

PROVINCIAL ADMINISTRATION OF KWAZULU-NATAL  
DEPARTMENT OF **HEALTH**



**KWAZULU-NATAL PROVINCE**

HEALTH  
REPUBLIC OF SOUTH AFRICA

ANNEXURE "A" TECHNICAL SPECIFICATION

PROVINCE OF KWA-ZULU NATAL: ETHEKWINI REGION

FOR THE KWAZULU-NATAL DEPARTMENT OF HEALTH

DURBAN: KING EDWARD VIII HOSPITAL: REPLACEMENT OF EIGHT (8) PASSENGER LIFTS

LIFT INSTALLATION

PART 3: DETAIL SPECIFICATION

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**PROVINCE OF KWA-ZULU NATAL: EHTEKWINI REGION**  
**FOR THE KWAZULU-NATAL DEPARTMENT OF HEALTH**  
**PIETERMARITZBURG: GREYS HOSPITAL: REPLACEMENT OF**  
**EIGHT (8) PASSENGER LIFTS**

**LIFT INSTALLATION**

**PART 3: DETAIL SPECIFICATION**

**1. SCOPE OF CONTRACT**

- 1.1. The contract comprises the design, manufacture, delivery to site, installation, commissioning and handing over of:
- (a) Eight (8) Passenger lifts installed at King Edward VIII Hospital, including new cables and distribution boards. (See below for specifications)
  - (b) The complete removal and disposal of the Eight (8) existing lift equipment including cables and distribution boards.
  - (c) Builders work entailing the closing up of the landing doorways and openings.
  - (d) Painting and tiling of walls around landing doors to match the existing.
  - (e) A three phase, 50 hertz electrical supply will be provided in each lift shaft in a position suitable agreed. The supply will terminate on the main isolator inside each panel. This tender shall include for the supply points and all other cabling, conduits, cable racks, trays, switchgear, panels, distribution boards, etc., necessary for the satisfactory operation of every part of the installation as well as for the connection of the supply cable into this panel. Three-pin socket outlets will be provided for the 220 volt equipment where necessary, by others.
- 1.2 The equipment offered shall be suitable for continuous operation under the following conditions:
- (a) Electricity Supply
- The 3-phase, 4-wire, 50Hz AC with a nominal voltage of 400/230V varying between 95% and 105% of the nominal voltage.
- (b) Ambient Temperature Max. 35°C  
Min 5°C

(c) Altitude of Site 5 m

(d) Location : 201 Townbush Road, Pietermaritzburg, 3200

## 2. LIFT TYPES

### 2.1 LIFTS

The work comprises the complete removal of the 8 existing old lifts and supply, installation, commissioning, testing and handing over of the eight (8) new electrically driven small motor room passenger lifts as described below:

New lifts to match the existing shaft dimensions and to meet in general the existing current lift sizes and functionalities.

The lift shall open to one side only. The rear panel shall not be fitted with a mirror.

			Measurements (mm)			NO. OF STOPS
			Height (mm)	Width (mm)	Length (mm)	
Theatre (No. 2)	DE 2767	23 P/ 1725kg	2200	1400	2630	4
Theatre (No. 3)	DE 2768	23 P/ 1725kg	2200	1400	2630	4
South Ward Block (No. 6) (Right)	DE 2770	23 P/ 1725kg	2200	1450	2600	5
South Ward Block (No. 5) (Left)	DE 2771	23 P/ 1725kg	2200	1450	2600	5
North Ward Block (No. 7) (Left)	DE 2772	23 P/ 1725kg	2200	1450	2600	5
North Ward Block (No. 8) (Right)	DE 2773	23 P/ 1725kg	2200	1450	2600	5
Maternity (No. 9)	DE 2756	23 P/ 1725kg	2300	1500	2500	3
Maternity (No. 10)	DE 2757	23 P/ 1725kg	2300	1500	2500	3

## 2.1.2 SCHEDULE OFFINISHES

Walls	Side panels: Pressed hairline stainless steel Rear panels: Pressed hairline stainless steel
Bumper rails	Two stainless steel 75mm diameter.
Ceiling	Polished stainless steel.
Car door inner	Pressed hairline stainless steel.
Car door outer	Brushed stainless steel.
Car floor	3.5mm stainless chequer plate
Operating panel	Brushed stainless steel.
Landing doors & architraves	Brushed stainless steel. The architraves shall be at least 150mm wide (proud of the rough door opening size) and shall but up and connect onto the landing doors frames, architraves of 200mm wide would be preferred.

### Approval of Finishes

Details of the lift car interior finishes shall be submitted by the contractor to the engineer for approval prior to ordering of the lift.

The Engineer shall determine the colours of the interior finish of the car.

Tenderers shall submit with their tenders all the finishes and colours available for the lift offered. Existing landing sills will be replaced with new sills.

### **3.1 MOTOR ROOM EQUIPMENT**

### **3.2 FREQUENCY CONTROLLED DRIVING MOTOR**

Each motor shall be of the three phase, wound stator, squirrel cage rotor, 50Hz, Variable Voltage Variable Frequency (V V V F) type and shall be purposely designed for the high rate of stopping, starting and reversing encountered in a lift installation. Speed control of the motor shall be by means of V V V F converters carefully matched to the motor characteristics to give high starting torque and low starting current. The acceleration and retardation shall be completely smooth and step less. The motor shall have sufficient capacity to operate at contractual duty continuously without overheating. Where separately driven cooling fans are used, interlocking shall be provided to prevent the driving motor from operating in the event of failure of the cooling fan.

