

## **ADDENDUM #4**

**(Effective date: April 8, 2016)**

This addendum forms a part of the FSU Design Guidelines & Specifications and modifies the current edition, posted effective August 2012. Projects beginning design after August 2012 shall be required to comply with the Guidelines and any Addendums in effect at the time of design start. Projects in design, but not completed, prior to the effective date of Addendum #4 shall be reviewed by Facilities to determine whether compliance with Addendum #4 shall be required.

### **General Planning and Design Data**

**A4-1 ADD** to existing “General Planning and Design Guidelines – Site Management During Construction”: Exploratory methods, such as surveys, test borings, and scans, utilized to plan and construct projects shall not apply permanent marking materials to existing hardscape or building construction. Spray paints should not be used due to the inability to clean surfaces. Consultants or contractors using marking materials shall be required to remove all markings and return surfaces to unmarred condition at the completion of their work. Suggested alternative markings include spray chalk, tape, and flagging. These should, also, be removed at the completion of work.

### **Technical Construction Specifications**

**A4-2 DELETE** Existing “Division 14 - Conveying Systems, Elevators”. **ADD:** new Division 14 – Conveying Systems, Elevators, Chairlifts and Dumbwaiters”.

**A4-3 CLARIFICATION** Division 15000 – MECHANICAL UTILITIES AND EQUIPMENT, Part 2- Plumbing, 2.3 – Heating and Steam: The campus standard for steam traps is TLV free float ball traps. These traps should be insulated. Due to the need for annual trap testing, the insulation should be removable. FSU Utilities prefers a removable insulated pad with attached Velcro fasteners. If this insulation method is not feasible, an insulation system which does not require special tools or fabricated connections should be provided at the trap. Renovation projects involving existing steam traps should review the requirement for insulation with FSU Utilities.

**--End of Addendum No. 4--**

**DIVISION 14 – ELEVATORS, CHAIR LIFTS AND DUMBWAITERS  
IT IS RECOMMENDED THAT THE ELEVATOR SHOP OR CONSULTANT BE  
RETAINED TO ASSIST WITH ALL ELEVATOR, DUMBWAITER AND  
CHAIRLIFT SPECIFICATIONS AND DESIGNS.**

**HANDICAP REQUIREMENTS**

Elevators and Chairlifts shall be handicapped barrier free in accordance with design standards of the National Elevator Industry, Inc. ANSI A- 117.1 and ADA Standards.

**ELEVATOR MANUFACTURER AND CONTRACTOR REQUIREMENTS AND  
QUALIFICATIONS:**

**ONLY APPROVED NON-PROPRIETARY EQUIPMENT ALLOWED**

An approved manufacturer regularly engaged in manufacturing elevator equipment of the type required for this project.

The manufacturer or authorized agent of an elevator equipment manufacturer with not less than ten (10) years of satisfactory experience installing and servicing elevator equipment equal in character and performance to the project elevator. Any welding on the site must be performed by personnel who have successfully passed an American Welding Society authorized test and whose welding work has been judged by a natural person who is fully authorized to do so by the American Welding Society. The authorized person who evaluates the welding must sign the certificate signifying applicant has passed required tests. No substitutions will be permitted. All elevator equipment is to be field painted with an approved enamel based paint upon completion of elevator

The Installation Contractor must submit catalogs and show evidence that all required parts are kept in inventory within ten (10) miles of the elevator installation. The Installation Contractor must certify that he/she has a Service Office with full time employees within ten (10) miles of the project site.

The Elevator Contractor is responsible for the expenses of a QEI Certified Elevator Inspector **not employed** by the installing Contractor to witness all testing of the equipment. A Copy of the testing report must be turned over to the Owner and to the Elevator Contract Administrator for the University. The cost of all elevator inspections and certificates are to be paid for by the Contractor. **Follow-up inspections required due to ‘owner’ violations shall be paid by the Owner.**

**I. ELEVATOR MAINTENANCE**

Elevator maintenance and warranty on new and/or up-graded elevators shall be for a period of 24 months after acceptance. The maintenance during this period shall be held to the standards of the existing maintenance agreement.

**II. ELEVATOR PIT AND HOISTWAYS**

- The elevator pit area shall be painted with a high gloss, deck grey enamel.
- Sump holes to be installed per code in effect at time of installation.
- Conduit and Lighting Fixtures in Pit are to be installed for WET conditions.

