of the organisation’s carbon footprint. The outcomes of the internally rated system would then be used to form the basis of an energy tool for the design of future ecologically sustainable fire stations.
3.2 OH&S & DDA

Two issues were identified on this worksheet:

- OH&S Section 28, Consider the formulation of a checklist for OH&S compliance for the documentation of every project.
- Review Design & Delivery Manual, section 2.2.6’s definition of ‘public spaces’ where DDA applies. DDA should also include access for personnel with temporary disability as well as for a disabled member of the non-operational MFB staff.

It is recommended that:

3.2.1 MFB utilise the information derived from reported OH&S injury records to identify areas in the physical environment that have been the causative source of injuries. This information, where suitable, could be translated into a design checklist to ensure that appropriate measures are taken into account in the design of new facilities and the specification of finishes and fittings.

3.2.2 Compliance to DDA regulation is onerous and requires substantial spatial allocation. Consideration should be given to clearly define what areas are to be made DDA compliant. It is suggested that only operational areas that require staff to be able-bodied be excluded from DDA compliance ie bedrooms and associated lockers and bathrooms.

3.2.3 RDS should include nominated mounting height for door handles, switch points card readers etc.

3.2.4 Appliance bay floor wastes (2no. per bay) should be located along the centreline of each bay with localised falls from the edge of the bay into the middle to drain excess water from vehicles away from the walkways.

3.3 Engineering Services

Engineering services issues identified on this worksheet:
3.3.1
Consider the division of light fittings into separate circuits so lights do not have to be either on or off.

3.3.2
Consider the allocation of essential power circuitry to all outlets for the future proofing of station designs. Note that circuits backed up by UPS (uninterrupted power supply) battery supply will still need to be separately identified to that of essential (generator) supply.

3.3.3
Tie light fittings sensors to automatically adjust to daylight levels.

3.3.4
Review the need to have a mechanical solution to prevent back-flow of air from Engine bay ie pressurisation system, air curtain, sealed doors etc.

3.3.5
Consider interceptor traps for waste management.

3.3.6
Consider identifying essential services circuits for future UPS adoption.

3.3.7
Consider the rating of all power hungry fixtures ie TVs, CPUs, to ensure that only energy efficient fittings are specified for use.

3.3.8
Consider the inclusion of essential power circuits with UPS and (future) generator backup connections in all new/refurbished stations.

3.3.9
Consider the provision of mechanical air conditioning (set with a wide temperature range) to the ‘Turn-out PPE’ room to ensure that this room and associated equipment and clothing are not subjected to extremes of temperatures.

3.3.10
The Breakout room’s utility as a multi-use space should be supported by the provision of TV, power and data points.

5.4.0 PROCESS

4.1 Due diligence / continuity of process
One issue was identified on this worksheet:
• What processes are in place to ensure accountability for decisions made during the course of a building project which could span several years and involve multiple decision makers?

Under the changes to the Project Management Structure, the new Infrastructure Steering Committee for each zone includes UFU BCom, OH&S and End Users. This will ensure engagement with the end users during the design and implementation process for building works. Ongoing feedback and communication can be achieved via an intranet website set up for each zone. Minutes of the Infrastructure Steering Committee meetings are also posted on the intranet for perusal and comment.

4.1.1 Consider a system of prescribed checklist and sign-offs that are handed over from stage to stage, personnel to personnel that will facilitate continuity of process.

4.2 Stakeholders consultation
Two issues were identified on this worksheet:
• Identify stakeholder for each stage of a project.
• What level of consultation is required?
Stakeholder groups change at each stage of the project. Are users, OH&S, Council, the public that shares driveways, adjoining neighbours, DSE, ESD specialists, external consultants, maintenance personnel all stakeholders?

Refer Worksheet 4.1 – The new Infrastructure Steering Committee will be the vehicle by which different interest group stakeholders are engaged at different stages of a project.

4.2.1

It is recommended that a detailed list identifying potential interest groups (temporary stakeholders) be formulated and checked against each stage of a project to ensure that appropriate groups are consulted and invited to attend meetings at the appropriate stage.

4.2.2

Ensure that there is a prescribed list of design items that are presented to station users and/or other members of the Infrastructure Steering Committee at the different stages of a project’s life. Design items should include: circulation and flow diagrams, furniture plans (to provide a sense of scale), detailed kitchen plan. Detailed joinery and cabinet drawings etc.

4.3 Project Control Group

Two issues were identified on this worksheet:

- Identify the terms of reference and control. The important responsibilities for time and budget control and oversight have not been identified.
- Current number of representatives unwieldy – consider specific representations at defined checkpoints. Identify person/s with overall sign-off capability for this group.
Project Management framework should include:

4.3.1
Terms of Reference to be formulated to define review checkpoints and the level of participation and consultation at each checkpoint. Include a ‘Decision List’ that is followed through and signed-off by the committee.

4.3.2
Time and budget controls should be reported at each Project Management meeting.
6.1 **Site Specific Data Brief**
- 1 Appliance Station – one and two levels
- 2 Appliance Station – one and two levels
- 3 Appliance Station – one and two levels
- 4 Appliance Station – one and two levels
- 5 Appliance Station – one and two levels

6.2 **Guide checklist**
- Checklist – Brief
- Checklist – Land Assessment
- Checklist – Land Procurement
- Checklist – Schematic Design
- Checklist – Developed Design

6.3 **Fire Station Template Modules**
- Template plan for 2 Bays, 1 Appliance - single level
- Template plan for 2 Bays, 1 Appliance - two levels
- Template plan for 3 Bays, 2 Appliances - single level
- Template plan for 3 Bays, 2 Appliance - two levels
- Template plan for 4 Bays, 3 Appliances - single level

6.4 **Function Specific Plans**
- Bedroom/Bathroom/Locker Plan
- Bedroom Locker Elevation
- Kitchen Layout
- Mess Room Personal Gear Store
- Gymnasium Equipment Plan
- Clean/Transition/Vehicle Response Bay - Flow Diagram

6.5 **Minutes of Meetings at Selected Fire Stations**
- FS 26 – Croydon fire station
- FS 27 – Nunawading temporary fire station
- FS 30 – Templestowe fire station
- FS 31 – Glen Waverley fire station
- FS 01 – Eastern Hill central fire station
- FS 47 – Footscray fire station
- FS 43 – Deer Park fire station

6.6 **Minutes of Meetings with MFB Committees**
- ACFO
- Commanders
- Facilities
- Health & Safety
- Station Design

6.7 **Workshop 1**
- Worksheet Responses
6.1 Site Specific Data Brief

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TAB 6

6.6 Minutes of Meetings with MFB Committees

- ACFO
- Commanders
- Facilities
- Health & Safety
- Station Design
6.7 Workshop 1

• Worksheet Responses
SafetyMAP: Measuring Health & Safety Management

4th Edition

What is SafetyMAP?

Will it suit our organisation?

Can we integrate it with our other systems?

How do we get started?
SafetyMAP: Measuring Health & Safety Management

What is SafetyMAP?
SafetyMAP (Safety Management Achievement Program) is an audit tool designed to assist organizations improve their management of health and safety. In doing so, it helps to establish safer working environments that will protect people at work by eliminating, or better managing, health and safety hazards. This approach is consistent with the general requirements of health and safety legislation.

The audit criteria within SafetyMAP enable an organization to:
- measure the performance of its current health and safety program;
- implement a cycle of continual improvement;
- compare its health and safety system to a recognized benchmark; and,
- gain recognition for the standards achieved by its management of health and safety.

SafetyMAP does not prescribe how to manage health and safety - it provides a systematic way of measuring how well health and safety is being managed. The design and flexibility of SafetyMAP means you can audit any health and safety management system.

Will it suit our organization?
SafetyMAP is being used by organizations of differing sizes, management structures and business activities throughout Australia and overseas, and is suitable for use in public and private sector organizations across all types of industries.

Every organization, large or small, needs to evaluate the level of risk associated with its operations if it is to manage health and safety. The higher the risks, the more extensive the management system needed to maintain a safe workplace. The level of documentation and the type of system required are determined by the exposure of people to health and safety risks, not the size of the organization.

SafetyMAP will help you to measure and evaluate your ability to control these risks and become more productive.

Because SafetyMAP provides a flexible ‘do it yourself approach’, it can be modified to suit the needs of your organization.

How can we use SafetyMAP?
The audit criteria in SafetyMAP are used to measure current performance and identify those areas where your organization can improve its health and safety management system. There are two levels of achievement to aim for, and these enable you to recognise and celebrate your progress along the way.

Some organizations have found that the audit criteria provide valuable guidance when considering what features to include in their health and safety management system and procedures.

Does it fit with modern management thinking?
Striving for best practice while benchmarking progress against known standards is a widely used risk management strategy. As with many other initiatives, success begins with the commitment of senior management to provide the focus and support for the health and safety program. It also requires the consultation and involvement of people at all levels of the organization.

The criteria in SafetyMAP are based on current best practice, but it will take a cycle of continual improvement to achieve this goal.

Where the organization identifies a problem, it makes the necessary changes and then reviews the results achieved. As new system procedures are introduced, they are incorporated into the evaluation and review cycle. Using the audit criteria to verify that the existing system is working, and to identify any failures, or areas that require fine-tuning, helps you to determine priorities and to allocate your resources in the way that best suits your organization’s needs.

Can we integrate SafetyMAP with our other systems?
SafetyMAP is based on the principle that health and safety management is not isolated from the way an organization conducts its day to day activities. There will be overlaps with other systems such as the purchasing of goods and services, recruitment and induction of staff, internal communications, equipment maintenance and records management.

It is expected, though not mandatory, that the health and safety management system is compatible, and preferably integrated, with other management functions such as quality and environmental management.

How do we get started?
Whether or not you wish to aim for SafetyMAP Certification, your safety management journey can start right now.

The following quiz helps you make a quick and easy evaluation of your existing health and safety management system and identify its strengths and weaknesses.

If you then decide that a more rigorous assessment is warranted, the next step is to purchase the publication SafetyMAP – ‘Auditing Health and Safety Management Systems’ 4th Edition including SafetyMAP User Guides and workbooks on CD. These will help you to gain a comprehensive insight into what needs to be done to develop your systems to the stage where they meet the SafetyMAP audit criteria.

Note: all documentation can now be obtained free of charge from the WorkSafe website.
Health and Safety Management System Diagnostic Quiz:
For a quick and simple assessment of how well you are managing health and safety you can score your organization against each of the following statements. This diagnosis can be carried out by an individual or small team and is not based on any preconceived management structure.

0  Nothing in place to show that this occurs
1  Little evidence exists to show this occurs and it is likely to be overlooked on many occasions
2  Some evidence exists that things are in place but there are significant gaps in implementation
3  A fair amount of evidence exists but it there is still some way to go until everything is in place
4  A significant amount of evidence is in place to demonstrate that this occurs but more could be done to ensure that it will happen on a consistent basis
5  There is significant evidence to demonstrate this occurs and you have confidence that appropriate actions will occur when needed

1. We have a formal health and safety policy that sets clear responsibilities, goals and objectives for all parts of our organization.
2. We have a health and safety plan that shows what we are trying to achieve and we have communicated this to all employees.
3. We have provided adequate resources to implement our health and safety plan.
4. We have reviewed our legislative obligations for health and safety and checked that we comply with them.
5. Our employees are consulted about health and safety and involved in identifying and resolving health and safety issues.
6. Our organization has identified all workplace hazards and has reduced the risk associated with these hazards to an acceptable level.
7. All of our employees, including supervisors and managers, are trained in the health and safety requirements relevant to their position.
8. We have an induction process that ensures the health and safety of new employees.
9. We have developed documented work procedures for all hazardous tasks and we monitor and enforce compliance with them.
10. We have appropriate first aid resources that meet the needs of our organization.
11. We record any injuries and incidents and investigate the causes to prevent recurrence.
12. We have identified possible emergency situations that may occur, and have trained our employees in the procedures to respond to them.
13. We conduct regular inspections of our workplace to identify hazards and to check that our hazard control measures are working.
14. We specify our health and safety requirements when purchasing goods or using the services of contractors.
15. We have a health and safety manual that includes our safe work procedures, and these are known and used by our employees.
16. We have obtained current Material Safety Data Sheets for all the chemicals we use and we make them available in the workplace.
17. The materials we use are stored safely to minimise manual handling and to prevent spills or undesirable chemical reactions.
18. We maintain our plant and equipment according to a schedule and we keep records.
19. We regularly audit our organization’s health and safety management system and review the results.
20. We have a process to collect, file and retain our health and safety records.

TOTAL SCORE

Now check how your total score compares to this scale
SafetyMAP: Measuring Health & Safety Management

Does SafetyMAP link to Australian Standards?


What happens during a SafetyMAP audit?

An audit should go beyond the ‘paper trail’ and seek supporting documentation is usually required. Evidence to make this decision, but some form of personnel may sometimes provide sufficient observations and discussions with relevant personnel which explore whether activities match the documented requirements, and whether there are any opportunities for improvement; and observations of the workplace to confirm that it is really happening. Observations and discussions with relevant personnel may sometimes provide sufficient evidence to make this decision, but some form of supporting documentation is usually required.