### **3.3 LIFT MACHINES**

Each machine shall be of the gearless permanent magnet synchronous type, with the motor and drive shaft being an integral unit. The motor shall be directly mounted to the drive with brake drum. The motor, brake and drive unit shall be carefully balanced to ensure quiet and smooth running of the machine.

The traction sheave shall be provided with accurately machined rope grooves, the profile of which is to be selected with due regard to the specified duty, to ensure sufficient and even traction and long rope and groove life. The sheave shall have sufficient metal thickness to allow for future re-grooving and shall be easily removable.

The unit shall be designed to handle at least 180 starts per hour at a travelling speed of 1m/s. The maximum temperature rise shall not exceed 110°C. The units shall be equipped with spherical roller bearings.

### **3.4 BRAKE**

The brake shall be of the drum or disc type mounted on the motor drive sheave. A DC-solenoid acting on two self-aligning brake shoes lined with friction material shall operate the brake. The shoes shall be independently mounted and shall be spring applied and electrically released. One half of each brake must be capable of holding the car in event of failure of the other half. The brake shall operate in the event of a power failure or the operation of any other safety device designed to stop the lifts.

### **3.5 HAND TURNING GEAR**

Each lift machine shall be provided with a manual brake release lever to facilitate the safe turning of the machine by hand.

### **3.6 MOUNTING OF LIFT MACHINES IN LIFT SHAFT**

The Subcontractor shall supply and install suitable structural steel beams with bearing plates for the mounting of the lift machine in the lift shaft, as well as supporting beams or deflector and secondary pulleys, as required.

Anti-vibration mountings shall be provided to minimise the transmission of vibrations to the structure and to ensure the silent and smooth operation of all the equipment. Tenderers shall describe the methods to be used to achieve the desired results.

### **3.7 DIVERTER SHEAVES**

The diverter sheaves, if required, shall be manufactured from cast iron and shall run in permanently lubricated roller bearings mounted on support steelwork. The sheaves shall be provided with grooves as specified for the traction sheaves.

### **3.8 CONTROLLER**

The control gear shall be assembled on a separate floor mounted frame, and shall not be mounted on the main machinery. Solid-state control equipment accommodated in a wall mounted cabinet will be acceptable.

Contacts breaking heavy currents shall be provided with magnetic blowouts and arc chutes. Contact surfaces shall be of silver-to-silver. Copper-to-copper contacts will not be accepted.

All wearing parts must be easily renewable, and flexible connections must be used for all moving contacts. Springs or moveable joints shall not be current carrying.

The controller must incorporate all switchgear, relays and other equipment necessary for the operation and protection of the lift, and must be so designed that the car will automatically be brought to a stop in the event of:

- (a) Interruption of the main power supply or the interruption of any one phase of the main supply, or if a phase reversal of the main supply has occurred.
- (b) Operation of the governor due to over speed.
- (c) The operation of the final limit switches.
- (d) The interruptions of the floor selector drive protection switch.

The controller shall be provided with adequate suppression devices to eliminate radio and television interference.

The power supply for the control circuitry shall be obtained from a stabilised power supply which shall be capable of smoothing out the voltage dip normally prevalent on the output voltage of a diesel engine driven alternator set during the initial application of load.

All terminals of the machinery and control gear shall be marked with distinctive letters or numbers, and corresponding markings shall appear on the contract drawings.

### **LIFT FAULT INDICATOR**

## **3.8**

The controller shall be equipped with a fault indicator, which indicates by means of a pilot light or LED that the lift is out of order. A flush or surface-mounted indicator panel shall be installed in the main control panel to repeat the fault indication displayed on the various controllers. Cabling to the remote indicator panel shall be by means of additional cores incorporated in the intercom cable.

### **GOVERNOR**

## **3.9**

An over speed governor, driven directly by an independent rope attached to the car, shall be provided in the motor room and shall be designed to operate the safety gear fitted to the car when the speed of the car, due to any cause, exceeds its normal maximum speed by more than a predetermined value. The tripping speed of the governor shall be selected with due regard to the contract speed. The tripping speed shall be approximately inversely proportional to the contract speed and shall for contract speeds ranging from 0,25m/s to 5,0m/s not exceed the contract speed by more than 40% and 20% respectively.

The governor shall be provided with control switches which shall be wired into the control circuits to shut-off the power supply to the drive motor and brake before or at the same time that the safety gear is operated.

## **4. EQUIPMENT INSTALLED IN LIFT SHAFTS**

Lift shaft will be trimmed by contractor to suit the specific lift requirements. There will only be columns on the sides of the lifts to where the contractor can fix the rails.

### **GENERAL ARRANGEMENT**

## **4.1**

The counter weights shall be arranged to be on the sides of the car.

### **GUIDE RAILS AND ROLLER SHOES**

## **4.2**

The guide rails for the car and counterweight shall consist of planed steel tees with milled, tongued and grooved joints. Metal splice plates shall be of a suitable length and fixing brackets for guide rails shall be provided at intervals not exceeding 1,7m. Guide rail fixings shall be located in such positions that when the car is at any landing, the guide shoes on the car will be at a fixing bracket. The bottom end of each guide rail shall be provided with a soleplate fixed to the pit floor.



All brackets shall be secured by means of approved expandable concrete anchor bolts of adequate size and length.

