Design Standards Brief
Section 3 – Installation of Lifts

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3.1 INTRODUCTION

- The installation of lifts and escalators in buildings shall comply with the requirements of the following:

  - AS1735 Lift Code Parts 1, 2, 10 & 12 (as detailed) and/or to satisfy European Standard EN 81 and be of a design registered with and approved by WorkCover Victoria O.H.S. Authority.
  - Wiring Rules applicable in Victoria (ASANZ 3000 – 2007)
  - Requirements of WorkCover Authority, Victoria
  - Occupational Health and Safety Equipment (Public Safety) Regulations 2007 (SR No. 53/2007);
  - Building Code of Australia; and
  - Victorian Building Control Commission ‘Essential Safety measures Maintenance Manual’ June 2006 and any other statutory requirements that may apply.

3.2 CONTROLS

Controls shall be Microprocessor Modular systems controls, and shall be subject to approval by the Victoria WorkCover Authority. All control equipment, drives and access control panels shall be housed in dust-proof cabinets.

Door protection shall consist of multi scan door detectors which continually scan a lift entrance and are designed in compliance with AS1735.12 and the DDA.

3.3 LIFT MACHINE ROOM

- The design shall comply with AS1735 and the following requirements:

  - the Principal Contractor shall provide a clean, completed machine room to lock-up stage, with Lighting, power points and mechanical ventilation where required, in compliance with SAA Lift Code and building regulations;
  - the machine-room access door/s, closer and notice shall comply with SAA Lift Code;
  - fire extinguishers, or a sprinkler system in compliance with SAA Lift Code, shall be supplied;
  - provision of a key-safe adjacent to the lift motor room entry door;
  - filtered fresh air intake and exhaust shall be installed;
  - where possible, finishes to walls, floor and ceiling shall be durable and painted in full gloss enamel for easy cleaning. Where possible, the ceiling colour shall be white and walls off-white. Floors shall be properly sealed and receive 2 coats of grey coloured paving paint;
  - a drawing layout table (approx. 1200 x 600mm), an appropriate fixture to hang/store the drawings, and a wall mounted cupboard for spares (size to be confirmed) shall be provided;
• control and hoisting equipment shall be well lit by room lights, which shall be twin 36 watt T5 fluorescent, reflector-type fittings with protective guards. Lighting shall be positioned so that Maintenance Technicians are not working in their own shadow; and

• the control equipment shall be illuminated by emergency lighting (inverter type).

3.4 MACHINE ROOMLESS LIFTS (MRL)

Controller:

• Shall be of the enclosed type, wall mounted on a substantial frame built into the top landing entrance front return wall or located within the top of the lift well;

• The cabinet shall be enamel finish, or be of finished satin stainless steel to match that of the landing door frames, or other, RMIT University Project Manager approved finish;

• The front cover of control panels that are exposed to the exterior of the lift shaft are to be self locking, using specific barrel combinations that comply with the requirements of RMIT University at the time of tender. All Keying for lifts within RMIT University Buildings and/or Property shall be keyed to the University’s restricted keying systems on either Lockwood Status Six or Lockwood TWIN. Further specific keying requirements should be referred to RMIT University Locksmiths. Additionally cabinet doors shall be hinged and be capable of opening to at least 90 degrees with ready access to all components;

• The front cover of control panels shall have acoustic lining on the inside of the cover to limit the transfer of sound to the adjacent areas;

• All field wiring to the controller shall be neatly loomed and installed so at to not impose any force on electrical connection points with all medium and high voltage terminals protected against accidental contact;

• In the event of a high temperature of or exceeding 43 degrees Celsius is registered in the machine area, automatic means shall be installed to prevent the lift from continuing to operate once it is at a floor level and the doors have opened;

• Where there is no capability to observe the lift machine and the over-speed governor operating from exterior control cabinet, closed circuit television viewing shall be provided to a screen in the controller with the camera(s) mounted in the lift well. (this would apply where a control cabinet is remotely located from the lift, where the movement of the lift for maintenance or service can be observed through an open landing door or by other means);

3.5 OVER-SPEED GOVERNOR (APPLIES TO (MRL) INSTALLATIONS ONLY)

The governor shall be arranged such that there is no necessity to provide an access panel into the lift well for maintenance or resetting the unit. The equipment location shall be within the lift well with a resetting facility from the controller, top floor landing or the unit shall have the capability to reset itself by automatic means.

3.6 INDICATORS AND BUTTONS

All indicators shall be long-life, back lit, LCD type, in a size and colour that provides ease of reading.
Landing buttons shall be Stainless Steel Vandal-Proof, Braille (DUPAR, or equal University-approved), and conform to AS1735 part 12. They shall be dual illuminated (*please note red should not be used as an indication colour as persons with colour blindness may not see the indication*).

The Lift Consultant and Contractor shall ensure that each level is correctly labelled according to the University's room numbering system, as per Section 2 of this Project Standard.

### 3.7 DOOR FRAMES

Door frames shall be finished stainless steel design, unless otherwise instructed.