### **III. ELEVATOR MECHANICAL ROOM**

- The elevator machine room shall be sized for the equipment to be used. The room shall be heated and cooled with a thermostat located in the machine room. Machine room shall meet all applicable code requirements. The elevator machine room floors must be painted with two (2) coats of highest quality oil based light gray color gloss floor and deck enamel.
- All elevator machine room doors must be self-closing, self-locking, requiring a key to open. Door must meet elevator and building code requirements.
- Elevator Machinery room must have ample lighting and must meet building and elevator code requirements. Overhead lighting to be fluorescent or LED Equivalent with proper guarding in place.
- Stairways and Ladders are to conform to current O.S.H.A. Standards.
- Access to elevator mechanical rooms across roof shall have steps or ramps with metal railing built over pipes or other obstructions.
- All Electrical disconnects, fusing and receptacles shall be installed following all Codes enforced at time of installation.
- All hoist way vents shall be installed following all Codes enforced at time of installation.
- Elevator machine rooms shall not be located adjacent to classrooms and other noise sensitive spaces without thorough consideration to noise transmission to these spaces.

### **IV. PAINTING OF EQUIPMENT**

- Elevator equipment shall be field painted with the exception of Stainless Steel and the machined surfaces of the guide rail assemblies, hydraulic buffers, and/or hydraulic cylinders.

### **V. TROUBLESHOOTING AND DIAGNOSTIC EQUIPMENT**

- All elevator specific tools, adjustment and maintenance data, wiring diagrams, diagnostic equipment, and computer systems specific to the elevators are to be the property of the Owner and shall not be removed from the premises under any circumstances without the written permission of the Owner.
- Elevator Contractor shall provide four (4) copies of typewritten or professionally printed, elevator serial number specific installation, adjustment and troubleshooting instructions, to be used in maintaining and repairing all new, up-graded or renovated elevators or group elevator systems.
- Elevator Contractor shall provide four (4) copies of the elevator serial number specific, as built, electrical wiring diagrams, designed with point to point wiring or circuit connections. Additionally, provide one (1) complete set of the same high quality wiring diagrams, laminated with heavy gauge clear plastic, and designed to be hung on sturdy wall bracket(s)

in the elevator machine room(s).

- Elevator Contractor shall provide serial number specific parts catalog upon request of the owner. This catalog is to be maintained and updated by the Contractor.
- Elevator Contractor shall have the right to furnish either; (a) board-mounted computers or (b) hand held diagnostic devices, or similar portable computer or hand held devices that can be disconnected from the elevator electrical controller and door operator controller systems. Either design is acceptable so long as the required maintenance and adjustment information, diagnostic functions, equipment operation, equipment performance and troubleshooting activities can be performed without unnecessary delays, and the same performance results can be anticipated.
- The Elevator Contractor must provide a notarized letter with his bid that states that, if he receives the contract to perform the elevator work, the Elevator Contractor shall provide all of the required installation and adjustment information, computer devices or service tools, data, instructions, diagrams, parts lists and related information at the time the project is completed.
- All required information, data, diagrams, instructions and related materials shall be provided in heavy duty, oversize type, three (3) ring binders, properly identified with the project name, locations, elevator serial numbers, building elevator numbers and related information. If information is in electronic format, a secure file sharing device must be furnished and provided by the Contractor.

## **VI. REPLACEMENT PARTS**

- All of the major parts utilized in new or up-graded elevators must be manufactured in North America, and the elevator manufacturer must have a documented quality assurance program. Only new parts or components shall be accepted. The installer shall not use rebuilt, used or reconditioned equipment or parts on any new elevators or up-graded elevators. The only used equipment allowed are existing components that are specified to be retained during an elevator up-grade contract. None of the parts or equipment removed from the project shall be used elsewhere on the Florida State University Campus, unless otherwise noted by the Owner.
- The Elevator Contractor, and Elevator Manufacturer, if not the same company, must provide a notarized letter at the time the elevator work project is bid stating that all necessary replacement parts, supplies and related equipment, necessary to maintain, repair and service the elevator equipment will be promptly sold, without delays, directly to the Owner, or to the Elevator Contractor who maintains the elevator equipment on behalf of the Owner without the necessity of the replacement parts being initially purchased by the Owner. The letter must be signed by an executive officer of the Elevator Contractor.

## **VII. DOOR OPERATORS**

- Elevator Door Operators must be highest quality, heavy duty type, with closed-loop type Microprocessor digital control system.

### **VIII. LANDING STATIONS**

- Push button stations located at each landing shall be vandal resistant, stainless steel buttons with flush jewels in the center that indicates that the call has been registered. See job specifications for hall riser configuration requirements.

### **IX. FIREMAN'S PHONE AND RECALL**

- Fireman's phone jack shall be neatly incorporated where required and must comply with governing code. Elevator fire recall switches shall conform to code requirement at time of installation.

### **X. HYDRAULIC ELEVATORS**

NOTE: ALL HYDRAULIC ELEVATORS MUST BE INSTALLED ACCORDING TO ALL CODES AT THE TIME OF INSTALLATION.