The lift shall be fitted with spring-loaded roller shoes. Each roller shoe shall comprise three rubber type rollers, one operating on the head of the guide and the other two on the sides. Each roller shall be mounted on ball bearings in a pivoted, spring-loaded rocker arm, which shall automatically adjust itself to the guide.

#### **4.3 COUNTERWEIGHT**

The counterweight shall consist of cast iron blocks bolted together by means of at least of steel tie-rods to form an assembled unit, which shall be mounted in a fabricated steel framework. Forged eyebolts with long threaded sections shall be provided at the top of the counterweight frame to facilitate termination and adjustment of the hoisting ropes. Roller shoes of the type specified above shall be fitted to the top and bottom corners of the frame, to ensure smooth movement of the counterweight in its guides. Tenderers shall confirm that sufficient space is being provided for the counterweights in the shaft(s).

The total mass of the counterweight shall be equal to the mass of the complete car plus 45 - 50% of the duty mass load specified.

#### **44 ROPES**

Ropes shall be of the best quality and of suitable number, size and manufacture to ensure proper operation of the lifts, and to give satisfactory wearing qualities. All ropes shall consist of at least six strands wound round a hemp core centre, and shall comply with BS 329: 1968. Rope tension equalisers shall be provided and shall be so designed that each rope can be individually adjusted. Equalisers reducing the suspension to a single bolt or shaft will not be acceptable.

#### **4.5 BUFFERS**

Suitable oil, heavy spring or polyurethane buffers shall be provided for the car and counterweight and shall be so adjusted that in the case of over travel, no parts of the car or counterweight will touch the shaft ceiling and that the retardation of the car does not exceed the limits as laid down in the European Safety Rules for the Construction and Installation of Electric Lifts (EN 81) as incorporated in BS 5655 Part1. The buffers shall be tailored made in accordance to the different depth of the lift pits.

## **4.6 OVER-TRAVEL PROTECTION**

Normal and final terminal stopping switches shall be provided in the hoist way, which shall be operated independently of each other by the car. The switches shall respectively be arranged to stop the car and prevent its normal operation should it travel beyond the zone of the normal stopping device at the upper and lower terminal floors, or travel within the top and bottom clearance with the buffers operative.

## **4.7 STOP SWITCH IN PIT**

A watertight stop switch shall be provided in the pit of the lift in a position that can be reached from the lower landing and the pit floor.

## **4.8 CATLADDER**

The necessary catladder, which will be required for the easy and safe maintenance of the lift, shall be supplied and installed by the Main contractor.

## **4.9 SUBMERSIBLE PUMP**

Supply and install a submersible pump, Subson 20 MF (1ph/220V/0,45kW) for 2,5L/s with overflow audible alarm or similar approved, in the pit of each lift to pump out any water entering the lift pit due to flooding by burst water pipes, etc. A three pin switched socket isolator in an IP54 rating enclosure to be provided by contractor in close proximity to the submersible pump but high enough to be protected during flooding of pit.

## **5. LIFT CAR**

### **5.1 CONSTRUCTION**

The lift car shall be an assembly consisting of the sling, the platform and the cabin. The sling shall be constructed of rolled steel angle or channel sections bolted or welded together to form a rigid framework which shall be suitably braced and reinforced to withstand the operation of the safety gear without any distortion.

The car platform shall consist of a 3mm thick mild steel plate or 20mm thick hardwood floor laid on closely spaced steel channel sections welded to a steel frame which in turn shall be laid on rubber pads in a structural steel frame. Load weighing devices shall be incorporated where specified. The car platform is to be equipped with a non-skid threshold plate manufactured from solid aluminium.

The cabin for the lift shall be designed as a fully enclosed car with a curved roof and solid full

height panels on the sides and the back. A skirting and stainless steel double bumper rail at 1220 AFFL shall be provided to absorb bumps from wheels of trolleys. The interior shall be of pressed stainless steel of the "hairline" type. The roof must be stainless steel polished, with Beka LED down lighters secured with grub screws. The floor is to be non-slip rubber in green/grey.

The front return panels, entrance columns, stiles and trimmings shall be manufactured from brushed stainless steel.

The cabin shall be securely fixed to its sling and platform in such a manner that the cabin is not subjected to strains in event of an unequal distribution of load occurring over the floor area.

In addition to the above, the following features shall also be embodied in the car:

- (a) A continuous lighting system shall be provided in the lift car, providing an illumination level of not less than 300 lux at 1000 mm above floor level and shall bear the SANS mark. One of the lamps shall be provided with an emergency battery/inverter unit by means of which the lamp will be operated for at least 60 min. in the event of a power failure. This lamp shall operate at full output under normal conditions.
- (b) A silent running electric extractor fan for ventilation of car with a capacity of at least 750m<sup>3</sup>/h.
- (c) Luminous car position indicator and "Up/Down" travel indicators shall be incorporated with the car board.
- (d) An alarm bell with a 150mm diameter dome and 12V, DC coil shall be mounted on the lift car. There shall be future extension ability for the alarm in the shaft to be relayed to the reception area.
- (e) There should be standard notices placed in each lift car indicating "Lift A or Lift B". The sign size should be B5, Perspex, fitted with mirror screws.

A work platform, on which the serviceman can stand whilst travelling or working on the shaft or car equipment, shall be provided over as large an area as practically possible, on top of the lift car.

The inspection certificate for the lift shall be installed in a suitable frame in the machine room.

The successful Tenderer will be required to submit a detailed drawing of each car indicating the proposed design for the car after discussions with the Architect and Engineer. The drawing shall be submitted for final approval before manufacture of the car is commenced.