### 3.8 LIFT CAR

- Car interior to be designed to reflect durable low maintenance finishes.
- Car lighting shall be ‘T5 Type’ or ‘Compact’ fluorescent type capable of providing a minimum 100 Lux at the threshold of the lift. The type selected for tubes, ballasts, and starters shall enable easy and quick replacement from within the lift car. LED car lighting may be offered as an alternative, providing the Contractor can adequately demonstrate that it is capable of providing a minimum 100 Lux at the threshold of the lift.
- Inbuilt Emergency lighting shall be included in the design of the lift car lighting which shall be in compliance with the requirements of AS1735.
- A Metal exhaust fan (approx. 180mm diameter or equal) shall be installed in the ceiling.
- Car position indicator (LCD) shall be an integral part of the control panel, shall be hinged, and indicate car location and direction of travel.
- The control panel shall contain an exclusive key switch regulating ON, OFF and PARK facilities.
- The control panel and all internal fittings shall conform to AS1428 – Part 1 (as above).
- Provision shall be made for tactile lift buttons with Arabic numerals.
- Car operating panel call buttons shall be dual illuminated the same as for landing buttons.
- Doors shall be centre-parting, with electronic motor control.
- Lift and counterweight guides shall be roller guides.
- All controls in the lift car shall be positioned in compliance with the requirements for accessibility to disabled passengers, including emergency communication and alarms.
- Voice synthesizers units and Braille button indication for disabled passengers shall be supplied and installed.
- Lifts to contain visible and audible alarms.
- Lift car floor coverings shall be supplied and installed by the Lift Contractor. The type of covering shall be approved by RMIT University Project Manager. All floor coverings shall comply with the requirements of AS1735.
- Lift cars shall be designed with longevity, robustness and anti-vandal characteristics as the prime objective.
3.9 LIFT WELL

- Sump and flush cover in lift pits shall comply with SAA Lift Code and local building regulations.

3.10 EMERGENCY COMMUNICATION AND ALARM

- As per AS1735.2 — Section 32.4, clause 32.4.1 to 32.4.4. Auto dial telephones are to be connected to direct dial RMIT Security or as agreed with The Manager, Security Branch., RMIT University.
- Where there is more than one lift, the lift numbering shall be as per AS1735.2, clause 32.5.

3.11 LIFT PROTECTION

- One set of full height protection blankets shall be provided in the lift contract. The blankets shall be clearly labelled with the building number and the lift number where the lift has been designated as a services or goods lift. The blankets shall be designed for easy installation and removal.

3.12 COMMISSIONING

- The following shall be adhered to:
  - Australian Wiring Rules (ASANZ 3000 – 2007)
  - SAA Lift Code AS1735.
  - State Regulations By-laws (WorkCover Authority Victoria).

NB. If being commissioned as Contractor's lifts, the units must undergo a second lift inspection.

3.13 OTHER ITEMS

- The specification shall require tenderers to include a 12 month free maintenance period, commencing from the Date of Practical Completion in the contractor's contract. Separate prices for 3 year periods of comprehensive maintenance, based on a frequency judged necessary from the anticipated lift usage pattern, shall also be submitted with each tender.
- Should the contractor wish to use the lifts prior to the Date of Practical Completion, then the contractor shall be responsible for obtaining all necessary permit and approvals, protection of the lift installation, and any necessary making good up to the Date of Practical Completion.
- The Lift Contractor shall notify the Project Architect, the Consulting Engineer and the Maintenance Manager one week prior to the final test.
- The successful lift contract tender shall allow for the Contractor to meet with the Consulting Engineer and University staff on completion of installation, for instruction on the use and maintenance of the lifts.
- Operating & Maintenance Manuals shall be provided in accordance with Clause 1.8.16 prior to practical completion.
- Normal DDA Requirements for a lift car size is 1700mm Deep X 140mm Wide with a clear door opening width of 900mm minimum \( (\text{preferred clear opening of not less than 1000m should apply where practical, allowing for larger motorized wheelchair}). \)

- Stretcher depth lift car minimum size requires access for a stretcher of 600mm Wide X 2000mm Deep at 1400mm above the floor, again a minimum clear opening door width of 900mm is required, however where practical the desired stretcher size lift car should be 1400mm Wide X 2100 Deep with a 1000mm clear door opening \( (\text{this allow access for both a stretcher and ambulance or medical staff in the lift together}) \).

- Emergency Lift minimum car size is 1600mm X 2280mm Deep X 2300mm Height with a clear door opening of not less than 1300mm Wide X 2100mm Height. \( (\text{Emergency lifts are primarily installed in building of >25 meter height or a Class 9a or 9b building which does not have direct egress to a road or open space}) \).

- Car operating panel engraved inscriptions shall be WHITE paint or resin filled, except for Emergency Stop Button which shall be RED paint or resin filled \( (\text{this is for ease of reading}) \).

- Street level or main entrance level shall be incorporated into CPO labeling for call buttons.

- Key Switch Locks shall be a TBs item as specified by RMIT University. The contractor shall make provision for installation for such items in their tender price. All keying for Fire Services shall use 420.FS switches. All other switches are to be 420.L. Lock details are to be included in the tender specification.

- The University is committed to the management of all its operations in an environmentally responsible manner and actively supports industry based initiatives to improve the environment. Where practical providers are encouraged to offer energy efficient, low environmental equipment.