An audit should go beyond the ‘paper trail’ and seek to establish the level of implementation within the workplace. The auditors make a judgement whether the audit criteria have been met and whether the arrangements contribute to the provision of a healthy and safe working environment.

What are SafetyMAP certificates?

Some organizations choose to seek external recognition of their achievements through an independent audit of their system which may lead to them being awarded a SafetyMAP Certificate. A list of accredited Certification Bodies that can provide this service can be obtained from JAS-ANZ – the Joint Accreditation System – Australia and New Zealand by telephoning: (02) 6232 2000 or visiting their website at www.jas-anz.com.au.

Certification is available at two levels of system performance:

• Initial Level
• Advanced Level

Initial Level requires an organization to satisfy the requirements of 82 SafetyMAP audit criteria. These criteria have been selected as encompassing the building blocks for an effective, integrated health and safety management system that is also capable of meeting legislative requirements. Success at Initial Level is a significant milestone that should be seen as a foundation for further improvement.

Advanced Level requires the organization to satisfy the requirements of all 125 SafetyMAP audit criteria. Organizations operating at this level will possess the systems and processes to enable them to maintain their health and safety system at ‘best practice’. They will be deriving maximum benefit from their health and safety management system and will have reached a level of excellence that others acknowledge and respect.

The decision to apply for formal certification of your system is a voluntary one, and a cost/benefit analysis may help you choose the best course of action.

What are the advantages of Certification?

Certification provides different benefits to different organizations. Here are some that may apply to yours.

• Performance verification:
An SafetyMAP Certificate provides independent verification that your organization’s health and safety management system is functioning as intended and is effectively implemented.

• Cost efficiencies:
A health and safety management system that is functioning effectively will help to deliver long-term cost efficiencies through the prevention of work related injury and illness, better industrial relations and constructive ideas for improved performance.

• Recognition for the organization:
As a public demonstration of health and safety achievements, you may advertise your SafetyMAP Certification to customers, suppliers and the public by displaying the SafetyMAP logo.

• Due diligence:
A SafetyMAP Certificate confirms that your organization has the capacity to fulfil its legal and ethical responsibilities for health and safety, and is doing so effectively.

• Competitive advantage:
A SafetyMAP Certificate is independent recognition of the attainment of the health and safety standards that are often required as part of a tendering process. This may help you to win contracts.

How does it match up with local legislation?

The SafetyMAP audit criteria are not tied to any specific health and safety legislation or jurisdiction, and can therefore be used throughout Australia and New Zealand, as well as other countries.

In the course of a SafetyMAP Certificate audit, organizations are required to demonstrate how their system considers the relevant legal obligations, and it would therefore be expected that organizations with SafetyMAP Certification are more likely to have adopted the management practices needed to comply with health and safety legislation.
Workplace Behaviour Policy and
Issue Resolution Procedure
1 Objectives of the Policy

The Metropolitan Fire and Emergency Services Board (MFB) is committed to providing all staff with an inclusive and fair workplace free from discrimination, vilification, harassment, bullying, victimisation and occupational violence (together known as Unacceptable Behaviour).

The MFB believes that such a commitment will increase the effectiveness of the organisation and enable all employees to participate and achieve their potential at work. This policy recognises that all employees should enjoy good working relationships with each other and with management and feel comfortable and safe at work.

The MFB will not tolerate any form of discrimination, vilification, harassment, bullying, victimisation or occupational violence.

The MFB encourages you to raise any questions about this policy with the Issue Resolution Registrar and any concerns about Unacceptable Behaviour in accordance with the Issue Resolution Procedure outlined in this policy.

2 Application of this policy

2.1 Who does this policy apply to?

This policy applies to all employees, including current and prospective employees, work experience and work placement students, contract workers and commissioned agents of the MFB, regardless of whether or not they work full time, part time or as casuals. It also applies to everyone MFB employees deal with in the course of their work.

2.2 When does this policy apply?

This policy uses a broad definition of ‘workplace’ that extends beyond the physical premises of the work and outside normal working hours, including:

- dealing with members of the public
3 Responsibilities

3.1 General responsibilities

Everyone who works at the MFB is responsible for ensuring that they:

- participate in the MFB scheduled workplace behaviour information sessions;
- are familiar with this policy; and
- comply with this policy.

All employees have a responsibility to treat each other fairly and are expected to be courteous, polite and respectful to each other in fulfilling these responsibilities as a condition of employment.

All employees also have an obligation not to victimise someone who intends to raise or has raised an issue, or who intends to be or has been a witness in relation to a complaint under this policy.

Established breaches of this policy may be referred for remedial or disciplinary action.

Such action, in respect of Corporate Staff, may include:

- a verbal apology;
- a written apology;
- attendance at additional awareness/ information sessions;
- counselling;
- a formal warning;
• dismissal

• a combination of the above.

In respect of Operational Staff such action may include:

• a verbal apology;

• a written apology;

• attendance at additional awareness/information sessions;

• counselling;

• an adverse report;

• Investigation and charges laid under the Metropolitan Fire Brigades Act 1958 (Vic.) which may lead to loss of promotion rights or wage/salary increases for a specified period; transfer or demotion, dismissal or a combination of the above,

The actions taken will depend on:

• the seriousness of the breach;

• whether it was done accidentally, intentionally or maliciously;

• whether there have been previous informal or formal warnings or adverse reports about this type of breach given to the person/people involved; and

• whether there are any circumstances (known as mitigating circumstances) that affect the level of disciplinary action that should be taken.

3.2 Management Responsibilities

Personnel with staff management responsibilities at the MFB must model appropriate standards of behaviour and take all reasonable steps to ensure that the workplace is free from Unacceptable Behaviour. If managers encourage or ignore any Unacceptable Behaviour that is happening in the workplace they may be subject to actions set out in paragraph 3.1. Part of the managers’ responsibilities is to ensure that they remain alert to possible breaches and ensure that their staff are aware of their rights and responsibilities and comply with this policy.

If an employee raises an issue of Unacceptable Behaviour with a manager, the manager must deal with it in accordance with the Issue Resolution Procedure commencing, where appropriate, with an attempt to resolve the issue locally in accordance with paragraphs 12.1 contained in this policy. The Manager may also
discuss it with the Issue Resolution Registrar, and follow it through as outlined in the Issue Resolution Procedure.

3.3 Responsibility to members of the Public

Everyone who works at the MFB is responsible for ensuring that at no time in providing services to the public an unacceptable ground or attribute of discrimination as outlined in 4.3 is used to decide:

- whether the service is to be provided;
- the type of services to be provided; or
- the manner in which the service is to be provided.

3.4 Making complaints - what to do if you think you are being discriminated against, harassed or bullied

If you experience behaviour which you think is Unacceptable Behaviour it is best to take action early. The MFB’s Issue Resolution Procedure outlines the options available for dealing with such behaviour.

3.5 Relevant legislation

The MFB and its employees will comply with legislative requirements:

**Federal**

- Racial Discrimination Act 1975;
- Racial Hatred Act 1996;
- Sex Discrimination Act 1984;
- Disability Discrimination Act 1992;
- Fair Work Act 2008

**Victorian**

- Occupational Health and Safety Act 2004;
- Disability Act 2006;
- Racial and Religious Tolerance Act 2001;
• Metropolitan Fire Brigades Act 1958;
• Equal Opportunity Act 1995;
• Charter of Human Rights and Responsibilities Act 2005:and

4 Discrimination

4.1 No unlawful discrimination

There will be no unlawful discrimination at the MFB. Employment related decisions, such as those regarding recruitment, appointment, selection for promotion and performance management will be made on the basis of merit, that is, on the basis of a person's abilities, skills and performance and not on the basis of irrelevant personal characteristics.

4.2 What is unlawful discrimination?

Unlawful discrimination occurs when an employee is treated less favourably than others because of an irrelevant personal characteristics, such as their age, race, sex and so on (all of the personal characteristics covered by the law and this policy as listed below at 4.3).

Unlawful discrimination can happen either directly or indirectly.

➢ Direct unlawful discrimination occurs when a person is treated less favourably than another person in the same or similar circumstances, because of any of the grounds or attributes listed below. For example:

• A manager decides to give training opportunities only to employees under the age of 50. This is direct age discrimination.

• A supervisor decides to employ only men for certain types of jobs. This is direct sex discrimination.

Direct unlawful discrimination often happens because people have stereotyped views about what all or most people of a particular group are like, or what they think all or most people of a particular group can or can’t do. The MFB aims to treat all employees as individuals, not as stereotypes.

➢ Indirect unlawful discrimination occurs when there is rule, requirement or practice which applies to everyone, but with which some groups of people cannot comply because of a personal attribute. Unless the rule is 'reasonable in the circumstances' it will be unlawful.
For example, the minimum height requirement that used to exist in the MFB *directly* discriminated against short people on the basis of physical features, and *indirectly* discriminated against women and people and of certain races, who tend to be shorter.

4.3 Unacceptable grounds or attributes of discrimination or harassment

At the MFB, discrimination or harassment based on any of the following grounds or attributes is unlawful and will not be tolerated:

- age;
- breastfeeding;
- gender identity;
- disability/impairment;
- industrial activity;
- employment activity;
- lawful sexual activity;
- marital status;
- parental status or status as a carer;
- physical features;
- political belief or activity;
- pregnancy;
- race;
- religious belief or activity;
- sex;
- sexual orientation; and
- personal association (whether as a relative or otherwise) with a person who is identified by reference to any of the above attributes.
4.4 Examples of discriminatory behaviour

Discrimination may involve:

- offensive "jokes" or comments about another person's racial or ethnic background, sex, sexual preference, age, disability, and the like;
- display of pictures, calendars, pin-ups, posters, computer images (e.g., in electronic mail messages) etc which are offensive or derogatory;
- expressing negative stereotypes of particular groups, for example, "married women shouldn't be working";
- judging a person on characteristics such as religious or political beliefs, cultural practices, sex or age rather than work performance; or
- using stereotypes or assumptions when making decisions about a person's career.

4.5 Flexible Working Arrangements

The MFB is committed to a flexible workplace that recognises the needs of its staff.

The MFB will seriously consider requests for, and wherever reasonably possible implement, flexible working arrangements such as changed hours or duties, work from home or other arrangements by negotiation to accommodate the requirements of individual employees with a disability, family responsibilities or other personal needs – especially those related to personal characteristics covered under equal opportunity (e.g., religion, pregnancy, etc.).

Requests for flexible working arrangements should in the first instance be made to your manager or supervisor or commanding officer and may be forwarded to the Employment and Professional Development department so that a clear and fair assessment can be made relating to the employee’s working conditions (including hours of work), workload, responsibilities and environment.

Managers and supervisors may grant, but must not refuse any request for flexible working arrangements where the request is related to disability, family responsibilities or any other personal characteristic listed in paragraph 4.3 of this policy without first discussing the request with the employee and with the Executive Manager Employment and Professional Development.

The Flexible Working Arrangements referred to in this policy are limited to the operation of this policy only and are subject to any industrial instrument including but not limited to the MFESB and UFU of Australia Operational Staff Agreement.
2005 (as amended or renewed from time to time) and any award referred to therein.

4.6 Exceptions

In some situations the legislation may provide exemptions to discrimination or permit what would otherwise be unlawful discrimination. In these circumstances, discrimination would be permissible. For example, while it is unacceptable to discriminate against a person with a disability, what would otherwise be unlawful may be justified if the person cannot perform the inherent requirements of a position.

5 Vilification

5.1 What is vilification?

Vilification is a public act which incites hatred towards, serious contempt for, or severe ridicule of, a person or group on the grounds of race or religion.

Vilification breaches this policy and is also unlawful. It may also amount to a criminal offence if physical harm is threatened towards a person or their property.

5.2 Examples of vilification

Vilification can take many forms including hate-speech, graffiti, web sites and other types of written material. It is an act which happens publicly, as opposed to privately.

Examples of vilification include:

- a person inciting their work mates to racially abuse an Aboriginal man in a cafeteria;
- posters and graffiti inciting hatred of Jewish people being put up in a workplace; or
- a person urging work mates to abuse a Muslim employee and remove her Hijab (veil).

5.3 What is not vilification?

Free speech is protected, so the following things are not vilification:

- a fair report by TV, radio or newspaper of someone else's act of hatred (unless extra material has been added which is vilifying);
• fair discussions or debates about issues, done "reasonably and in good faith"; and
• material used in parliament, courts, tribunals or other government inquiries.

6 Sexual harassment

6.1 What is sexual harassment?

A person sexually harasses another person if they:
• make an "unwelcome sexual advance";
• make an "unwelcome request for sexual favours"; or
• engage in any another "unwelcome conduct of a sexual nature"

and a reasonable person, having regard to all the circumstances, would have anticipated that the other person would be offended, humiliated or intimidated.

"Conduct of a sexual nature" includes:
• subjecting a person to any act of physical intimacy;
• making, orally or in writing, any remark or statement with sexual connotations to a person or about a person; and
• making any gesture, action or comment of a sexual nature.

6.2 Motive or intention is irrelevant

Sexual harassment is unwelcome, uninvited behaviour which is offensive from the viewpoint of the person being harassed. It does not matter that the offender did not mean or intend to sexually harass the other person. In other words, an offender's "innocent intent" is irrelevant.