## 5.2 CAR OPERATING PANEL

Each lift car shall be provided with an operating panel, which shall be flush mounted in the car enclosure and shall contain the following:

- (a) A bank of touch buttons numbered to correspond with the floors served and of a type as specified, including Braille lettering.
- (b) An emergency alarm pushbutton (colored yellow) contacted to an alarm bell located on the car.
- (c) A "Door Open" pushbutton to hold the doors open/re-open the doors.
- (d) A "Door Close" pushbutton to close the car doors.
- (e) An "On/Off" toggle switch for the extract fan.
- (f) A key operated fireman's control.
- (g) The functions of all buttons and switches shall be identified by means of etched symbols on the buttons and switches where applicable.
- (h) Overload display.

## 5.3 CARDOORS

The lift shall be fitted with two fully automatic, telescopic centre opening, panel type doors for the scenic lifts as called for in the Schedules of Requirements. The doors shall be constructed of not less than 1,6 mm thick mild steel plate torded to form a rectangular shaped dished panel with double returns along each to facilitate the attachment of locking device. The doors shall then be covered with brushed stainless steel. The panels shall be suitably reinforced to ensure rigidity and quiet operation.

The car and landing doors shall be interlocked by means of electro-mechanical locks so arranged that no landing door can be opened unless the car is opposite the landing. It shall not be possible for the lift machine to operate unless all doors are closed, or for the landing doors to be opened while the lift is travelling, except under levelling conditions. In the event of a power failure it shall be possible to open the doors from inside the car, provided it has been stopped within reach for manual operation of the landing door locking devices. All electro-mechanical interlocks are to be of a substantial construction to be able to withstand the impact of repeated opening and closing cycles, and shall be adequately enclosed to prevent accidental contact with persons using the lifts.

A "door open" pushbutton must be provided in the car operating panel to enable the closing of

doors to be stopped and reversed if required.

#### **5.4 MULTIBEAM DOOR**

Each lift car shall be provided with a light curtain detection system, which shall control the opening and closing of the doors.

The system shall consist of a single beam or other approved detector, which shall sense movement of a person, moving through the door opening. A time delay relay shall be provided to keep the doors open for a period adjustable between 5s and 10s to allow passengers to enter the lift. The time delay shall be overridden by the "Door Close" pushbutton in the car and car key switch.

In addition, the automatic power operated doors shall be provided with retractable safety edges, which shall cause the doors to re-open in the event of a passenger pushing the safety edge during the door closing cycle. As an alternative to the retractable safety edges full height curtain sensors may be used. The doors shall immediately start to re-close after the door entrance is cleared after an interruption of the closing cycle, whilst in the event of a landing stop the doors shall remain open for an adjustable predetermined interval to permit passenger transfer, after which the doors shall automatically close. The interval for which the doors are kept open shall be shorter for passengers leaving a car in response to the operation of a car button than for a call registered from a landing button.

#### **5.5 SAFETY DEVICE**

A safety device, acting on each of the car guide rails, shall be fitted to the bottom of each lift car. The safety device shall be operated by an over speed governor, located in the lift motor room. The safety device shall be arranged to stop the car without excessive shock whenever the car over speeds downward due to the breakage of all suspension ropes or other causes. Prior to the application of the safety device, the motor and brake circuits shall be opened to cut-off the power to the motor and apply the brake.

The safety device shall be designed and shall generally comply with the requirements of the European Safety Rules for Electric Lifts (CN81) as incorporated in BS.5654.

#### **5.6 AUTOMATIC LEVELLING**

The lift shall be provided with a self-levelling feature, which will automatically bring the car to rest level with the floor landings, within a maximum tolerance of 6,0mm under all conditions of load.

The door operator of the automatic doors shall start functioning when the car reaches the levelling zone so that the doors are fully open when the car has been levelled with the landing.

## **6. LANDING EQUIPMENT**

### **6.1 LANDING DOORS**

The landing doors shall be of the automatic, power operated, horizontally sliding panel type and shall be constructed of not less than 1,6mm thick mild steel sheet folded to form a rectangular shaped dished panel with double returns along each side to facilitate the attachment of locking devices and the fitting of fire resistant material. All joints shall be welded and rendered flush and smooth. The panels shall be suitably reinforced to ensure rigidity and quiet operation. The doors shall then be covered with brushed stainless steel. All joints shall be welded and rendered flush and smooth.

The door panels shall be hung on ball bearing typed sheave hangers running in a smooth polished steel track and guided at the bottom by approved type non-metallic shoes sliding in smooth machined sill and threshold grooves.

### **6.2 LANDING SILLS, FRAMES AND ARCHITRAVES**

Solid extruded aluminium sills with anti-slip treads are to be provided at all landing entrances. The sills must be firmly fixed to the building structure and must line up with the final floor finish. No floor nibs are provided in the shafts and the Subcontractor shall provide angle iron sill supports where required.

Architraves, where required shall be of simple and attractive design, and manufactured from 1,6mm mild steel sheet as specified for the landing doors, and shall consist of head sections. The doors shall then be covered with brushed stainless steel.

Frames are to be securely fastened to sills and will be built-in by the Main Contractor after having been accurately located in position by the Subcontractor. The Subcontractor shall ensure that the door frames are suitably braced vertically and horizontally by means of timber props to prevent moving of the sides and top of the frames whilst they are being built-in. The concrete or mortar filling shall be done thoroughly so as to prevent the formation of voids.

