

SECTION 14 20 00: ELEVATORS

1. GENERAL

- A. Products and components to be provided by:
- Kone
 - Otis
 - Schindler
- B. Third party non-installer manufacturers:
- GAL Corporation: door equipment and controllers
 - Hollister Whitney
 - Imperial Electric
 - Titan
 - Motion Control Engineering
 - Smart Rise
 - Monitor Elevator Fixtures
- C. Warranty and Service Agreement:
1. Provide new elevator installations with a minimum 12-month warranty and service period after date of acceptance. Include all required monthly elevator preventative maintenance visits, parts replacements, and trouble calls. Also, include required annual State elevator inspections and testing as a part of this warranty service as well as the annual load test prior to the expiration of the warranty.
 2. During the warranty period, elevator service provider shall provide, at a minimum, monthly documented Preventive Maintenance (PM) services. Scheduling shall be coordinated with Brown University prior to each service visit. Documentation shall be provided to Brown University in acceptable electronic format.
 3. During the warranty period, the elevator contractor shall provide emergency service on a (24) hour basis, with a response time of 60 minutes or less in the case of entrapments, or two hours or less for other emergencies. In the event that a qualified mechanic is not available within these timeframes, then the first response of the University's qualified elevator service technician shall not void any warranty terms and the elevator contractor shall be liable for related repair expenses.
 4. Provide a separate proposal for an extended 24-month service contract which terms shall be negotiated by Brown and the elevator contractor.
 5. Both the base warranty period and the extended warranty shall include all overtime service call costs

2. SYSTEM DESIGN & PERFORMANCE REQUIREMENTS

- A. Contractor to provide all levels of codes and/or passwords to gain access to the elevator control system for the complete adjusting, diagnosing (to recall faults), troubleshooting, etc. of each unit; information also to be provided on a flash drive.
- B. For micro-processor-based elevator controls, provide a microprocessor control testing device, tool or maintenance terminal required for service and diagnostics. The device will:
1. Have the highest possible level (all levels) password access to allow for troubleshooting, system adjustment/modification, and maintenance to the particular type of installed elevator controls.

2. Be the sole property of the owner and of the non-self-destructible and/or of the non-self-changeable type. The device will not be leased, borrowed or returned to the manufacturer. Any need to re-calibrate, replace with a newer version, adjust and/or modify the device in any way will be provided to Brown University by the elevator contractor at no additional cost during the warranty period.
 3. Any replacement or newer unit will be delivered to Brown University within three (3) working (business) days of a written notice from Brown University. The unit must come with complete instructions and operating techniques required to operate and access all functions of the device.
- C. Provide hydraulic elevator pits with sump pit only—no pumps or drains.
- D. Hydraulic Elevators:
1. Piston will be of the single acting, plunger-cylinder hydraulic unit type
 2. Minimum speed of 125 fpm
 3. Biodegradable oil
 4. Well hole & casing:
 - Outer casing: steel, minimum of 18" diameter with welded, waterproof bottom
 - Sleeve: schedule 40 PVC, watertight sleeve over jacket cylinder
 - Fill void between PVC sleeve and steel casing with sand
 5. Hole-less hydraulic units are acceptable up to four landings
- E. Electric Traction Elevators:
1. Geared traction type for speeds up to 400 fpm; manufactured by Hollister Whitney Corp.
 2. Gearless traction type for speeds of 400 fpm and greater; manufactured by Hollister Whitney Corp. and Imperial Electric
 3. Minimum speed of 200 fpm
- F. Provide heavy duty automatic door openers with the following:
1. Direct current or variable frequency, variable voltage, AC motors
 2. Nudging feature
 3. Minimum 40-beam, infrared, non-contact door reversing system
- G. Signals:
1. Submit call button signage to Brown FM for review
 2. Position indicators in the car and corridor or lobby at level of discharge
 3. Both visual audible signal and verbal announcement are required for accessibility standards
- H. Cab to be of sound, insulated steel shell construction, with sub flooring of metal or two layers of marine plywood. Interior cab walls must be reinforced to reduce deflection and noise.
- I. Provide cab components that are designed to be tamper-proof to prevent or minimize unsafe conditions or inconvenience attributable to vandalism or deliberate tampering.
- J. Car sills should be of a design to withstand the capacity of the elevator.