- Hydraulic Elevators are to be installed when travel is less than fifty (50) feet in rise. MRL Hydraulic Elevators are not permitted to be installed unless express written permission is granted. Elevators not on Emergency Generator must be on a Battery Lowering System. All hydraulic elevators will be installed with an oil recovery system that automatically returns the fluid back to the main reservoir.
- The hydraulic cylinder assembly must be electrically isolated from the elevator and protected against electrolysis.
- The oil pressure supply line shall be insulated from the building structure, walls, supports and all other contact points. Where the piping penetrates a wall, the piping shall be insulated with rubber materials at least 3/8" thick when compressed.
- The oil line shall be schedule 80 thickness, and all connection points shall be threaded. Protect all connections against leaks by use of threading compound.
- Hydraulic shut off valves are required at the machine room and pit areas. The oil line must be equipped with an effective muffler device that removes the hydraulic pump pulsations and noise before being transmitted to the hydraulic cylinder through the oil supply line.
- Standard Elevator Grade Hydraulic Fluid is permitted for use. **Vegetable based oils are not permitted for use.** Synthetic/Biodegradable oils may be approved on a case by case basis, provided that adequate testing and results have been proven effective without causing long term damage to equipment or pose health risks. Install a large data plate on the power unit identifying the oil that has been installed in the system.

### **XI. HOLE LESS EQUIPMENT**

- If Hole-less style elevators are approved for installation, sound and vibration isolation must be installed and provided by the Contractor. All efforts shall be made to reduce vibration and noise. All other hydraulic elevator installation requirements apply.

## **XII. TRACTION ELEVATOR**

**NOTE: ALL TRACTION ELEVATORS MUST BE INSTALLED ACCORDING TO ALL CODES AT THE TIME OF INSTALLATION.**

- All elevator driving machines and elevator controller equipment must be installed in a machinery room separate from the hoist way area. No MRL style traction elevators shall be permitted for installation. **All Equipment shall be non-proprietary in nature.**
- All new or up-graded geared traction driving machines must have full synthetic gear oil of the proper viscosity according to the machine manufacturer's recommendation.
- All traction elevator equipment shall be of the latest proven design and comply with all codes in effect at time of installation.

## **XIII. CAB ASSEMBLY**

The Elevator Cab's for new or up-graded elevators must have hinged, swing type front return panels to contain all of the operating devices, stainless steel vandal resistant buttons, indicators, standard size certificate holder, emergency phone (furnished by OTC), handicapped markings and other devices. **NO SEPARATE COVER PLATES FOR CAR OPERATING STATION WILL BE ALLOWED.**

- High cabs shall be provided unless noted.
- Owner to approve cab interior design prior to installation.
- Provide a complete set of protection pads and stainless steel protection pad buttons on each panel and on front return panel. Install the pad buttons to prevent easy removal.
- Elevator Cab's floor shall be of resilient floor tile or vinyl sheeting. **Carpeting shall not be used.** Diamond plate of Stain-less steel material shall be used in special areas.
- All mounting must be from the rear to provide neat and vandal resistant panel. All information is to be engraved into panel. No plates or covers shall be attached from the front of the panel.
- Front return panels must have heavy hinges, and vandal resistant locking devices.
- The car operating panel shall contain all buttons and operating devices require by A17.1. Any other switches such as car lights, exhaust blower, Independent service, etc. shall be located in a separate cabinet with a locked, hinged door. All stainless steel in elevator cabs for dormitories shall be 14 gauge, Type 316L stainless steel, except when heavier gauges are required for the application.
- Cab ceilings for passenger elevators must contain LED lighting with vandal resistant security rings and electronic dimmers. Finish shall be stainless steel.
- All elevators must have cab emergency lights and alarm system that will illuminate a portion of the normal cab lighting fixtures for at least four (4) hours. LED emergency lighting in Car

Operating Panel is also acceptable on a case by case basis.

**XIV. ELEVATOR PHONE**

- Elevator emergency phones are to be installed in accordance with all applicable codes. Programming and Wiring connections shall be accomplished by OTC.

**XV. FREIGHT ELEVATORS**

NOTE: ALL FREIGHT ELEVATORS MUST BE INSTALLED ACCORDING ALL CODES AT THE TIME OF INSTALLATION.

- Freight elevators shall be located in close proximity to docks and service area. They shall go to each floor and be of sufficient size to accommodate large equipment.

**XVI. CHAIRLIFTS**

NOTE: ALL CHAIRLIFTS INSTALLED ACCORDING ALL CODES AT THE TIME OF INSTALLATION.

- Any chairlift being placed outside of building must be manufactured to withstand WET conditions and be placed in surroundings to protect from ALL weather conditions.

**XVII. DUMBWAITER**

NOTE: ALL DUMBWAITERS MUST BE INSTALLED ACCORDING ALL CODES AT THE TIME OF INSTALLATION.