Fascia plates of substantial construction shall be firmly secured to the sills and shaft walls, and shall be installed at all landing entrances, in accordance with the requirements of the Occupational Health and Safety Act, Act No. 85 of 1993, as amended to date.

The shape of architraves and frames shall either be radiused or chambered and will be selected

by the Architect from designs to be submitted by the successful tenderer. The basic tender price shall allow for stainless steel architraves and frames finished as specified for landing doors.

Each landing shall have notices indicating "Lift A or Lift B". Sign size B5, Perspex, fitted with mirror screws.

Door frames shall all be splayed type frames.

### **6.3 TRAVEL AND LANDING INDICATORS AND GONGS**

Floor indicator panels of the LED or electronic type, showing the position of the car in the shaft shall be provided on the each floor. These panels shall be of stainless steel and located centrally above the landing doors and shall incorporate the up and down direction indicators at the left and right-hand sides respectively. The landing indicators shall be programmable for time of day preferences.

The up and down direction of travel indicators shall be of the arrow-shaped illuminated type. The arrows shall be moulded in high quality white acrylic plastic and shall protrude from the plate. At the terminal landing two direction arrows indicating the same directions, shall be provided. As an alternative, electronic-type direction indicators may be offered in stainless steel housing.

A single-stroke pre-arrival gong shall be installed flush in the head of the door frame directly below the floor indicator panel. The gong shall sound when the lift is about to stop at a landing. The horizontal portion of the doorframe behind which the gong is mounted shall be die-punched with a series of narrow slots to ensure that the sound from the gong penetrates clearly into the lift lobby. The arrow and gong shall be accommodated with a digital indicator in housing.

### **6.4 CALL BUTTONS**

The type of buttons to be provided on landings and the operating panel of the lift car shall both be of the illuminated vandal proof, electronic touch button, micro-push type as manufactured by Dupar (Pty) Ltd or any other approved type. The call buttons shall be mounted at a height easily accessible to handicapped persons in wheelchairs and shall be installed in an A4 sized stainless steel backing plate.

The "Up" and "Down" call buttons shall be installed at the intermediate landings whilst single call buttons are to be installed and the top and bottom terminal landings. At each landing the buttons shall be located on the side of the lift doors at a height of approximately 1 150mm above

finished floor level. Call button faceplates shall be of similar finish as to match the faceplates of the travel and landing indicators.

The "up" and "down" call buttons on the intermediate landings shall be installed in separate boxes on either side of the landing doors in order to minimise the possibility of both being pressed at the same time. The faceplates of the call buttons shall be engraved with the following wording:

"Up" call buttons "Down"  
call buttons

UP DOWN



## **6.5 LIFT SERVICE INDICATOR**

The direction of travel indicator panel for the lift shall incorporate a service indicator, which shall be activated from the motor room when the lift is being serviced, or when the lift is out of order. On activation the wording "Lift being serviced" shall be clearly illuminated.

## **7. OPERATION OF THE LIFTS**

### **7.1 NORMAL OPERATION OF LIFT**

The operation of the all the specified lifts that serves the various stops (in-line), shall be fully automatic individually as described below:

All stops registered by the pressing of a car button shall be made in the order in which landings are reached after the buttons have been pressed and irrespective of the direction of travel. Calls registered by landing buttons shall be made in the order in which landings are reached in each direction of travel after the buttons have been pressed. "Up" landing calls shall be answered when the car is travelling in the up direction, and "down" landing calls when the car is travelling in the down direction, except in the case of the terminal landing calls, which shall be answered as soon as they are reached.

### **7.2 OPERATION IN THE EVENT OF FIRE**

The control circuitry of the lifts shall be so arranged that in the event of a fire a fireman can operate the lift. No fire link, future extension ability.

A fireman's key switch, complete with key, shall be supplied and installed on the ground floor lift lobby. It shall only be possible to withdraw the key from the switch in the break glass unit after the switch has been turned to the position for fireman's operation. With the key withdrawn the lift shall automatically travel to the landing at which the key was operated to be available for use by the fireman whilst any other lift in the group (where applicable) shall automatically travel to the ground floor and be parked there, with its door open. The parked lift(s) shall not respond to any landing calls or the operation of buttons on the car operating panel.

For a fireman to operate the lift, the key shall be inserted into the fireman's switch on the car-operating panel and turned to its fireman's position. In this position the key will not be able to be withdrawn and the car will be enabled to travel to any floor pressed on the car operating panel even though a fire may have been detected on that floor. On arrival at the floor the doors shall not automatically open but shall only be opened by continuous pressure of the "door open" button. Upon release of the "door open" button the doors shall immediately reclose.

**8. ELECTRICAL INSTALLATION**

Supply and install 16mm x 4 core SWA PVC ECC cable plus 16mm" earth conductor from the nearest existing distribution board, controlled by a 30amp triple pole MCCB installed in the nearest existing distribution board, terminating at a 30amp isolator at the lift control panel. Cables to be installed on 200mm wide cable ladder.

NOTE: Disconnect and remove existing electrical as required. Disconnect, remove and make safe the existing electrical installation to the existing lifts allowing for the installation of the new lifts. Testing existing switch gear DB. If the existing DB is faulty replace switch gear with new switch gear. Test DB and certify compliance.

**9. BUILDERS WORK**

Bricking up of the landing doorways to reduce the door width to accommodate the new lifts. Making good any openings or holes in walls left behind after removal of existing lift equipment. Existing openings between the lift motor room and lift shaft to be covered with concrete. Preparation of lift pit for installation and proper operation of submersible pump. Pit to be sloped towards position of submersible pump. Check lift shaft for water leaks, including motor room roof. Waterproof if required.