6.3 Examples of sexual harassment

Sexual harassment can involve any physical, visual, verbal or non-verbal conduct of a sexual nature including both one-off incidents or a series of incidents. It also includes workplace behaviour or behaviour in connection with work, for example, at a Christmas party or a work function outside of normal work hours.

Some other examples of sexual harassment are:
• displays of sexually graphic material including posters, pictures, calendars, cartoons, graffiti or messages left on boards or desks;
• electronic mail messages, voicemail messages, screen savers, any material of a sexual nature downloaded from the Internet, or viewed on a computer, offensive telephone calls, faxes or gifts;

• deliberate and unnecessary physical contact, such as patting, pinching, fondling or deliberately brushing against another body, attempts to kiss;

• leering or staring at a person's body;

• inappropriate "humour" such as smutty or sexist jokes or comments;

• innuendo, including sexually provocative remarks, suggestive or derogatory comments about a person's physical appearance, inferences of sexual morality or of sexual performance;

• repeatedly asking someone out after prior refusal; and

• intrusive enquiries into a person's private life or in reference to a person's sexuality.

6.4 **Behaviour can breach this policy even if a complaint has not been raised.**

Certain behaviour, such as, storing and viewing sexually explicit images, may breach this policy even if a complaint has not been raised. Such behaviour is unacceptable at work, even if it may not be unlawful, and may result in remedial or disciplinary action. (Refer section 10.4 of this policy)

7 **Bullying**

7.1 **What is bullying?**

Workplace bullying is repeated unreasonable behaviour directed towards an employee, client, customer, contractor or other external party that creates a risk to their health and safety.

Bullying is behaviour that victimises, humiliates, undermines or threatens a person, or would reasonably be expected to do so. Bullying breaches this policy and also the MFB’s Occupational Health and Safety Policy, which provides that all employees must take reasonable care for the health and safety of their colleagues at the MFB.
7.2 Examples of bullying

Bullying can include behaviour such as:

- verbal or written abuse (e.g., being sworn at, threats, insults, continual criticism, name calling, practical jokes, unjustified threats of dismissal);
- excluding or isolating employees from normal workplace activities;
- manipulation;
- direct violence including physical assault and harassment;
- threatening body language;
- unreasonably undermining work performance, assigning meaningless, unfair or impossible tasks, deliberately withholding work related information or resources, or deliberately supplying incorrect information;
- constant, intrusive surveillance or monitoring; or
- inappropriate interference with personal belonging or work equipment.

7.3 What bullying does not include

Bullying does not include:

- genuine and reasonable disciplinary procedures;
- constructively delivered feedback or counselling that is intended to assist employees to improve their work performance or the standard of their behaviour. For example, objective comments which indicate observable performance deficiencies; or
- directing and controlling how work is done (a fundamental right of all employers).

8 Victimisation

8.1 What is victimisation?

Victimisation means subjecting or threatening to subject someone to a "detriment" (see definition below), because they propose to, have, or are believed to have, under this policy, equal opportunity legislation or occupational health and safety legislation:

- asserted their rights under this policy, or the relevant legislation;
• alleged that another person has breached this policy or the relevant legislation; or
• assisted someone in raising an issue.

The MFB does not permit retaliation against a person just because they propose to, have, or are believed to have made a complaint of Unacceptable Behaviour under this policy, equal opportunity legislation or occupational health and safety legislation.

8.2 What is a detriment?

A "detriment" in employment includes demotion, dismissal, transfer, suspension, loss of a benefit, being ostracised from work or work related social functions, or being the subject of gossip or innuendo.

8.3 If someone raised a complaint with you about your behaviour

If a person raises a complaint directly with you about your behaviour, you should appreciate that they are letting you know that they find your behaviour unacceptable. They are giving you an opportunity to consider your behaviour and possibly prevent a formal complaint being made.

You must not victimise the person making the complaint.

9 Occupational violence - what is it?

Occupational violence is defined as any incident where an employee feels physically threatened or is physically attacked in the workplace.

Threatening behaviour means a statement or behaviour which causes a person to believe they are in danger of being physically attacked.

Physical attack means the direct or indirect application of force by a person to the body of, or to clothing and equipment used by another person, where that application creates a risk to health and safety. This definition includes striking, scratching, throwing objects, attacking with knives or other weapons, pushing, shoving and any other form of inappropriate contact.
10  Inappropriate Use of MFB Information Technology Systems

10.1 Scope

The MFB Information Technology Systems are business tools which support MFB organisational objectives and purposes. Limited personal use is permitted provided that it does not impact on an employee's work performance or breach MFB policies.

MFB Information Technology Systems refers to all MFB systems. This includes, but is not limited to:

- Computer systems including servers, central systems and PCs;
- Email and messaging system;
- Internet usage;
- Screen savers;
- Wallpaper;
- Bulletin board;
- File storage on any MFB PC or Network File Area; and
- Communication systems and facsimile machines.

10.2 Policy

Any use of MFB Systems must be in accordance with this policy.

MFB Systems must not be used for any inappropriate purpose or Unacceptable Behaviour. This applies to the storing, saving, display, download, print, receipt or sending of material on MFB Systems. This includes:

- any material which causes any person to reasonably feel intimidated, insulted, offended or humiliated because of that content and that relates to a person's presumed, actual or imputed sexual orientation, gender, race, age, physical features, national or ethnic origin, religious or political beliefs, or any disability and any other attribute on the basis of which discrimination is prohibited under state and federal anti-discrimination legislation as amended from time to time;
• any material which contains obscene or sexually offensive messages; sexually explicit or suggestive, pornographic, obscene or inflammatory remarks, images or sounds - this includes jokes of a sexual kind including sexually explicit cartoons even if they are not necessarily pornographic;

• any material which contains defamatory messages, namely, remarks that are untrue and/or malicious and/or insulting and/or attack the character or reputation of any individual or group;

• any material which is abusive, offensive, insulting or threatening or invade the privacy of a person;

• any material which causes disruption to the workplace environment, such as excessive personal use during work hours which interrupts work, mass mailing of jokes, chain letters and other frivolous communications, or could constitute a criminal offence;

• any material which infringes intellectual property rights of other people - copyright laws protect most material appearing on the internet and due consideration must be given to this issue when forwarding material to other persons as the MFB may be liable for breach of copyright;

• any material which contains unwarranted or unsolicited materials including but not limited to "spamming" or "letter bombing";

• any material which contains messages that represent any personal opinion as being the opinion of the MFB;

• misusing of the MFB computer system (eg tampering, introducing viruses or unauthorised access of another's person email, internet, documents or computer use);

• accessing any inappropriate internet sites including those concerning:
  • adult entertainment including obscene or sexually offensive or sexually explicit or suggestive content;
  • sexual violence;
  • pornography;
  • illicit drug reference;
  • hacking;
  • illegal activities;
  • militancy/terrorism;
• racism;
• violence;
• weaponry; and
• gambling.

10.3 Access and Monitoring

In accordance with the policy, the MFB reserves the right, at any time, without the need for first giving notice to staff, to:

• monitor, access and copy emails, internet usage and general computer usage;
• filter and block offensive emails or internet attachments or sites including video or picture links and attachments;
• censor and screen offensive or non-business related internet material;
• provide access to, and copies of, email, internet or general computer use to law enforcement agencies if illegal or if criminal acts are suspected.

It is a condition of the use of the MFB System that an employee complies with this policy and agrees to the terms of the policy including those related to the MFB’s right to monitor and access computer usage.

10.4 Confidentiality and Complaints

The MFB will use its best efforts to ensure that the contents of any emails or internet access remain confidential other than for the purposes of disciplinary investigations and legal proceedings or for law enforcement authority purposes.

The MFB will take disciplinary action against any employee who breaches the policy which may include, depending on the circumstances, the termination of employment.

Messages from employee representatives on the computer system are permitted only where authorised by the relevant Union Secretary and are otherwise in accordance with this policy.

Any employee who feels they have been exposed to Unacceptable Behaviour as a result of any inappropriate use of the computer system should make a complaint. Complaints will be dealt through the Issue Resolution Procedure.
11 General

11.1 Objectives of the procedure

The objectives of this procedure are to ensure:

- all MFB employees (including current and prospective employees, work experience and placement students and contract workers) have the right to raise a genuine issue and lodge a legitimate complaint.

- issues and complaints as far as possible are resolved at the local level between the employee and immediate supervisor, manager or supervising officer; Assistance is available, on a confidential basis, from Contact Officers and through the MFB Employee Support Program.

- the MFB treats issues and complaints relating to Unacceptable Behaviour seriously, sensitively, promptly and confidentially.

- this procedure is followed when resolving issues of Unacceptable Behaviour.

- all complaints of Unacceptable Behaviour are handled in a constructive, impartial and lawful way.

- at first instance all complaints of Unacceptable Behaviour are handled under this procedure.

- the MFB takes all reasonable steps, or practicable precautions, to ensure Unacceptable Behaviour does not occur or continue.

- any recommendation resulting from a complaint is appropriate and fair.

- all employees have confidence in the process, whether they be a complainant or a respondent.

- any decision resulting from a complaint is implemented.
11.2 Application of procedure

The processes in this procedure apply to complaints arising out of the MFB Workplace Behaviour Policy.

11.3 Who may complain

All MFB employees (including current and prospective employees, work experience and placement students and contract workers) have the right to raise a genuine issue and lodge a legitimate complaint.

11.4 Protection against victimisation

The MFB is committed to ensuring that people who intend to or actually raise or lodge an issue, act as a witness to a complaint, or participate in any other way in the handling of the issue will not be victimised because of their involvement.

The MFB will thoroughly investigate complaints of victimisation. If proven, those who have victimised a person may be subject to management action including disciplinary action.

Consideration needs to be given to the interests of both parties. Clarity of allegations, options for resolution, confidentiality, impartiality, prompt procedures, cogent findings and recommendations will assist to prevent victimisation of any person involved with the process.

11.5 Further assistance is available

In handling these complaints, the laws relating to equal opportunity, occupational health and safety, unfair dismissal, contract of employment and criminal offences may apply. If you have any queries or concerns about any aspect of a complaint or the investigation process you are encouraged to contact the Issue Resolution Registrar.
Complaint Procedure

A party or witness to any procedure under this policy may be represented by a person including a shop steward and or HSR of their choice. The role of the representative is to observe and advise the party or witness.

Informal Resolution

12 Step 1: Can the employee attempt informal resolution?

12.1 Recommended approach

The MFB supports openness and teamwork, so if you believe that you are experiencing Unacceptable Behaviour in the workplace, in the first instance, the MFB encourages you to raise it directly with the person involved, if you feel you can and believe it is safe to do so. Approach the person causing the issue directly, name the behaviour and tell the person clearly that their behaviour is unacceptable. You should describe the impact of the behaviour, that is, how it makes you feel, and ask them to stop the behaviour.

This recommended approach will often resolve the issue quickly and effectively. However, if it does not resolve your concerns, or if you are not comfortable raising it directly with the other person, you should raise it with the Issue Resolution Registrar (see Annexure 1).

This approach provides the person against whom the complaint is made with the opportunity to understand the situation from the recipient’s perspective and to consider and/or modify their behaviour as appropriate.

A person may approach someone alone, with their supervisor, occupational health and safety representative or a colleague. If done effectively, this approach will often resolve the issue quickly.

12.2 Seek assistance from Issue Resolution Registrar

A person with an issue or a person whose behaviour is being complained about may seek assistance and/or guidance from the Issue Resolution Registrar and information about support systems such as the Employee Support Program or peer support systems available to them.

If the issue is resolved through 12.1 or 12.2 it is the end of the matter.
12.3 If issue remains unresolved or cannot be resolved informally

If an issue remains unresolved after attempting to resolve it informally, or the employee has a valid reason for not first attempting to do so, an employee may apply to the Issue Resolution Registrar for a formal resolution (see Step 2).

An application to the Issue Resolution Registrar should be made as soon as possible after it has been determined that the issue cannot be resolved informally.

Employees retain the right at any stage to refer the matter to any relevant external authority/external avenue.

Note: A list of the relevant external authorities is attached noted at Annexure 1.

Formal Resolution

13 Step 2: Lodging a Complaint with Issue Resolution Registrar

13.1 How to lodge a complaint

A complaint may be lodged with the Issue Resolution Registrar in writing providing as much information as possible, including:

- specific details of the complaint including the substance of the allegation(s) describing dates, times and places as to when and where events occurred and the identification of the person(s) involved including witnesses;
- outcomes sought by the employee;
- any previous attempts which have been made to resolve the matter (informal resolution);
- the name(s) of the employee’s support person (if applicable); and
- any other appropriate and relevant information.

13.2 Will the Issue Resolution Registrar accept my complaint?

The Issue Resolution Registrar will accept a complaint if it is:

- not trivial or vexatious and is made in good faith; and
- within the scope of the policy; and
is not in the process of being dealt with by an external forum; and

is not appropriately dealt with under the discipline provisions of the Metropolitan Fire Brigades Act 1958 (Vic.) or the adverse report provisions of the Operational Staff Certified Agreement.

Where a complaint does not meet these requirements it may not be accepted.