- K. Each elevator to be provided with a dedicated emergency phone. Phones to be wired and configured to dial five digits: 34111. This programming will ensure that calls will ring into the Brown Department of Public Safety Dispatch Center.
- L. Provide mounting clips and removable wall blankets for each installed elevator.
- M. Where building Emergency power, such as an emergency generator or central lighting inverter is installed, connect dedicated emergency circuit for car emergency lighting and emergency call bell.
- N. Where no central building emergency system is installed, provide each car with a dedicated emergency lighting battery unit.
- O. Power supply: Brown Preference is to power elevators from standby / legally-required power source where available. Otherwise, provide each elevator with an emergency "Power Down" feature that will allow elevator to travel to the ground floor / discharge level and open the doors in the event of an elevator power outage.
- P. Machine-Room-Less Elevators
 - 1. Controllers for "machine-room-less" elevators shall be located in a dedicated, fire-rated space adjacent to the elevator shaft: controllers located within the shaft are not acceptable. Access doors to the Controller space shall be lockable per the University keying protocol.
 - 2. Elevator Electrical service disconnect switches for "machine-room less" elevators shall be housed in the elevator Controller space.
- Q. Labeling and Signage:
 - 1. Provide engraved labels, with contrasting letters and backgrounds, minimum 1" high lettering, on elevator Machine Room doors, Control Room doors and access locations housing elevator controllers and service disconnects.
 - 2. Provide engraved signage at elevator controllers denoting the room location of service disconnects if they are located remote from the controller locations.
 - 3. Main Floor Signage: Provide a permanent sign mounted on the head jamb of the main floor elevator entrance to read: "MRL-CONTROL SPACE LOCATED in Room XXX". The letter size shall a minimum of 1 " with letters of contrasting color to the background.
 - 4. Submit sign templates to Brown for Review and approval prior to installation.
- R. Access Control shall be coordinated with Brown University's Department of Public Safety and their vendor of record.

3. O&M MANUALS AND PROJECT TURNOVER REQUIREMENTS

- A. Provide a signed affidavit upon completion by the elevator manufacturer that all equipment installed is non-proprietary and all the documentation, codes, technical support (via phone and/or on-site) and service tools are available to any elevator contractor and have been turned over to Brown University.
- B. Provide two (2) sets of the following. Information is also to be provided on a flash drive.
 - 1. Prints
 - 2. Service manuals
 - 3. Wiring diagrams
 - 4. Interface tools, and any other information needed to troubleshoot
- C. Service manual Information is required for, but not limited to, the specific models of the controller, door operator, hoist machine, hoist motor, drive unit, and roller guides. Include serial number of each elevator control, operating and drive board. Service manuals shall include the specific maintenance, troubleshooting and testing requirements for the installed elevator equipment.
- D. Provide a backup of all final operating software on a flash drive for each elevator installed.
- E. Provide one (1) set of required maintenance hardware, such as keyboards or any other tool or device, for each elevator.
- F. Install one (1) set of laminated, job specific wiring diagrams in the elevator machine room or controller location. The laminated set to contain a metal grommet in the upper-left corner of each laminated page and a metal clip to hold all the laminated pages together.
- G. Provide one (1) set of complete replacement boards, job specific preprogrammed EPROMS, PROK, EEPROMS, device program tapes, disks, etc., for the elevator microprocessor control and operating system, including SCR drive boards. If any changes are made to the programming of any elevator, a new complete set of the aforementioned device will be provided and the former devices will be returned to the manufacturer.

END OF SECTION