**10. PAINTING & TILING**

Painting of walls to match existing wall colour around landing doors as indicated on the drawings.

Tiling around landing doors as indicated on drawings. Type of tiles to be specified by client.

**11. LIFT MAINTENANCE**

Lift maintenance contract to be completed, costing submitted and signed. (submitted as part of tender document)

Contract will take effect after the one year maintenance period or when final completion is taken.



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REPLACEMENT, SERVICE AND MAINTENANCE OF LIFTS (8 UNITS): GREYS HOSPITAL: 3 YEAR  
PERIOD CONTRACT

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ANNEXURE "B" MAINTENANCE CONTRACT



**health**  
Department:  
Health  
PROVINCE OF KWAZULU-NATAL

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ELEVATOR SERVICE MAINTENANCE CONTRACT

AGREEMENT ENTERED INTO BY AND BETWEEN KWAZULU NATAL  
DEPARTMENT OF HEALTH

(Hereinafter referred to as “the Owner”)

And

Messrs..... (Hereinafter referred to as “the **Contractor**”)

In respect of..... Lift/s

Elevator No.is... ..

Installed at... ..

The Parties agree as follows:

1. THE OBLIGATIONS OF THE CONTRACTOR

- 1.1 The Contractor undertakes to provide services in respect of entire elevation installation in compliance with the applicable legislative and policy prescripts for the duration of this Agreement, and shall include, but is not limited to the following:
- 1.2 Elevators/escalators to be serviced monthly.
- 1.3 Hoists to be serviced quarterly.
- 1.4 Individual pricing required for each elevator.
- 1.5 Payments will be made monthly in arrears.

- 1.6 Include Inspection and Reports in accordance with Section 18 of the Regulations of the Occupational Health and Safety Act 85 of 1993 (OHSA).
- 1.7 Annual Reports to be submitted with regard to the number and nature of the stoppages/breakdowns.
- 1.8 Short Term (2-5 years) and Long Term (+5 years) upgrading requirement must be submitted with the Annual Report.
- 1.9 All prices exclude Value Added Tax at the current Government Gazette rate.
- 1.10 The Addendums may be added to or deleted to upon negotiation by both parties.
- 1.11 To regularly and systematically examine the installation in accordance with the Regulations framed under the OHSA.
- 1.12 To place at the disposal of an Inspector from the Department of Labour, workmen, lights, tools, instruments and other equipment required by the inspector for the purpose of making the inspection.
- 1.13 To clean, adjust and lubricate the installation during normal working hours.
- 1.14 To provide free of charge all lubricants and cleaning material required in the course of carrying out 1.1 and 1.3.
- 1.15 To repair and replace any parts of the existing components, when such replacement or repair has been occasioned by fair wear and tear and in the Contractor's opinion, is necessary.
- 1.16 To perform the work required in terms of this agreement during normal working hours except in the case of emergency calls in accordance with Clause 1.7. Trained technicians will perform all work and all reasonable care will be taken by the Contractor in carrying out its obligations in terms thereof.
- 1.17 To have available at all times i.e. for 24 hours each day a maintenance technician to attend to call backs and keep the lift/s in safe working order.

- 1.18 To store at their discretion essential spare parts in the motor room. These parts shall at all times remain the property of the Contractor who shall be entitled to remove the parts from the motor room at any time.
- 1.19 To provide the Owner with temporary components when in the Contractor's discretion it would be possible and practical to do so if repairs to the installations require an extended period of time.
- 1.20 Any additional inspections in line with the Occupational Health and Safety Act 85, of 1993.
- 1.21 To regularly and systematically examine the lift well sump pumps if installed and to repair replace any part of the pump components when such replacement or repair has been occasioned by fair wear and tear and in the Contractor's opinion, is necessary.
- 1.22 Notwithstanding the obligations undertaken above, the Contractor will be absolved from incurring liability in the event of the circumstances specified hereunder occurring:
- 1.23 The cost of repairs necessitated by reason of negligence (other than the negligence of Contractor or its Employees) or misuse of the installation or by reason of any other cause except normal fair wear and tear and the replacement of parts with parts of a different or updated design shall be borne by the Owners.
- 1.24 The following items of the installation are not included or covered by this agreement: car enclosures, hoist way enclosures, car and landing door panels, surrounds and sills (including all finishes and external corrosion, wall panels, suspended ceilings, light diffusers, handrails, mirrors, carpets or flood coverings), hydraulic cylinders, plungers, buried piping, telephone, intercommunication systems, closed circuit television systems and power generated plants.
- 1.25 Contractor shall not be obliged to install any additional equipment to the installation which is recommended or required by insurance Companies, Government, and Provincial, Municipal or any other authority.

## **2. OBLIGATION OF THE OWNER:**

The Owner agrees and undertakes:

- 2.1 To ensure that at all times the installation will be used in a reasonable manner.
- 2.2 To advise the Contractor immediately if the installation becomes inoperative.
- 2.3 Not to authorize or allow any person other than the Contractor or their duly authorized employees or agents to carry out any work whatsoever on the installation during the currency of this Agreement, unless the prior written consent of the Contractor has first been obtained.
- 2.4 To immediately notify the Contractor of any injury or harm to any person or property resulting from the usage of the installation and shall supply to the Contractor all available relevant information concerning any incident.
- 2.5 To notify the Contractor of any change of ownership of the installation or any change of postal address.
- 2.6 To effect payment on due date thereof the amounts referred to in Clause 6.
- 2.7 To pay, in addition to the maintenance charge, any tax, fee or duty which may have been or which may at any future time be imposed by law in respect of the installation or the servicing thereof.
- 2.8 To ensure that the Contractor's workmen shall at all times have free and undisturbed access to the installation.