13.3 Issues involving senior management

When the issue involves senior management, the Issue Resolution Registrar will be either the MFB Director Corporate Governance or Executive Manager Health and Safety unless it is not appropriate for either to act, in which case a member of the Panel of Review Officers established by the SSA will be appointed to act as the Issue Resolution Registrar.

14 Step 3: Issue Resolution Registrar Appoints a Review Officer

14.1 Appointment of Review Officer

The Issue Resolution Registrar will then appoint a Review Officer to manage the process.

This must be done within 7 working days of receiving the complaint.

The Review Officer must have no previous involvement in the issue.

14.2 General Duties of Review Officer

The Review Officer must:

- commence the process for formal resolution within 7 working days of appointment by the Issue Resolution Registrar.

- complete the formal process within 28 working days or as soon as reasonably possible, having regard to the complexity of the matter and the process being used.

- must provide the Issue Resolution Registrar with a report of the outcome or findings, determination and recommendations within 7 working days of completion of the relevant formal resolution process.
15 Step 4: Review Officer Determines Appropriate Process

15.1 Review Officer determines process following consultation with the parties

**Conciliation**
Where after consultation with the complainant and respondent a conciliation is appropriate the Review Officer must:

- provide the respondent (that is the person against whom the complaint is made) with the complaint.
- bring the parties together to resolve the matter with the Review Officer.
- allow each party to have their say to one another.
- undertake the process with the involvement of the manager, supervisor or supervising officer of the complainant and the respondent.

**Investigation**
If conciliation fails or is not appropriate the Review Officer must proceed to investigate. In an investigation the Review Officer must:

- ensure that the complaint makes specific allegations as to what and when the complaint occurred.
- interview the complainant.
- speak to any witnesses of the complainant.
- (then and only then) advise the respondent of the complaint.
- ensure the respondent is aware of the particulars of the complaint.
- request and give time to the respondent to respond to the complaint.
- speak to any witnesses of the respondent.
- seek a reply from the complainant of the witnesses of any relevant matter.
- determine if the complaint is substantiated.
- provide a report of findings, the determination and recommendation to the Issue Resolution Registrar.

**Mediation**
Mediation is appropriate only after an investigation if the Review Officer recommends mediation and the parties all agree.
If the Review officer recommends mediation as appropriate, the mediation may be facilitated by an independent and qualified mediator.

The Mediation is to be conducted so that:

- the parties are brought together with the Review Officer.
- each party is allowed to have their say to one another.
- the Review officer indicated his/her views as found.
- a record of any resolution is in writing.
- a report is provided to the Review Officer of the outcome.

16 Step 5: Issue Resolution Registrar receives report

Once the Issue Resolution Registrar receives the report from the Review Officer, the Issue Resolution Registrar will forward the report to the MFB Authorised Person see para 18.4.

The Issue Resolution Registrar must forward the report to the MFB Authorised Person within 7 working days of receipt.

17 Step 6: MFB Authorised Person receives report

17.1 Upon the receipt of the report of the Review Officer, the MFB’s Authorised Person will:

- at the MFB’s discretion, provide the parties involved with a summary of the findings made by the Review Officer;
- notify the parties of the determination;
- consider the recommendations and determine the appropriate action to be taken; and
- arrange to implement the actions as appropriate.

The MFB Authorised Person must notify the parties of the findings and determination within 7 working days of receipt of the report.

The MFB Authorised Person must then notify the parties of the actions to be taken within 7 working days of advising the parties of the findings and determination.
18 Roles and Responsibilities

18.1 Role and responsibilities - Managers

All Directors and Managers have a responsibility to:

- Model appropriate behaviours
- Communicate and implement these policies and processes;
- Identify, address and prevent problems in the workplace;
- Reassure employees that they may access this process without fear of negative repercussions or victimisation;
- Refer any complaint to the Issue Resolution Registrar;
- Behave in an appropriate and respectful manner and respect the rights and responsibilities of all parties to all processes under this policy; and
- Ensure appropriate interventions are put in place to avoid recurrence of the issue.

18.2 Role and responsibilities - Issue Resolution Registrar

The Issue Resolution Registrar is a person nominated by the MFB from time to time who is responsible for administering the issue resolution processes and assisting employees and managers in resolving issues and complaints.

The Issue Resolution Registrar is responsible for:

- the receipt of complaints;
- the decision as to whether the complaint should be dealt with within the scope of this procedure;
- the referral, if required, of the complaint to a Review Officer;
- the overall management of the issue or complaint;
- providing practical guidance to the parties in relation to these processes;
- maintaining records appropriate to the issues and in accordance with relevant legislation;
- ensuring timelines are met and confidentiality and privacy are maintained at all times according to legal requirements;
• ensuring all recommendations are implemented as soon as possible.

• ensuring appropriate interventions are put in place to avoid recurrence of the problem;

• reviewing these processes from time to time to ensure consistency and compliance.

The Issue Resolution Registrar must not provide advice to any party or their representative or comment on the strength of arguments presented by one or other of the sides and must remain impartial.

18.3 Role and responsibilities - Review Officer

The Review Officer will receive and proceed to deal with any complaint referred by the Issue Resolution Registrar.

The Review Officer will:

• Receive the complaint from the Issue Resolution Registrar;

• Determine the appropriate process for dealing with the complaint;

• Observe the principles of natural justice and procedural fairness;

• Keep the parties informed of the process as appropriate;

• Maintain records appropriate to the issues throughout the process;

• Ensure confidentiality and privacy are maintained in accordance with legal requirements;

• Conclude the process as soon as reasonably possible;

• If appropriate, determine whether the issues raised are substantiated; and

• Provide the Issue Resolution Registrar with a report:

• Where conciliation or mediation has occurred the report will detail the outcome;

• Where an investigation has occurred the report will detail the findings, the determination and recommendation.

18.4 MFB Authorised Person

The MFB Authorised Person will usually be the Director of the area where the issue arose. If the issue involves that person, the authorised person will default to
the CEO. In the event that the issue involves the CEO, the authorised person will default to a nominee of the President of the Board.

The MFB Authorised Person will receive the report from the Issue Resolution Registrar and communicate it in confidence to the parties involved with the issue. The report, or relevant sections, will be provided by hard copy only and in confidence.

The MFB Authorised Person will seek comments from the parties, then proceed to determine and take appropriate action.

### 18.5 Recommendations

The following are recommendations available to the Review Officer and actions which may be initiated by the MFB Authorised Officer:

**Corporate Staff:**

- decline the complaint
- a verbal apology;
- a written apology;
- attendance at additional awareness/ information sessions;
- counselling;
- an official warning;
- loss of promotion rights or wage/salary increases for a specified period;
- transfer or demotion;
- dismissal
- a combination of the above.

**Operational Staff:**

- decline the complaint
- a verbal apology;
- a written apology;
- attendance at additional awareness/ information sessions;
- counselling;
• an adverse report;

• Investigation and charges laid under the Metropolitan Fire Brigades Act 1958 (Vic.) which may lead to loss of promotion rights or wage/salary increases for a specified period; transfer or demotion, dismissal or a combination of the above,

19 Issue Resolution Framework for MFB Senior Management - SSA Panel of Review Officers

19.1 SSA Panel of Review Officers

The issue resolution framework involving MFB senior management will follow the structure and process adopted by the State Services Authority (SSA).

The SSA appoint independent and qualified workplace specialists called the Panel of Review Officers.

The MFB will nominate three members of the Panel to deal with MFB issues. The person raising the issue will be given the opportunity to nominate a preference for one of the three members and the MFB Issue Resolution Registrar will facilitate selection of that member if practicable.

If required this will include the role of the Issue Resolution Registrar.

19.2 Members of SSA Panel

The three members of the panel are:

• Julie Baker-Smith & Associates
• KWS Workplace Solutions
• Lander & Rogers

19.3 Senior Managers and complaints

When dealing with Senior Officers and Manager issues:

• the Issue Resolution Registrar will be either the MFB Director Corporate Governance or Executive Manager Health and Safety unless it is not appropriate for either to act, in which case a member of SSA Panel of Review Officers will be appointed to act as Registrar;

• the Review Officer to conciliate, investigate and/or mediate the complaint and report will default to a member of the SSA Panel.
• the report will be provided to the designated MFB Authorised Person.

20 Principles informing the MFB’s complaint procedure

20.1 Confidentiality

Only the people involved in the attempted resolution or the investigation of an issue or complaint will have access to information about it. This means that only those people with the genuine role to play in helping to resolve an issue or complaint should know its details or discuss them. Anyone found to have engaged in gossip or innuendo about an issue or complaint is at risk of disciplinary action from the MFB and possibly legal action under the laws of defamation.

The MFB considers confidentiality one of the most important aspects of dealing with issues and complaints about Unacceptable Behaviour. However, in some circumstances, information may not be able to be kept confidential, such as where physical threats are involved or the law otherwise requires it.

All records of Unacceptable Behaviour will be kept in secure files. Access will be restricted to authorised personnel only. Records must not be kept on open/general files.

Care should be taken when using email or fax to ensure that information is not transmitted to incorrect destinations. Discussions in person or over the phone must be carried out in a secure environment.

To ensure all people involved are reminded of their confidentiality behaviour obligations the MFB requires all parties involved to sign a Confidentiality Agreement (see Annexure 3).

20.2 Defamation

It is essential that information about any complaint is kept confidential, to minimise claims of defamation by respondent(s). Although a defence of truth or qualified privilege may apply, there is no doubt that any person 'publishing' statements that may affect a person’s reputation may be subject to allegations of defamation.

20.3 Timeframes

Once a complaint is received it should be addressed as soon as possible. If the matter is not addressed swiftly, it is likely that the complainant may seek redress through external means (i.e. litigation/court).

All timeframes stipulated throughout this procedure should be adhered to.
20.4 Respect

Everyone involved in an issue or complaint raised under this procedure will be treated with dignity and respect throughout the complaint process. Similarly, everyone involved in an issue or complaint is required to treat each other with dignity and respect and maintain confidentiality even if they feel aggrieved by a situation.

20.5 Fairness and impartiality

Both parties will have the opportunity to tell their side of the story. No assumptions will be made and, to the extent possible, no action will be taken until all relevant information has been collected and considered.

20.6 Support

No action will be taken against anyone for making or helping someone to raise an issue or a genuine complaint. The MFB will take all reasonable steps to support anyone raising an issue or making a complaint, and to ensure that they are not victimised.

Any person involved in a complaint process may arrange for a support person to assist throughout the process. The role of a support person is as an observer only and this person will not be permitted to actively take part in the discussion or interview.

20.7 Privacy

Privacy laws apply to this policy and procedure. Therefore in collecting health or personal information relevant to the complaint the MFB must disclose the following information to the person about whom the information is collected:

- that the MFB collects the information to investigate and resolve a complaint of inappropriate behaviour
- how they can access their personal information
- the organisation(s) to which the MFB may disclose the information (e.g., MFB's senior management group, human resources and legal advisors) and
- the consequences for the individual, if any, if the information is not provided (e.g., the investigation of the complaint will be impeded).

The MFB must ensure it only uses the information for the purpose of investigating and resolving the complaint of inappropriate behaviour, or a related secondary purpose.
The MFB should only collect health information relevant to the complaint with the consent of the person (whether the person is an employee or not) and should also make the disclosures set out above.

All issues and complaints will be recorded and reported in accordance with the Information Privacy Act 2000. The MFB files about the complaint will be securely stored. All reports are strictly confidential and no personally identifying details will be provided to third parties other than as required by law.

20.8 Documentation

All parties concerned need to ensure that any witness statements, notes, documents and reports are securely stored in a confidential location and not exposed to the risk of unauthorised access.

Any report, findings and recommendations may be used in any legal proceedings the complainant brings. Consequently, it is important that any report be based on an objective analysis of the facts and that the recommendations made are carried out, or good reasons given for why they were unable to be carried out.

Whilst the words 'Confidential - Subject to Legal Professional Privilege' should appear at the start of a report, this may be not sufficient to avoid production of the report in any legal proceedings.

20.9 What are the costs associated with these processes?

When an external conciliator, investigator or mediator has been engaged the costs will be met by the relevant MFB Business Unit.

20.10 The process and the Metropolitan Fire Brigade Act 1958 and the relevant workplace agreement made under the Fair Work Act or its predecessor Act

At all times the MFB retains the right to refer any conduct for the laying of charges under the Metropolitan Fire Brigades Act and/or the making of an adverse report under the workplace agreement made under the Fair Work Act or the Workplace Relations Act.

The procedure under this policy is not a substitute for the processes available to the MFB under the Metropolitan Fire Brigades Act or workplace agreement and the MFB retains its discretion at all times to use those processes where it deems it appropriate to do so.
## MFB Contact Officers (to be advised)

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## External Authorities (to be advised)

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Investigation Procedure Flow Chart 1

Issue arises

Complaint dismissed

Step 2
Complaint is received by Issue Resolution Registrar
Complaint assessed

Step 1
Issue resolved through Informal resolution

Formal Resolution

Step 3
Issue Resolution Registrar appoints Review Officer

Step 4
Review Officer determines process required
Report prepared including findings

Within 7 days

Step 5
Issue Resolution Registrar receives report

Within 28 days (or as soon as reasonably possible)

Step 6
MFB Authorised Person receives the Report and determines response to findings
MFB advises response to relevant parties (disciplinary/remedial action?)

