

140000 - CONVEYING SYSTEMS

I. DESIGN

- A. All elevator equipment shall be “non-proprietary” equipment. Non-proprietary is defined as equipment generally available for purchase by any qualified elevator contracting business, with spare parts available to any qualified purchaser, all equipment or tools necessary for diagnostics/maintenance/adjustment/troubleshooting shall be available to any qualified contractor. Additionally, replacement documentation shall be available to any qualified elevator contractor at a fair and reasonable cost.
- B. A machine room will need to be incorporated into the design, regardless of any space constraints within the building or structure footprint. Use of Machine-Room-Less (MRL) Elevators or other similar conveyance technologies, must be approved in writing by BDCD Project Manager with written concurrence from FMD.
- C. All service tools, programmers, computers, software chips, etc., necessary to maintain service and/or troubleshoot the elevator system shall be furnished to the County and shall be permanently left on the job site. This hardware and software shall not have any time limits or expiration dates set on them. The elevator equipment shall not require any external proprietary service tool(s). A minimum of three copies of all instruction manuals for these tools, programmers, etc. are to be provided to the County.
- D. Copies of all technicians’ manuals, wiring diagrams, training materials, etc. for all elevator components shall be furnished to the County for each model of elevator. A minimum of three copies shall be provided for the main bank of elevators of each model, and one more copy for each additional elevator in the building.
- E. All large multi-story buildings shall have a designated “Freight Elevator” with direct and convenient access to a loading dock or freight entrance. The exact requirements for elevators will be determined during the Programming and Conceptual Design phases.
- F. A full, two-year warranty for labor, parts, and materials shall be provided for elevators from date of substantial completion. The installer shall provide full maintenance service and inspections during the two-year warranty period for elevators.
- G. Provide sump pit and pump in elevator pits as required by elevator code (ASME A17.1) Provide pumping mechanism which prevents oil in elevator pit from being pumped out, as required by code.
- H. Provide vandal resistant fixtures and push buttons with directional symbol for all elevator hall station panels and car operating panels.
- I. For garage elevators provide water resistant components in areas that are not temperature controlled, to include hall station panels, car operating panels, infra-red door edges/light

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screens, position indicators, hall and car lanterns, pit stop switches, hoistway limit switches, interlocks, leveling selector, stainless steel or galvanized selector tape, car top inspection station, car door operating equipment and emergency phones.

- J. For garage elevators, to resist corrosion use Type 316 stainless steel or galvanized for car doors, hoistway doors, door bucks, car door operating equipment and fixtures. Use minimum 16 gauge stainless steel or galvanized.
- K. Fire service key switches for all elevators in a building, including additions to existing buildings, shall be operable by the same FEOK1 key as required by elevator code.
- L. Shunt trip disconnect shall be used in elevator machine room, not panel board, per code requirements.
- M. Provide protective cages for light fixtures in elevator machine rooms.
- N. Contractor is responsible to provide, install, and wire the emergency elevator phone.
- O. Any surfaces that project out into the elevator shaft must be angled from the wall surface down. No flat surfaces in the horizontal plane are allowed in the shaft.
- P. Specifications shall require that the contractor comply with County (Facilities Management Department) maintenance protocol for all maintenance and inspection work performed.
- Q. Specifications shall require the use of energy efficient AC motor technology for elevator motors.
- R. In buildings with more than one elevator, escalator, or lift each piece of equipment shall be assigned a unique identification number as required by elevator code ASME A17.1. When adding an elevator, escalator or lift to an existing building, or when adding equipment in a new wing of an existing building, the new identification numbers shall start at a number higher than the existing numbers (do not start over at #1).
- S. Elevator penthouse and/or roof top access shall be limited by key and/or access control card. A method to override the access card or key switch shall be provided to allow unrestricted access during special projects or events.
- T. All lighting in elevator cabs, machine rooms, and pits shall be energy efficient LED fixtures. Elevator illumination shall meet requirements specified in Section 2.14 of ASME A17.1.

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- U. Elevator doors must be double-sided, not single-sided. Door hangers must be separate components from the doors, and not be an integral part of the doors. All elevator anti evacuation devices on car doors are to be collapsible vane type.
- V. Accessible Design
 - 1. Evaluate use of verbal communications in lieu of chimes within elevators. Provide required ADA brail.
- W. Escalators shall be provided with on-board or built-in diagnostic service tools. All service tools, programmers, computers, software chips, etc. necessary to maintain, service, and or troubleshoot the escalators shall be furnished to the County and permanently left on the job site. This hardware and software shall not have any time limits or expiration dates set on them. A minimum of three copies of all instruction manuals for these tools, programmers, etc. are to be provided to the County.
- X. A full, two-year warranty for labor, parts, and materials shall be provided for escalators. The installer shall provide full maintenance service and inspections, during the two-year warranty period for escalators.
- Y. Any other conveying systems (wheelchair lifts, dumbwaiters, materials lifts, etc.) shall have a full, two-year warranty for labor, parts, and materials. Other conveying systems shall include full maintenance and inspections by the installer during the two-year warranty period.
- Z. Copies of all technicians' manuals, wiring diagrams, training materials, maintenance manuals and procedures, etc. shall be furnished to the County for each model of conveying system. A minimum of three bound hard copies and two electronic (CDR or DVD) copies shall be provided.

II. PRODUCTS

A. Conveying Systems

- 1. Elevator Suppliers (elevator and all components shall be non-proprietary):
 - a. Delaware Elevator Inc.
 - b. MEI
 - c. Canton Elevators Inc.
 - d. no substitutions/no equal products
- 2. Elevator Components (all components shall be non-proprietary):
 - a. Elevator Motors, Traction Machines, Governors:
 - i. Hollister-Whitney

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- ii. MEI
- iii. or FMD approved equal

- b. Controllers:
 - i. Motion Control Engineering (MCE)
 - ii. Smartrise
 - iii. GAL Manufacturing
 - iv. no substitutions/no equal products

- c. Hydraulic Pumps:
 - i. Allweiler (basis of design)
 - ii. EECO
 - iii. IMO
 - iv. no substitutions/no equal products

- d. Sump Pumps:
 - i. Zoeller Oil Smart System
 - ii. Seewater Oil Smart System
 - iii. Stancor Elevator Oil-Minder Control System
 - iv. Or product approved by the Fairfax County LDS Plan Review and Inspections Division

- e. Oil Alert System:
 - i. Dorlen Oil-Alert Liquid Leak Detector
 - ii. or product approved by the Fairfax County LDS Plan Review and Inspections Division

- f. Hydraulic Valves:
 - i. Maxton (basis of design)
 - ii. Blain
 - iii. EECO
 - iv. no substitutions/no equal products

- g. Fixtures:
 - i. Innovation (basis of design)
 - ii. GAL
 - iii. EPCO
 - iv. Monitor (Janus)
 - v. C.J. Anderson
 - vi. no substitutions/no equal products