## **3. DISCLAIMER OF LIABILITY:**

- 3.1 It is agreed that the Contractor assume no liability for injuries or damage to persons or property unless it shall be proved that such loss, damage or injury was due directly to the Contractor's negligent acts or omissions. The Contractor shall not be liable for any loss, damage or delay caused by strikes, fire, explosion, thefts, flood, riot, civil commotion, war, nor for consequential loss or damage of any nature.

- 4.1 It is agreed that in the event of the Contractor being unable to perform any of its obligations in terms of this Agreement for any reason whatsoever beyond its control including, but without derogating from the a foregoing, sanctions imposed against the Republic of South Africa by foreign countries which preclude the supply of any technical assistance, refusal, inability or failure to supply the necessary spares, components or any other essential items, then the Contractor by mutual agreement between the Owner and the Contractor shall be entitled to cancel this Agreement giving 3 months written notice.
- In such event the Owner and the Contractor shall have no claim against each other of whatsoever nature arising out of this cancellation.

## 5. DURATION

- 5.1 This Agreement shall remain in force and effect for a period of 3 years commencing from the ..... day of ..... ..... 20... ..., (unless either Party hereto has given a three (3) month written notice to the other prior to the expiration of the aforesaid period to the contrary).
- 5.2 This Agreement is subject to annual review in order to ensure satisfactory service delivery in terms of this Agreement. The Contractor agrees to abide by the corrective recommendations of the annual review from time to time for the duration of this Agreement.
- 5.3 This Agreement is further subject to renewal for additional period by mutual consent between the Parties.

## 6. PAYMENT FOR SERVICES RENDERED

- 6.1 The Contractor will be entitled to payment in the amount of R..... per month, excluding Value Added Tax, in line with the Annexure hereto, payable in advance on the first day of each month for the duration of this Agreement.



## 7. PRICE ADJUSTMENT:

- 7.1 The service charge set out in Clause 5 will be increased or decreased annually in accordance with the provisions of the Escalation Clause 11 herein.

## 8. BREACH OF AGREEMENT

- 8.1 A Party shall be deemed to be in breach of this Agreement should the Party fail to comply with any material provisions of this Agreement.

- 8.2 The aggrieved Party shall be obliged to first attempt to settle the matter by way of consultation with the defaulting Party. If the consultation fails then the aggrieved Party shall promptly give the defaulting Party 14 (fourteen) days written notice to remedy the breach. If the defaulting Party fails to comply with such notice, the aggrieved Party may, without prejudice to any other's rights at law:

8.2.1 cancel this Agreement in the event of defaulting Party committing a material breach;

8.2.2 claim specific performance by the defaulting Party if such is a competent remedy in the circumstances;

8.2.3 claim damages suffered.

## 9. DISPUTE RESOLUTION

- 9.1 Should any dispute arise between the Parties in terms of the interpretation or application of the provisions of this Agreement or any matter affecting the rights or interests of the Parties in terms of this Agreement, the Parties shall be required to first attempt to resolve the dispute amicably between themselves through negotiations. If the dispute remains unresolved within 14 working days, then the dispute shall be referred to and determined by arbitration in terms of Arbitration Act, 196Li (Act No 42 of 1965) as amended.

## 10. ARBITRATION

- 10.1 The arbitration shall be held by an arbitrator or arbitrators agreed to by the Parties.
- 10.2 In the event of the Parties failing to reach consensus on an arbitrator, the President of the Council: KwaZulu-Natal Law Society shall appoint an impartial arbitrator with necessary expertise to resolve such dispute.
- 10.3 The Parties irrevocably agree that the decision of the arbitrator shall, in the absence of manifest error:
- 10.3.1 be binding on them.
- 10.3.2 be carried into effect.
- 10.3.3 be capable of being made an Order of any Court of competent jurisdiction.
- 10.4 The arbitrator shall determine, inter alia, which Party shall pay the costs of and incidental to the arbitration or, if each is to contribute, the ratio of their respective contributions.
- 10.5 The provisions of Clause 9 shall not operate to prevent either Party from seeking urgent interim relief from the High Court, pending.

## 11. FORCE MAJEURE

- 11.1 Delay or failure to comply with or breach of any of the terms and conditions of this Agreement if occasioned by or resulting from an act of God or public enemy, fire, explosion, earthquake, perils of the sea, flood, storm or other adverse weather conditions, war declared or undeclared, civil war, revolution, civil commotion or other civil strife, riot, strikes, blockade, embargo, sanctions, epidemics, act of a Government or other authority, compliance with Government orders, demands or regulations, or any circumstances of like or different nature beyond the reasonable control of the Party so failing, shall not be deemed to be a breach of this Agreement nor shall it subject either Party to any liability to the other.

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- 11.2 Should either Party be prevented from carrying out its contractual obligations by *force majeure*, lasting continuously for a period of 6 (six) months, the Parties shall consult with each other regarding the future implementation of this Agreement.