Complaint is not substantiated

Within 7 days

Document outcome; monitor resolution

22 March 2010
Investigation Procedure Flow Chart 2 (Senior Management)

Issue arises

Step 1
Issue resolved through Informal resolution

Step 2
Complaint is received by Issue Resolution Registrar

Inappropriate conduct is witnessed

Complaint assessed

Yes

No

Inappropriate for MFB Director Corporate Governance or Executive Manager Health and Safety to act as Issue Resolution Registrar?

Member of SSA Panel appointed as Issue Resolution Registrar

Step 3
Issue Resolution Registrar appoints member of SSA Panel as Review Officer

Step 4
Review Officer determines process required

Within 7 days

Report prepared including findings

Within 28 days (or as soon as reasonably possible)

Step 5
Issue Resolution Registrar receives Report

Within 7 days

Step 6
MFB Authorised Person (Director Corporate Governance, CEO or nominee of the President of the Board) receives the Report and determines response to findings

Complaint is not substantiated

Within 7 days

MFB advises response (disciplinary/remedial action?)

Document outcome; monitor resolution
Recognition of Prior Learning (RPL)

Recognition of Prior Learning (RPL) is an assessment process which determines the credit outcomes of an individual application for credit.

The availability of Recognition of Prior Learning (RPL) provides all potential learners with access to credit opportunities.

1. Purpose

1.1. The purpose of this policy is to provide a framework for the recognition of an employee's skills and knowledge acquired through:
   - Informal or formal training/study
   - Work experience/employment and/or
   - Life experiences.

1.2. RPL focuses on providing a range of ways for individuals to demonstrate that they have met the required learning outcomes and can be granted credit. RPL should recognise learning regardless of how, when and where it was acquired, provided that the learning is relevant to the learning outcomes in the qualification.

1.3. Previously acquired skills and knowledge can be identified and assessed against standards set by the fire sector and the MFESB.

1.4. RPL involves undertaking an assessment of each individual who submits an RPL application to determine the extent to which that individual's previous learning is equivalent to the learning outcomes of the components of the destination qualification.

1.5. The underlying principle of RPL is that no employee should be required to undertake a unit of study for which they are able to demonstrate satisfactory achievement of the required competency standard to standards of entry to, and/or partial completion of a qualification.

1.6. This policy aims to maximise the recognition of employees prior skills and knowledge whilst at all times maintaining the integrity and standards of the defined learning outcomes or competency standards.

1.7. The MFESB recognises the qualifications and statements of attainment issued by other registered training organisations.

2. Scope:

2.1. This document outlines a policy to be followed for candidates applying for RPL within the training...
framework of the MFESB and its scope of registration.

2.2. The Policy applies to all candidates currently undertaking a recruitment, promotional, or specialist course and seeking recognition for specified competency standards.

3. References/Associated documents:

3.2. PUA12 Public Safety Training Package Assessment Guidelines.
3.3. AQTF Essential Conditions for Initial/ and Continuing Registration.
3.5. MFESB Assessment Policy 2017.
3.6. MFESB Training & Education Recognition of Prior Learning/Recognition of Current Competency Procedure: 4005 - 104
3.7. Standards for Registered Training Organisations (RTOs) 2015
3.8. VRQA Guidelines for VET Providers

4. Definitions:

4.1. Assessment - is a process to determine a student’s achievement of expected learning outcomes and may include a range of written and oral methods and practice of demonstration.

4.2. RPL Assessor - As with all assessment, RPL assessment should be undertaken by assessors with expertise in the subject, content of skills area, as well as knowledge of and expertise in RPL assessment policies and procedures in accordance with AQTF Essential Conditions for Initial/ and Continuing Registration.

4.3. Australian Qualifications Framework (AQF) - Is the national policy for regulated qualifications in Australian Education and Training. It incorporates the qualification from each education and training sector into a single comprehensive national qualifications framework.

4.4. Australian Quality Training Framework (AQTF) - is the national set of standards which assures nationally consistent, high-quality training and assessment services for the clients of Australia’s vocational education and training (VET) system.

4.5. Competency Standard - statements which specify knowledge and skills and the application of that knowledge and skill to the standard of performance required in employment.

4.6. Evidence - refers to the supporting documentation in relation to a claim for RPL being made. Evidence can take many forms and be gathered from a number of sources.

4.7. Recognition of Prior Learning (RPL) - is an assessment process that involves assessment of an individual’s relevant prior learning (including formal, informal and non-formal learning) to
determine the credit outcomes of an individual application for credit.

4.8. **RPL Assessment Panel** - Assessment Panel will comprise of an assessor and subject matter expert and a representative from Training Development Department; to be appointed by the Manager Operational Training Development Responsibilities.

4.9. **RPL Validator** - a qualified assessor who also possesses qualifications and experience to conduct RPL.

4.10. **Registered Training Organisation (RTO)** - is a vocational education and training organisation registered by a state or territory registering body in accordance with the Australian Quality Training Framework (AQTF) Essential Standards for Registration within a defined scope of registration.

5. **Responsibility:**

5.1. Manager Operational Training Development will oversee the RPL process.

5.2. Training Development will provide qualified RPL assessors who shall be responsible for the RPL process by:
   - Advising intending applicants regarding the RPL process
   - Assisting applicants with the preparation of their application
   - Processing applications
   - Convening the RPL Assessment Panel and advising the applicant of the time, place and date of the interview
   - Providing RPL guidelines for Subject Matter Experts.

5.3. The RPL Assessment Panel shall be responsible for ensuring that the RPL process is fair, flexible, reliable and valid.

5.4. The RPL Assessment Panel shall be responsible for making recommendations on competencies being claimed. This recommendation is to be forwarded to the Manager Operational Training Development.

5.5. The Manager Training Development is to inform the candidate in writing of the panel’s decision.

6. **Policy Statement:**

6.1. The MFESB as an RTO and in accordance with the AQTF Essential Conditions for Initial/and Continuing Registration aims to implement quality training and assessment processes which jointly maximize workplace productivity and effectiveness to promote the individuals personal development.

6.2. This RPL policy is one option that enables course participants to obtain recognition of their competencies.

6.3. As a result course participants, may obtain exemption from undertaking some training within the
training framework and/or receive recognition for competencies already possessed.

6.4. Course participants may apply for RPL in the following instances:
   - When they are selected to participate in a course
   - At a point where the training is required eg. Continuation training.

6.5. Applications for RPL must be submitted to the nominated Course Coordinator on or after enrolment and prior to course commencement. All applications must ensure that evidence provided is valid, authentic, reliable, current and sufficient.

6.6. The RPL application will be processed according to the criteria set out in this policy and will be granted for complete competency standards or accredited courses. Individual learning outcomes cannot be the subject of an RPL application.

6.7. The RPL assessor will provide a written report to Training Development where results will be recorded.

6.8. Candidates who disagree with their RPL outcome or believe that the process may not have followed appropriate procedures may request a review (refer to section 11 below).

7. Principles of Assessment and Rules of Evidence:

7.1. The success of an application for RPL is directly dependant on the applicant meeting the following principles of assessment and rules of evidence.

7.2. Principles of Assessment:
   - Validity
   - Reliability
   - Flexibility
   - Fairness
   - Sufficiency.

7.3. The principles of Validity and Sufficiency apply as they do in the case of other types of assessment; i.e. the evidence provided must apply to the wide range of knowledge and skills and their practical application.

Validity

Assessment is valid when the process is sound and assesses what it claims to assess. Validity requires that:
   - assessment against the units of competency must cover the broad range of skills and knowledge that are essential to competent performance
   - assessment of knowledge and skills must be integrated with their practical application
   - judgement of competence must be based on sufficient evidence (that is, evidence gathered on a number of occasions and in a range of contexts using different assessment methods). The
specific evidence requirements of each unit of competency provide advice on sufficiency.  

(PUA12 Public Safety Training Package)

Reliability:
Reliability refers to the degree to which evidence presented for assessment is consistently interpreted and results in consistent assessment outcomes. Reliability requires the assessor to have the required competencies in assessment and relevant vocational competencies (or to assess in conjunction with someone who has the vocational competencies). It can only be achieved when assessors share a common interpretation of the assessment requirements of the unit(s) being assessed.

Flexibility:
To be flexible, assessment should reflect the candidate's needs; provide for recognition of competencies no matter how, where or when they have been acquired; draw on a range of methods appropriate to the context, competency and the candidate; and support continuous competency development.

Fairness:
Fairness in assessment requires consideration of the individual candidate's needs and characteristics, and any reasonable adjustments that need to be applied to take account of them. It requires clear communication between the assessor and the candidate to ensure that the candidate is fully informed about, understands and is able to participate in, the assessment process, and agrees that the process is appropriate. It also includes an opportunity for the person being assessed to challenge the result of the assessment and to be reassessed if necessary.

Sufficiency
Sufficiency relates to the quality and quantity of evidence assessed. It requires collection of enough appropriate evidence to ensure that all aspects of competency have been satisfied and that competency can be demonstrated repeatedly. Supplementary sources of evidence may be necessary. The specific evidence requirements of each unit of competency provide advice on sufficiency. Sufficiency is also one of the rules of evidence.

8. Rules of Evidence
The rules of evidence guide the collection of evidence that address the principles of validity and reliability, to ensure that the evidence is valid, sufficient, current and authentic.

Rules of evidence:
- Valid
- Sufficient
- Current
- Authentic.

8.1. Valid
Valid evidence must relate directly to the requirements of the unit of competency. In ensuring evidence is valid, assessors must ensure that the evidence collected supports demonstration of the outcomes and performance requirements of the unit of competency together with the knowledge and skills necessary for competent performance. Valid evidence must encapsulate the breadth and depth of the unit of competency, which will necessitate using a number of different assessment methods.

8.2. Sufficient
Sufficiency relates to the quality and quantity of evidence assessed. It requires collection of enough appropriate evidence to ensure that all aspects of competency have been satisfied and that competency can be demonstrated repeatedly. Supplementary sources of evidence may be necessary. The specific evidence requirements of each unit of competency provide advice on sufficiency.

8.3. Current
In assessment, currency relates to the age of the evidence presented by a candidate to demonstrate that they are still competent. Competency requires demonstration of current performance, so the evidence collected must be from either the present or the very recent past.

8.4. Authentic
To accept evidence as authentic, an assessor must be assured that the evidence presented for assessment is the candidate’s own work.

9. RPL Guidelines
9.1. Phase 1 - Applying for RPL
An employee who applies for RPL shall complete all relevant sections of the RPL application form/s.
Employees who require assistance in completing their applications may contact Training Development and ask to speak to an RPL Assessor.
It is the responsibility of the applicant to provide evidence to support their claim that their prior learning satisfies the units of competency from Public Safety Training Package or MFESB accredited course.
It is the responsibility of the MFESB to provide the applicant with the relevant competencies for which they must provide sufficient quality evidence to support their application.

9.2. Phase 2 - Assessing RPL
The RPL Assessment Panel shall assess applications against:
- Units of Competence; or
- Accredited Courses; or
- Other relevant criteria.

If the panel considers that further information is necessary to properly assess the application, the applicant may be requested to:
9.3. Phase 3 - Review of Assessment

An applicant who disagrees with the RPL outcome, or who believes that the appropriate processes have not been followed may request a review of RPL assessment via the Operational Training Development Manager. Training Development shall undertake a review and advise the applicant of the outcomes in writing. The outcome of the review process is final. However, this does not exclude an individual from applying at a later date, if there is new or additional information to support the application.

9.4. Processing of Applications

Applications for RPL shall be dealt with in order of receipt.

10. RPL Procedure:

10.1. Enquiries related to RPL should be made to the Operational Training Development Manager, who will forward the details to the appropriate RPL Assessor.

10.2. An RPL Application with relevant Unit of Competency / course details will be forwarded to the applicant by the nominated RPL Assessor.

10.3. The applicant must complete an RPL application and return it to the RPL Assessor with supporting evidence / documentation where applicable by the due date and prior to course commencement.

10.4. The RPL Panel will assess the application, confirming evidence, and conduct an interview if required.

10.5. Where possible at least two individuals (SME\(^2\) and RPL Assessor) should be present at an RPL interview.

10.6. The RPL assessor must then complete the RPL Assessment Record and submit all relevant paperwork to the Manager Training Development for recording.

10.7. Manager Training Development will inform the applicant in writing of the outcome of the application.

10.8. If approved, Training Development will enter the course / competencies into the qualification data base and issue certification.

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\(^2\) The Subject Matter Expert (SME) is a person who has completed the requirements of the course / competency standard or equivalent where RPL is sought and has practical experience utilising the qualification.
10.9. Training Development will file all paperwork.

11. RPL Review Process:

11.1. The Manager Operational Training Development is located in Operational Training and Development and has responsibility for managing the review system and process. The Manager Operational Training Development will nominate an RPL Validator.