## 12. SERVICE CHARGE ESCALATION:

12.1 The service charge set out in Clause 6 is based on:

12.1.1 A Labour content of 75% on the straight time hourly labour cost.

12.1.2 A material content of 25% based on the Wholesale Commodity Price index for Electrical Machinery as published by the South African Department of Statistics from time to time, of (INDICY)  
... .. for the month of ... ..

12.2 The service charge shall be increased or decreased with effect from **August** each year proportionately to the respective increases or decreases in such labour content and/or material content cost as at such date.

12.3 In this provision, the phrase "straight time hourly labour cost" means the sum of the minimum hourly rate payable to a lift mechanic in terms of the agreement between the employers engaged in the Lift Engineering Industry of South Africa on the one part and employees in the employ of the employers represented by the S.A. Electrical Workers' Association on the other part and the average hourly cost of fringe benefits payable in respect of such employees.

12.4 The phrase “fringe benefits” means payment made in terms of the Industrial agreements, National and Provincial legislation of the Republic of South Africa and includes, but is not limited to, Vacations, Holidays Bonuses, Paid Public Holidays, Sick Pay Funds, Group Life and Provident Funds.

12.5 The straight time hourly labour cost (one mechanic for one hour) applicable to this Agreement in terms of the minimum rates referred to above is ..... of which ... ..constitutes the cost of fringe benefits.

### 13. GENERAL

13.1 No Party shall, without the prior written consent of the other, cede or assign any of its rights or obligations in terms of this Agreement.

13.2 This Agreement constitutes the whole agreement between the Parties.

13.3 No Party may be bound by any express or implied term, representation, warranty, promise or the like not recorded herein or otherwise created by operation of law.

13.4 No alteration, variation of or amendment to this Agreement, including this Clause, shall be of any force and effect unless it is reduced to writing and signed by the Parties.

13.5 No indulgence or leniency, which either Party may grant or show the other shall in any way prejudice or preclude the granting Party from exercising any of its rights in the future.

13.6 If any provision in this Agreement is deemed invalid or illegal or unenforceable such provision is to be construed in isolation and shall not affect any other provision or provisions in this Agreement.

13.7 The Parties acknowledge that they are subject to compliance with all applicable laws and regulations that govern construction/ building industry in the Republic of South Africa, and the provisions of this Agreement shall be interpreted as such.

14. DOMICILIUM CITANDI ET EXECUTANDI.

14.1 Any notice or communication in terms of this Agreement shall be delivered to the physical addresses of the Parties, or shall be sent by registered post to the postal addresses of the Parties. Any such notice shall be deemed to have been received by the Party to whom it is addressed or delivered when receipt thereof is acknowledged by means of a signed delivery receipt.

14.2 The Contractor chooses for the purpose of this Agreement its *domicilium citandi et executandi* as follows:

Physical Address:

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Postal Address:

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- 14.3 The Owner chooses for the purpose of this Agreement its *domicilium citandi et executandi* as follows:

Physical Address: KwaZulu-Natal Department of Health  
Natalia Building  
330 Langalibalele Street  
PIETERMARITZBURG  
3201

Postal Address: KwaZulu-Natal Department of Health  
Private Bag X9051  
PIETERMARITZBURG  
3200

15. COSTS

Each Party shall bear its own costs in the negotiation, preparation and finalization of this Agreement.

16. SCHEDULE OF RATES

15.1. MONTHLY SERVICES RATES							
INSTITUTION:							
No.	Old Lift No.	New Lift No.	Level	Contract St 't Date	Service Rate	Inspections	Total Monthly
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
TOTALS							

<b>15.2. SCHEDULE OF RATES EXCLUDED FROM THE CONTRACTS</b>	
<p>TECHNICIAN &amp; ASSISTANT NORMAL TIME PER HOUR</p> <p>TECHNICIAN &amp; ASSISTANT OVERTIME MON. TO SAT. PER HOUR</p> <p>TECHNICIAN &amp; ASSISTANT SUNDAY'S &amp; PUBLIC HOLIDAYS PER HOUR</p> <p>TRAVELLING RATE PER KILOMETRE</p> <p>HANDLING CHARGE OF MATERIAL</p> <p>HOTEL ACCOMODATION IF REQUIRED WILL BE CHARGED AT THE PRESENT STANDARD HOTEL RATES</p> <p>NB: THE ABOVE PRICES ARE NOT FIXED AND WILL BE EFFECTED BY LABOUR AND TRANSPORT COSTS.</p>	

**SIGNED AT** \_\_\_\_\_ on the \_\_\_\_\_ day of \_\_\_\_\_  
20.....

**AS WITNESSES**

**FOR AND ON BEHALF OF THE CONTRACTOR**

1. \_\_\_\_\_ (Signature)

By \_\_\_\_\_ (Signature)

\_\_\_\_\_ (Print name)

By \_\_\_\_\_ (Full Names)

2. \_\_\_\_\_ (Signature)

\_\_\_\_\_(Capacity)  
duly authorized hereto.

\_\_\_\_\_ (Print name)



SIGNED AT \_\_\_\_\_ on the \_\_\_\_\_ day of  
20.....

AS WITNESSES

DEPARTMENT OF HEALTH KWAZULU-  
NATAL

1. \_\_\_\_\_ (Signature)

By \_\_\_\_\_ (signature)

Head of Department for and on behalf of  
Department of Health KwaZulu-Natal or his  
Assignee.

Print name

2. \_\_\_\_\_ (Signature)

Printname

\_\_\_\_\_  
Print Name of Assignee

\_\_\_\_\_  
Signature of Assignee

\_\_\_\_\_  
Capacity