11.2. You may apply to have your RPL reviewed with the RPL Validator.

11.3. The RPL Validator must arrange another RPL assessor to re-evaluate your application.

11.4. The RPL Validator will not disclose information to the second RPL Assessor that may affect the outcome. In other words, the second RPL Assessor will not know that the RPL application is currently under review.

11.5. The RPL will be reviewed according to RPL guidelines. The outcome of the review process is final, however does not exclude an individual from reapplying for RPL at a later date.

11.6. The second RPL Assessor will inform the RPL Validator of the outcome.

11.7. The RPL Validator must then complete the RPL Assessment Record and submit all relevant paperwork to the Manager Training Development for recording.

11.8. Manager Training Development will inform the applicant in writing of the outcome of the application.

11.9. Training Development will enter the course / competencies into the qualification data base and issue certification.

11.10. Training Development will file all paperwork.

12. Policy Review:

12.1. This RPL Policy will be reviewed jointly by a working group comprising key stakeholders including a UFU representative.

12.2. The policy will be reviewed three years from the date of implementation or earlier should a review be warranted.
Workplace Behaviour Policy and
Issue Resolution Procedure
1 Objectives of the Policy

The Metropolitan Fire and Emergency Services Board (MFB) is committed to providing all staff with an inclusive and fair workplace free from discrimination, vilification, harassment, bullying, victimisation and occupational violence (together known as Unacceptable Behaviour).

The MFB believes that such a commitment will increase the effectiveness of the organisation and enable all employees to participate and achieve their potential at work. This policy recognises that all employees should enjoy good working relationships with each other and with management and feel comfortable and safe at work.

The MFB will not tolerate any form of discrimination, vilification, harassment, bullying, victimisation or occupational violence.

The MFB encourages you to raise any questions about this policy with the Issue Resolution Registrar and any concerns about Unacceptable Behaviour in accordance with the Issue Resolution Procedure outlined in this policy.

2 Application of this policy

2.1 Who does this policy apply to?

This policy applies to all employees, including current and prospective employees, work experience and work placement students, contract workers and commissioned agents of the MFB, regardless of whether or not they work full time, part time or as casuals. It also applies to everyone MFB employees deal with in the course of their work.

2.2 When does this policy apply?

This policy uses a broad definition of 'workplace' that extends beyond the physical premises of the work and outside normal working hours, including:

- dealing with members of the public
• work-related functions

• conferences; and

• other social activities involving employees.

This policy defines 'employment' to include advertising, recruitment, appointment, promotion, training, transfers and any other benefits of employment. Employment also includes the termination of employment.

This policy operates parallel to a number of other laws and industrial instruments.

3 Responsibilities

3.1 General responsibilities

Everyone who works at the MFB is responsible for ensuring that they:

• participate in the MFB scheduled workplace behaviour information sessions;

• are familiar with this policy; and

• comply with this policy.

All employees have a responsibility to treat each other fairly and are expected to be courteous, polite and respectful to each other in fulfilling these responsibilities as a condition of employment.

All employees also have an obligation not to victimise someone who intends to raise or has raised an issue, or who intends to be or has been a witness in relation to a complaint under this policy.

Established breaches of this policy may be referred for remedial or disciplinary action.

Such action, in respect of Corporate Staff, may include:

• a verbal apology;

• a written apology;

• attendance at additional awareness/ information sessions;

• counselling;

• a formal warning;
• dismissal
• a combination of the above.

In respect of Operational Staff such action may include:

• a verbal apology;
• a written apology;
• attendance at additional awareness/information sessions;
• counselling;
• an adverse report;
• Investigation and charges laid under the Metropolitan Fire Brigades Act 1958 (Vic.) which may lead to loss of promotion rights or wage/salary increases for a specified period; transfer or demotion, dismissal or a combination of the above,

The actions taken will depend on:

• the seriousness of the breach;
• whether it was done accidentally, intentionally or maliciously;
• whether there have been previous informal or formal warnings or adverse reports about this type of breach given to the person/people involved; and
• whether there are any circumstances (known as mitigating circumstances) that affect the level of disciplinary action that should be taken.

3.2 Management Responsibilities

Personnel with staff management responsibilities at the MFB must model appropriate standards of behaviour and take all reasonable steps to ensure that the workplace is free from Unacceptable Behaviour. If managers encourage or ignore any Unacceptable Behaviour that is happening in the workplace they may be subject to actions set out in paragraph 3.1. Part of the managers’ responsibilities is to ensure that they remain alert to possible breaches and ensure that their staff are aware of their rights and responsibilities and comply with this policy.

If an employee raises an issue of Unacceptable Behaviour with a manager, the manager must deal with it in accordance with the Issue Resolution Procedure commencing, where appropriate, with an attempt to resolve the issue locally in accordance with paragraphs 12.1 contained in this policy. The Manager may also
discuss it with the Issue Resolution Registrar, and follow it through as outlined in the Issue Resolution Procedure.

3.3 Responsibility to members of the Public

Everyone who works at the MFB is responsible for ensuring that at no time in providing services to the public an unacceptable ground or attribute of discrimination as outlined in 4.3 is used to decide:

- whether the service is to be provided;
- the type of services to be provided; or
- the manner in which the service is to be provided.

3.4 Making complaints - what to do if you think you are being discriminated against, harassed or bullied

If you experience behaviour which you think is Unacceptable Behaviour it is best to take action early. The MFB’s Issue Resolution Procedure outlines the options available for dealing with such behaviour.

3.5 Relevant legislation

The MFB and its employees will comply with legislative requirements:

Federal

- Racial Discrimination Act 1975;
- Racial Hatred Act 1996;
- Sex Discrimination Act 1984;
- Disability Discrimination Act 1992;
- Fair Work Act 2008

Victorian

- Occupational Health and Safety Act 2004;
- Disability Act 2006;
- Racial and Religious Tolerance Act 2001;
22 March 2010

- Metropolitan Fire Brigades Act 1958;
- Equal Opportunity Act 1995;
- Charter of Human Rights and Responsibilities Act 2005: and

4 Discrimination

4.1 No unlawful discrimination

There will be no unlawful discrimination at the MFB. Employment related decisions, such as those regarding recruitment, appointment, selection for promotion and performance management will be made on the basis of merit, that is, on the basis of a person’s abilities, skills and performance and not on the basis of irrelevant personal characteristics.

4.2 What is unlawful discrimination?

Unlawful discrimination occurs when an employee is treated less favourably than others because of an irrelevant personal characteristics, such as their age, race, sex and so on (all of the personal characteristics covered by the law and this policy as listed below at 4.3).

Unlawful discrimination can happen either directly or indirectly.

- **Direct unlawful discrimination** occurs when a person is treated less favourably than another person in the same or similar circumstances, because of any of the grounds or attributes listed below. For example:
  - A manager decides to give training opportunities only to employees under the age of 50. This is direct age discrimination.
  - A supervisor decides to employ only men for certain types of jobs. This is direct sex discrimination.

  Direct unlawful discrimination often happens because people have stereotyped views about what all or most people of a particular group are like, or what they think all or most people of a particular group can or can’t do. The MFB aims to treat all employees as individuals, not as stereotypes.

- **Indirect unlawful discrimination** occurs when there is rule, requirement or practice which applies to everyone, but with which some groups of people cannot comply because of a personal attribute. Unless the rule is 'reasonable in the circumstances' it will be unlawful.
For example, the minimum height requirement that used to exist in the MFB *directly* discriminated against short people on the basis of physical features, and *indirectly* discriminated against women and people and of certain races, who tend to be shorter.

4.3 **Unacceptable grounds or attributes of discrimination or harassment**

At the MFB, discrimination or harassment based on any of the following grounds or attributes is unlawful and will not be tolerated:

- age;
- breastfeeding;
- gender identity;
- disability/impairment;
- industrial activity;
- employment activity;
- lawful sexual activity;
- marital status;
- parental status or status as a carer;
- physical features;
- political belief or activity;
- pregnancy;
- race;
- religious belief or activity;
- sex;
- sexual orientation; and
- personal association (whether as a relative or otherwise) with a person who is identified by reference to any of the above attributes.
4.4 Examples of discriminatory behaviour

Discrimination may involve:

- offensive "jokes" or comments about another person’s racial or ethnic background, sex, sexual preference, age, disability, and the like;
- display of pictures, calendars, pin-ups, posters, computer images (eg in electronic mail messages) etc which are offensive or derogatory;
- expressing negative stereotypes of particular groups, for example, "married women shouldn't be working";
- judging a person on characteristics such as religious or political beliefs, cultural practices, sex or age rather than work performance; or
- using stereotypes or assumptions when making decisions about a person's career.

4.5 Flexible Working Arrangements

The MFB is committed to a flexible workplace that recognises the needs of its staff.

The MFB will seriously consider requests for, and wherever reasonably possible implement, flexible working arrangements such as changed hours or duties, work from home or other arrangements by negotiation to accommodate the requirements of individual employees with a disability, family responsibilities or other personal needs – especially those related to personal characteristics covered under equal opportunity (eg religion, pregnancy, etc.).

Requests for flexible working arrangements should in the first instance be made to your manager or supervisor or commanding officer and may be forwarded to the Employment and Professional Development department so that a clear and fair assessment can be made relating to the employee’s working conditions (including hours of work), workload, responsibilities and environment.

Managers and supervisors may grant, but must not refuse any request for flexible working arrangements where the request is related to disability, family responsibilities or any other personal characteristic listed in paragraph 4.3 of this policy without first discussing the request with the employee and with the Executive Manager Employment and Professional Development.

The Flexible Working Arrangements referred to in this policy are limited to the operation of this policy only and are subject to any industrial instrument including but not limited to the MFESB and UFU of Australia Operational Staff Agreement.
2005 (as amended or renewed from time to time) and any award referred to therein.

4.6 Exceptions

In some situations the legislation may provide exemptions to discrimination or permit what would otherwise be unlawful discrimination. In these circumstances, discrimination would be permissible. For example, while it is unacceptable to discriminate against a person with a disability, what would otherwise be unlawful may be justified if the person cannot perform the inherent requirements of a position.

5 Vilification

5.1 What is vilification?

Vilification is a public act which incites hatred towards, serious contempt for, or severe ridicule of, a person or group on the grounds of race or religion.

Vilification breaches this policy and is also unlawful. It may also amount to a criminal offence if physical harm is threatened towards a person or their property.

5.2 Examples of vilification

Vilification can take many forms including hate-speech, graffiti, web sites and other types of written material. It is an act which happens publicly, as opposed to privately.

Examples of vilification include:

- a person inciting their work mates to racially abuse an Aboriginal man in a cafeteria;
- posters and graffiti inciting hatred of Jewish people being put up in a workplace; or
- a person urging work mates to abuse a Muslim employee and remove her Hijab (veil).

5.3 What is not vilification?

Free speech is protected, so the following things are not vilification:

- a fair report by TV, radio or newspaper of someone else's act of hatred (unless extra material has been added which is vilifying);
• fair discussions or debates about issues, done "reasonably and in good faith"; and

• material used in parliament, courts, tribunals or other government inquiries.

6 Sexual harassment

6.1 What is sexual harassment?

A person sexually harasses another person if they:

• make an "unwelcome sexual advance";
• make an "unwelcome request for sexual favours"; or
• engage in any another "unwelcome conduct of a sexual nature"

and a reasonable person, having regard to all the circumstances, would have anticipated that the other person would be offended, humiliated or intimidated.

"Conduct of a sexual nature" includes:

• subjecting a person to any act of physical intimacy;
• making, orally or in writing, any remark or statement with sexual connotations to a person or about a person; and
• making any gesture, action or comment of a sexual nature.

6.2 Motive or intention is irrelevant

Sexual harassment is unwelcome, uninvited behaviour which is offensive from the viewpoint of the person being harassed. It does not matter that the offender did not mean or intend to sexually harass the other person. In other words, an offender's "innocent intent" is irrelevant.

6.3 Examples of sexual harassment

Sexual harassment can involve any physical, visual, verbal or non-verbal conduct of a sexual nature including both one-off incidents or a series of incidents. It also includes workplace behaviour or behaviour in connection with work, for example, at a Christmas party or a work function outside of normal work hours.

Some other examples of sexual harassment are:

• displays of sexually graphic material including posters, pictures, calendars, cartoons, graffiti or messages left on boards or desks;
• electronic mail messages, voicemail messages, screen savers, any material
of a sexual nature downloaded from the Internet, or viewed on a computer,
offensive telephone calls, faxes or gifts;

• deliberate and unnecessary physical contact, such as patting, pinching,
fondling or deliberately brushing against another body, attempts to kiss;

• leering or staring at a person's body;

• inappropriate "humour" such as smutty or sexist jokes or comments;

• innuendo, including sexually provocative remarks, suggestive or derogatory
comments about a person's physical appearance, inferences of sexual
morality or of sexual performance;

• repeatedly asking someone out after prior refusal; and

• intrusive enquiries into a person's private life or in reference to a person's
sexuality.

6.4 Behaviour can breach this policy even if a complaint has not been raised.

Certain behaviour, such as storing and viewing sexually explicit images, may
breach this policy even if a complaint has not been raised. Such behaviour is
unacceptable at work, even if it may not be unlawful, and may result in remedial
or disciplinary action. (Refer section 10.4 of this policy)

7 Bullying

7.1 What is bullying?

Workplace bullying is repeated unreasonable behaviour directed towards an
employee, client, customer, contractor or other external party that creates a risk to
their health and safety.

Bullying is behaviour that victimises, humiliates, undermines or threatens a
person, or would reasonably be expected to do so. Bullying breaches this policy
and also the MFB's Occupational Health and Safety Policy, which provides that all
employees must take reasonable care for the health and safety of their colleagues
at the MFB.
7.2 Examples of bullying

Bullying can include behaviour such as:

- verbal or written abuse (e.g., being sworn at, threats, insults, continual criticism, name calling, practical jokes, unjustified threats of dismissal);
- excluding or isolating employees from normal workplace activities;
- manipulation;
- direct violence including physical assault and harassment;
- threatening body language;
- unreasonably undermining work performance, assigning meaningless, unfair or impossible tasks, deliberately withholding work related information or resources, or deliberately supplying incorrect information;
- constant, intrusive surveillance or monitoring; or
- inappropriate interference with personal belonging or work equipment.

7.3 What bullying does not include

Bullying does not include:

- genuine and reasonable disciplinary procedures;
- constructively delivered feedback or counselling that is intended to assist employees to improve their work performance or the standard of their behaviour. For example, objective comments which indicate observable performance deficiencies; or
- directing and controlling how work is done (a fundamental right of all employers).

8 Victimisation

8.1 What is victimisation?

Victimisation means subjecting or threatening to subject someone to a "detriment" (see definition below), because they propose to, have, or are believed to have, under this policy, equal opportunity legislation or occupational health and safety legislation:

- asserted their rights under this policy, or the relevant legislation;
• alleged that another person has breached this policy or the relevant legislation; or

• assisted someone in raising an issue.

The MFB does not permit retaliation against a person just because they propose to, have, or are believed to have made a complaint of Unacceptable Behaviour under this policy, equal opportunity legislation or occupational health and safety legislation.

8.2 What is a detriment?

A "detriment" in employment includes demotion, dismissal, transfer, suspension, loss of a benefit, being ostracised from work or work related social functions, or being the subject of gossip or innuendo.

8.3 If someone raised a complaint with you about your behaviour

If a person raises a complaint directly with you about your behaviour, you should appreciate that they are letting you know that they find your behaviour unacceptable. They are giving you an opportunity to consider your behaviour and possibly prevent a formal complaint being made.

You must not victimise the person making the complaint.

9 Occupational violence - what is it?

Occupational violence is defined as any incident where an employee feels physically threatened or is physically attacked in the workplace.

Threatening behaviour means a statement or behaviour which causes a person to believe they are in danger of being physically attacked.

Physical attack means the direct or indirect application of force by a person to the body of, or to clothing and equipment used by another person, where that application creates a risk to health and safety. This definition includes striking, scratching, throwing objects, attacking with knives or other weapons, pushing, shoving and any other form of inappropriate contact.
10 Inappropriate Use of MFB Information Technology Systems

10.1 Scope

The MFB Information Technology Systems are business tools which support MFB organisational objectives and purposes. Limited personal use is permitted provided that it does not impact on an employee's work performance or breach MFB policies.

MFB Information Technology Systems refers to all MFB systems. This includes, but is not limited to:

- Computer systems including servers, central systems and PCs;
- Email and messaging system;
- Internet usage;
- Screen savers;
- Wallpaper;
- Bulletin board;
- File storage on any MFB PC or Network File Area; and
- Communication systems and facsimile machines.

10.2 Policy

Any use of MFB Systems must be in accordance with this policy.

MFB Systems must not be used for any inappropriate purpose or Unacceptable Behaviour. This applies to the storing, saving, display, download, print, receipt or sending of material on MFB Systems. This includes:

- any material which causes any person to reasonably feel intimidated, insulted, offended or humiliated because of that content and that relates to a person's presumed, actual or imputed sexual orientation, gender, race, age, physical features, national or ethnic origin, religious or political beliefs, or any disability and any other attribute on the basis of which discrimination is prohibited under state and federal anti-discrimination legislation as amended from time to time;
• any material which contains obscene or sexually offensive messages; sexually explicit or suggestive, pornographic, obscene or inflammatory remarks, images or sounds - this includes jokes of a sexual kind including sexually explicit cartoons even if they are not necessarily pornographic;

• any material which contains defamatory messages, namely, remarks that are untrue and/or malicious and/or insulting and/or attack the character or reputation of any individual or group;

• any material which is abusive, offensive, insulting or threatening or invade the privacy of a person;

• any material which causes disruption to the workplace environment, such as excessive personal use during work hours which interrupts work, mass mailing of jokes, chain letters and other frivolous communications, or could constitute a criminal offence;

• any material which infringes intellectual property rights of other people - copyright laws protect most material appearing on the internet and due consideration must be given to this issue when forwarding material to other persons as the MFB may be liable for breach of copyright;

• any material which contains unwarranted or unsolicited materials including but not limited to "spamming" or "letter bombing";

• any material which contains messages that represent any personal opinion as being the opinion of the MFB;

• misusing of the MFB computer system (eg tampering, introducing viruses or unauthorised access of another’s person email, internet, documents or computer use);

• accessing any inappropriate internet sites including those concerning:
  • adult entertainment including obscene or sexually offensive or sexually explicit or suggestive content;
  • sexual violence;
  • pornography;
  • illicit drug reference;
  • hacking;
  • illegal activities;
  • militancy/terrorism;
• racism;
• violence;
• weaponry; and
• gambling.

10.3 Access and Monitoring

In accordance with the policy, the MFB reserves the right, at any time, without the need for first giving notice to staff, to:

• monitor, access and copy emails, internet usage and general computer usage;
• filter and block offensive emails or internet attachments or sites including video or picture links and attachments;
• censor and screen offensive or non-business related internet material;
• provide access to, and copies of, email, internet or general computer use to law enforcement agencies if illegal or if criminal acts are suspected.

It is a condition of the use of the MFB System that an employee complies with this policy and agrees to the terms of the policy including those related to the MFB’s right to monitor and access computer usage.

10.4 Confidentiality and Complaints

The MFB will use its best efforts to ensure that the contents of any emails or internet access remain confidential other than for the purposes of disciplinary investigations and legal proceedings or for law enforcement authority purposes.

The MFB will take disciplinary action against any employee who breaches the policy which may include, depending on the circumstances, the termination of employment.

Messages from employee representatives on the computer system are permitted only where authorised by the relevant Union Secretary and are otherwise in accordance with this policy.

Any employee who feels they have been exposed to Unacceptable Behaviour as a result of any inappropriate use of the computer system should make a complaint. Complaints will be dealt through the Issue Resolution Procedure.
11 General

11.1 Objectives of the procedure

The objectives of this procedure are to ensure:

- all MFB employees (including current and prospective employees, work experience and placement students and contract workers) have the right to raise a genuine issue and lodge a legitimate complaint.

- issues and complaints as far as possible are resolved at the local level between the employee and immediate supervisor, manager or supervising officer; Assistance is available, on a confidential basis, from Contact Officers and through the MFB Employee Support Program.

- the MFB treats issues and complaints relating to Unacceptable Behaviour seriously, sensitively, promptly and confidentially;

- this procedure is followed when resolving issues of Unacceptable Behaviour.

- all complaints of Unacceptable Behaviour are handled in a constructive, impartial and lawful way;

- at first instance all complaints of Unacceptable Behaviour are handled under this procedure;

- the MFB takes all reasonable steps, or practicable precautions, to ensure Unacceptable Behaviour does not occur or continue;

- any recommendation resulting from a complaint is appropriate and fair;

- all employees have confidence in the process, whether they be a complainant or a respondent;

- any decision resulting from a complaint is implemented.
11.2 **Application of procedure**

The processes in this procedure apply to complaints arising out of the MFB Workplace Behaviour Policy.

11.3 **Who may complain**

All MFB employees (including current and prospective employees, work experience and placement students and contract workers) have the right to raise a genuine issue and lodge a legitimate complaint.

11.4 **Protection against victimisation**

The MFB is committed to ensuring that people who intend to or actually raise or lodge an issue, act as a witness to a complaint, or participate in any other way in the handling of the issue will not be victimised because of their involvement.

The MFB will thoroughly investigate complaints of victimisation. If proven, those who have victimised a person may be subject to management action including disciplinary action.

Consideration needs to be given to the interests of both parties. Clarity of allegations, options for resolution, confidentiality, impartiality, prompt procedures, cogent findings and recommendations will assist to prevent victimisation of any person involved with the process.

11.5 **Further assistance is available**

In handling these complaints, the laws relating to equal opportunity, occupational health and safety, unfair dismissal, contract of employment and criminal offences may apply. If you have any queries or concerns about any aspect of a complaint or the investigation process you are encouraged to contact the Issue Resolution Registrar.
Complaint Procedure

A party or witness to any procedure under this policy may be represented by a person including a shop steward and or HSR of their choice. The role of the representative is to observe and advise the party or witness.

Informal Resolution

12 Step 1: Can the employee attempt informal resolution?

12.1 Recommended approach

The MFB supports openness and teamwork, so if you believe that you are experiencing Unacceptable Behaviour in the workplace, in the first instance, the MFB encourages you to raise it directly with the person involved, if you feel you can and believe it is safe to do so. Approach the person causing the issue directly, name the behaviour and tell the person clearly that their behaviour is unacceptable. You should describe the impact of the behaviour, that is, how it makes you feel, and ask them to stop the behaviour.

This recommended approach will often resolve the issue quickly and effectively. However, if it does not resolve your concerns, or if you are not comfortable raising it directly with the other person, you should raise it with the Issue Resolution Registrar(see Annexure 1).

This approach provides the person against whom the complaint is made with the opportunity to understand the situation from the recipient’s perspective and to consider and/or modify their behaviour as appropriate.

A person may approach someone alone, with their supervisor, occupational health and safety representative or a colleague. If done effectively, this approach will often resolve the issue quickly.

12.2 Seek assistance from Issue Resolution Registrar

A person with an issue or a person whose behaviour is being complained about may seek assistance and/or guidance from the Issue Resolution Registrar and information about support systems such as the Employee Support Program or peer support systems available to them.

If the issue is resolved through 12.1 or 12.2 it is the end of the matter.
12.3 If issue remains unresolved or cannot be resolved informally

If an issue remains unresolved after attempting to resolve it informally, or the employee has a valid reason for not first attempting to do so, an employee may apply to the Issue Resolution Registrar for a formal resolution (see Step 2).

An application to the Issue Resolution Registrar should be made as soon as possible after it has been determined that the issue cannot be resolved informally.

Employees retain the right at any stage to refer the matter to any relevant external authority/external avenue.

Note: A list of the relevant external authorities is attached noted at Annexure 1.

Formal Resolution

13 Step 2: Lodging a Complaint with Issue Resolution Registrar

13.1 How to lodge a complaint

A complaint may be lodged with the Issue Resolution Registrar in writing providing as much information as possible, including:

- specific details of the complaint including the substance of the allegation(s) describing dates, times and places as to when and where events occurred and the identification of the person(s) involved including witnesses;

- outcomes sought by the employee;

- any previous attempts which have been made to resolve the matter (informal resolution);

- the name(s) of the employee’s support person (if applicable); and

- any other appropriate and relevant information.

13.2 Will the Issue Resolution Registrar accept my complaint?

The Issue Resolution Registrar will accept a complaint if it is:

- not trivial or vexatious and is made in good faith;

- within the scope of the policy; and
is not in the process of being dealt with by an external forum; and

is not appropriately dealt with under the discipline provisions of the Metropolitan Fire Brigades Act 1958 (Vic.) or the adverse report provisions of the Operational Staff Certified Agreement.

Where a complaint does not meet these requirements it may not be accepted.

13.3 Issues involving senior management

When the issue involves senior management, the Issue Resolution Registrar will be either the MFB Director Corporate Governance or Executive Manager Health and Safety unless it is not appropriate for either to act, in which case a member of the Panel of Review Officers established by the SSA will be appointed to act as the Issue Resolution Registrar.

14 Step 3: Issue Resolution Registrar Appoints a Review Officer

14.1 Appointment of Review Officer

The Issue Resolution Registrar will then appoint a Review Officer to manage the process.

This must be done within 7 working days of receiving the complaint.

The Review Officer must have no previous involvement in the issue.

14.2 General Duties of Review Officer

The Review Officer must:

- commence the process for formal resolution within 7 working days of appointment by the Issue ResolutionRegistrar.

- complete the formal process within 28 working days or as soon as reasonably possible, having regard to the complexity of the matter and the process being used.

- must provide the Issue Resolution Registrar with a report of the outcome or findings, determination and recommendations within 7 working days of completion of the relevant formal resolution process.
15  Step 4: Review Officer Determines Appropriate Process

15.1  Review Officer determines process following consultation with the parties

Conciliation

Where after consultation with the complainant and respondent a conciliation is appropriate the Review Officer must:

- provide the respondent (that is the person against whom the complaint is made) with the complaint.
- bring the parties together to resolve the matter with the Review Officer.
- allow each party to have their say to one another.
- undertake the process with the involvement of the manager, supervisor or supervising officer of the complainant and the respondent.

Investigation

If conciliation fails or is not appropriate the Review Officer must proceed to investigate. In an investigation the Review Officer must:

- ensure that the complaint makes specific allegations as to what and when the complaint occurred.
- interview the complainant.
- speak to any witnesses of the complainant.
- (then and only then) advise the respondent of the complaint.
- ensure the respondent is aware of the particulars of the complaint.
- request and give time to the respondent to respond to the complaint.
- speak to any witnesses of the respondent.
- seek a reply from the complainant of the witnesses of any relevant matter.
- determine if the complaint is substantiated.
- provide a report of findings, the determination and recommendation to the Issue Resolution Registrar.

Mediation

Mediation is appropriate only after an investigation if the Review Officer recommends mediation and the parties all agree.
If the Review officer recommends mediation as appropriate, the mediation may be facilitated by an independent and qualified mediator.

The Mediation is to be conducted so that:

- the parties are brought together with the Review Officer.
- each party is allowed to have their say to one another.
- the Review officer indicated his/her views as found.
- a record of any resolution is in writing.
- a report is provided to the Review Officer of the outcome.

16 **Step 5: Issue Resolution Registrar receives report**

Once the Issue Resolution Registrar receives the report from the Review Officer, the Issue Resolution Registrar will forward the report to the MFB Authorised Person see para 18.4.

The Issue Resolution Registrar must forward the report to the MFB Authorised Person within 7 working days of receipt.

17 **Step 6: MFB Authorised Person receives report**

17.1 Upon the receipt of the report of the Review Officer, the MFB's Authorised Person will:

- at the MFB's discretion, provide the parties involved with a summary of the findings made by the Review Officer;
- notify the parties of the determination;
- consider the recommendations and determine the appropriate action to be taken; and
- arrange to implement the actions as appropriate.

The MFB Authorised Person must notify the parties of the findings and determination within 7 working days of receipt of the report.

The MFB Authorised Person must then notify the parties of the actions to be taken within 7 working days of advising the parties of the findings and determination.
18 Roles and Responsibilities

18.1 Role and responsibilities - Managers

All Directors and Managers have a responsibility to:

- Model appropriate behaviours
- Communicate and implement these policies and processes;
- Identify, address and prevent problems in the workplace;
- Reassure employees that they may access this process without fear of negative repercussions or victimisation;
- Refer any complaint to the Issue Resolution Registrar;
- Behave in an appropriate and respectful manner and respect the rights and responsibilities of all parties to all processes under this policy; and
- Ensure appropriate interventions are put in place to avoid recurrence of the issue.

18.2 Role and responsibilities - Issue Resolution Registrar

The Issue Resolution Registrar is a person nominated by the MFB from time to time who is responsible for administering the issue resolution processes and assisting employees and managers in resolving issues and complaints.

The Issue Resolution Registrar is responsible for:

- the receipt of complaints;
- the decision as to whether the complaint should be dealt with within the scope of this procedure;
- the referral, if required, of the complaint to a Review Officer;
- the overall management of the issue or complaint;
- providing practical guidance to the parties in relation to these processes;
- maintaining records appropriate to the issues and in accordance with relevant legislation;
- ensuring timelines are met and confidentiality and privacy are maintained at all times according to legal requirements;
ensuring all recommendations are implemented as soon as possible.

ensuring appropriate interventions are put in place to avoid recurrence of the problem;

reviewing these processes from time to time to ensure consistency and compliance.

The Issue Resolution Registrar must not provide advice to any party or their representative or comment on the strength of arguments presented by one or other of the sides and must remain impartial.

18.3 Role and responsibilities - Review Officer

The Review Officer will receive and proceed to deal with any complaint referred by the Issue Resolution Registrar.

The Review Officer will:

- Receive the complaint from the Issue Resolution Registrar;
- Determine the appropriate process for dealing with the complaint;
- Observe the principles of natural justice and procedural fairness;
- Keep the parties informed of the process as appropriate;
- Maintain records appropriate to the issues throughout the process;
- Ensure confidentiality and privacy are maintained in accordance with legal requirements;
- Conclude the process as soon as reasonably possible;
- If appropriate, determine whether the issues raised are substantiated; and
- Provide the Issue Resolution Registrar with a report:
  - Where conciliation or mediation has occurred the report will detail the outcome;
  - Where an investigation has occurred the report will detail the findings, the determination and recommendation.

18.4 MFB Authorised Person

The MFB Authorised Person will usually be the Director of the area where the issue arose. If the issue involves that person, the authorised person will default to
the CEO. In the event that the issue involves the CEO, the authorised person will default to a nominee of the President of the Board.

The MFB Authorised Person will receive the report from the Issue Resolution Registrar and communicate it in confidence to the parties involved with the issue. The report, or relevant sections, will be provided by hard copy only and in confidence.

The MFB Authorised Person will seek comments from the parties, then proceed to determine and take appropriate action.

18.5 Recommendations

The following are recommendations available to the Review Officer and actions which may be initiated by the MFB Authorised Officer:

Corporate Staff:

- decline the complaint
- a verbal apology;
- a written apology;
- attendance at additional awareness/ information sessions;
- counselling;
- an official warning;
- loss of promotion rights or wage/salary increases for a specified period;
- transfer or demotion;
- dismissal
- a combination of the above.

Operational Staff:

- decline the complaint
- a verbal apology;
- a written apology;
- attendance at additional awareness/ information sessions;
- counselling;
• an adverse report;

• Investigation and charges laid under the Metropolitan Fire Brigades Act 1958 (Vic.) which may lead to loss of promotion rights or wage/salary increases for a specified period; transfer or demotion, dismissal or a combination of the above,

19 Issue Resolution Framework for MFB Senior Management - SSA Panel of Review Officers

19.1 SSA Panel of Review Officers

The issue resolution framework involving MFB senior management will follow the structure and process adopted by the State Services Authority (SSA).

The SSA appoint independent and qualified workplace specialists called the Panel of Review Officers.

The MFB will nominate three members of the Panel to deal with MFB issues. The person raising the issue will be given the opportunity to nominate a preference for one of the three members and the MFB Issue Resolution Registrar will facilitate selection of that member if practicable.

If required this will include the role of the Issue Resolution Registrar.

19.2 Members of SSA Panel

The three members of the panel are:

• Julie Baker-Smith & Associates

• KWS Workplace Solutions

• Lander & Rogers

19.3 Senior Managers and complaints

When dealing with Senior Officers and Manager issues:

• the Issue Resolution Registrar will be either the MFB Director Corporate Governance or Executive Manager Health and Safety unless it is not appropriate for either to act, in which case a member of SSA Panel of Review Officers will be appointed to act as Registrar;

• the Review Officer to conciliate, investigate and/or mediate the complaint and report will default to a member of the SSA Panel.
• the report will be provided to the designated MFB Authorised Person.

20 Principles informing the MFB’s complaint procedure

20.1 Confidentiality

Only the people involved in the attempted resolution or the investigation of an issue or complaint will have access to information about it. This means that only those people with the genuine role to play in helping to resolve an issue or complaint should know its details or discuss them. Anyone found to have engaged in gossip or innuendo about an issue or complaint is at risk of disciplinary action from the MFB and possibly legal action under the laws of defamation.

The MFB considers confidentiality one of the most important aspects of dealing with issues and complaints about Unacceptable Behaviour. However, in some circumstances, information may not be able to be kept confidential, such as where physical threats are involved or the law otherwise requires it.

All records of Unacceptable Behaviour will be kept in secure files. Access will be restricted to authorised personnel only. Records must not be kept on open/general files.

Care should be taken when using email or fax to ensure that information is not transmitted to incorrect destinations. Discussions in person or over the phone must be carried out in a secure environment.

To ensure all people involved are reminded of their confidentiality behaviour obligations the MFB requires all parties involved to sign a Confidentiality Agreement (see Annexure 3).

20.2 Defamation

It is essential that information about any complaint is kept confidential, to minimise claims of defamation by respondent(s). Although a defence of truth or qualified privilege may apply, there is no doubt that any person ‘publishing’ statements that may affect a person’s reputation may be subject to allegations of defamation.

20.3 Timeframes

Once a complaint is received it should be addressed as soon as possible. If the matter is not addressed swiftly, it is likely that the complainant may seek redress through external means (i.e. litigation/court).

All timeframes stipulated throughout this procedure should be adhered to.
20.4  Respect

Everyone involved in an issue or complaint raised under this procedure will be treated with dignity and respect throughout the complaint process. Similarly, everyone involved in an issue or complaint is required to treat each other with dignity and respect and maintain confidentiality even if they feel aggrieved by a situation.

20.5  Fairness and impartiality

Both parties will have the opportunity to tell their side of the story. No assumptions will be made and, to the extent possible, no action will be taken until all relevant information has been collected and considered.

20.6  Support

No action will be taken against anyone for making or helping someone to raise an issue or a genuine complaint. The MFB will take all reasonable steps to support anyone raising an issue or making a complaint, and to ensure that they are not victimised.

Any person involved in a complaint process may arrange for a support person to assist throughout the process. The role of a support person is as an observer only and this person will not be permitted to actively take part in the discussion or interview.

20.7  Privacy

Privacy laws apply to this policy and procedure. Therefore in collecting health or personal information relevant to the complaint the MFB must disclose the following information to the person about whom the information is collected:

- that the MFB collects the information to investigate and resolve a complaint of inappropriate behaviour
- how they can access their personal information
- the organisation(s) to which the MFB may disclose the information (eg MFB’s senior management group, human resources and legal advisors) and
- the consequences for the individual, if any, if the information is not provided (eg the investigation of the complaint will be impeded).

The MFB must ensure it only uses the information for the purpose of investigating and resolving the complaint of inappropriate behaviour, or a related secondary purpose.
The MFB should only collect health information relevant to the complaint with the consent of the person (whether the person is an employee or not) and should also make the disclosures set out above.

All issues and complaints will be recorded and reported in accordance with the Information Privacy Act 2000. The MFB files about the complaint will be securely stored. All reports are strictly confidential and no personally identifying details will be provided to third parties other than as required by law.

20.8 Documentation

All parties concerned need to ensure that any witness statements, notes, documents and reports are securely stored in a confidential location and not exposed to the risk of unauthorised access.

Any report, findings and recommendations may be used in any legal proceedings the complainant brings. Consequently, it is important that any report be based on an objective analysis of the facts and that the recommendations made are carried out, or good reasons given for why they were unable to be carried out.

Whilst the words 'Confidential - Subject to Legal Professional Privilege' should appear at the start of a report, this may be not sufficient to avoid production of the report in any legal proceedings.

20.9 What are the costs associated with these processes?

When an external conciliator, investigator or mediator has been engaged the costs will be met by the relevant MFB Business Unit.

20.10 The process and the Metropolitan Fire Brigade Act 1958 and the relevant workplace agreement made under the Fair Work Act or its predecessor Act

At all times the MFB retains the right to refer any conduct for the laying of charges under the Metropolitan Fire Brigades Act and/or the making of an adverse report under the workplace agreement made under the Fair Work Act or the Workplace Relations Act.

The procedure under this policy is not a substitute for the processes available to the MFB under the Metropolitan Fire Brigades Act or workplace agreement and the MFB retains its discretion at all times to use those processes where it deems it appropriate to do so.
Annexure 1

MFB Contact Officers (to be advised)

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External Authorities (to be advised)

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Investigation Procedure Flow Chart 1

Issue arises

Step 1: Issue resolved through Informal resolution

Step 2: Complaint is received by Issue Resolution Registrar

Complaint assessed

Formal Resolution

Step 3: Issue Resolution Registrar appoints Review Officer

Within 7 days

Step 4: Review Officer determines process required

Report prepared including findings

Within 28 days (or as soon as reasonably possible)

Step 5: Issue Resolution Registrar receives report

Step 6: MFB Authorised Person receives the Report and determines response to findings

Complaint is not substantiated

Within 7 days

MFB advises response to relevant parties (disciplinary/remedial action?)

Document outcome; monitor resolution

Complaint dismissed
Investigation Procedure Flow Chart 2 (Senior Management)

**Issue arises**

- **Complaint dismissed**
  - No

- **Complaint is received by Issue Resolution Registrar**
  - Complaint assessed
    - Inappropriate for MFB Director Corporate Governance or Executive Manager Health and Safety to act as Issue Resolution Registrar?
      - Yes
        - Member of SSA Panel appointed as Issue Resolution Registrar
      - No
        - Formal Resolution
          - Within 7 days

  - No
    - Issue Resolution Registrar appoints member of SSA Panel as Review Officer

- **Step 2**
  - Within 7 days

- **Step 3**
  - Issue Resolution Registrar determines process required (informal or formal)

  - **Step 4**
    - Review Officer determines process required
      - Report prepared including findings
        - Within 28 days (or as soon as reasonably possible)

- **Step 5**
  - Issue Resolution Registrar receives Report
    - Within 7 days

- **Step 6**
  - MFB Authorised Person (Director Corporate Governance, CEO or nominee of the President of the Board) receives the Report and determines response to findings

  - Complaint is not substantiated
    - MFB advises response (disciplinary/remedial action?)
      - Document outcome; monitor resolution

  - Within 7 days

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22 March 2010