- The Dumbwaiter Car shall be constructed in Stainless Steel, including the Bi-parting car gate. Car shall have a least one (1) Stainless Steel Shelf. Hoistway Doors, Hoistway Frames and Door Seals shall be Stainless Steel.

**XVIII. APPROVED MANUFACTURERS**

- Approved Elevator Manufacturers:
  - ThyssenKrupp Elevator Corporation
  - Otis Elevator Company
  - Schindler Elevator Company
  - KONE Elevator Company
- Closed-Loop Door Operator Equipment
  - OTIS AT400
  - ECI
  - GAL MOVFR II
- Micro-Processor and Car/Group Control Equipment
  - Motion Control Engineering and Elevator Controls Corp.
  - Elevator Controls Co. (submit type and use prior to approval)

- GAL Galaxy
  - Approved elevator manufacturers' non-proprietary equipment (with written approval only)
- Motor Drive Systems for Elevator Machine Motors
  - OEM (TKE, OTIS, Schindler, KONE)
  - Yaskawa/Magnetek
  - Approved Equal (written approval only)
- Hoisting Machine Motors Only
  - General Electric
  - Imperial Electric
  - Rueland Electric
  - Approved Equal
- Elevator Hoisting Machines and Deflector Sheaves
  - Hollister – Whitney Elevator Corp.
  - Titan Machine Corp.
  - Approved Equal
- Rope Gripper for Traction Machines
  - Hollister – Whitney Elevator Corp.
  - Approved Equal
- Hydraulic Fluid
  - Elevator Grade Petroleum based
  - Synthetic/Biodegradable (upon approval only)
- Pump Motor
  - General Electric
  - Imperial Electric
  - Magnetek
  - ThyssenKrupp
  - Approved Equal
- Hydraulic Pump
  - Allweiler
  - IMO
  - Approved Equal
- Oil Control Valves
  - Maxton
  - EECO
  - ThyssenKrupp I-2
  - Approved Equal
- Hydraulic Cylinders
  - EECO
  - United
  - CEMCO
  - Approved Equal
- Pipe Rupture Valves
  - EECO
  - Approved Equal
- 3D Door Detector Devices
  - Janus Elevator Products (Monitor)
  - CEDES
  - Lambda
  - Tri-Tronics



- Approved Equal
- Car Emergency Lighting System
  - Elevator Products Corp.
  - Approved Equal
- Vandal Resistant Signal Fixtures
  - Innovation Industries
  - GAL
  - EPCO
  - TKE
  - Schindler
  - Otis
  - Approved Equal
- Battery Powered Automatic Lowering System
  - Reynolds and Reynolds
  - Electrodyne
  - GAL
  - Approved Equal
- Elevator Cab Materials
  - Gunderlin, Ltd.
  - Snap Cabs
  - H&B Elevators
  - Southeast Elevator
  - Approved Equal
- Elevator Hoistway Entrances and/or Hoistway Door Panels
  - Gunderlin, Ltd
  - Approved Equal
- Guide Shoes and Roller Guides
  - ELSCO
  - EECO
  - TKE
  - Hollister Whitney
  - Approved equal
- Paint & Coatings
  - Glidden
  - Sherwin-Williams
  - Approved equal
- Chairlift Manufacturers
  - Garaventa
  - Savaria
  - Porch Lift
  - Approved Equal
- Dumbwaiter Manufacturers
  - Atlas Elevator Co.
  - Matot Corp.
  - Approved equal
- Door Hanger and Interlock Equipment
  - GAL manufacturing
  - Approved equal

**XIX. APPROVED SUBSTITUTIONS:**

- Substitutions must, in the opinion of the Owner, Architect and Elevator Consultant, equal to, or exceed, the quality of the specified product.
- Where noted above, products manufactured by the list of Approved Elevator Manufacturers will be acceptable subject to complete compliance with the technical specifications written based on these general guidelines.
- Elevator Contractor may only substitute other manufacturers of Elevators Cabs and Elevator Hoistway entrance materials, subject to the following:
  - The Elevator Contractor must agree to an inspection by the Owner's Representative(s), Architect and Elevator Consultant (if used on project) of the Elevator Cabs and/or Elevator Hoistway Entrance materials at the factory after shop assembly, but prior to shipment to the project site.
  - Any deficiencies found after assembly at the factory shop must be corrected prior to shipment to the installation site. The Elevator Contractor shall schedule the shop inspection at least 20 days in advance of the physical inspection date to allow suitable arrangements to be made for inspection of the materials.
  - The substitution(s) must fully comply with the specifications contained herein, including design, quality of fabrication and fit, quality of materials and every other aspect of the specified products. The Elevator Contractor shall be responsible for all costs associated with correcting any deficiencies, or deviations from the specifications, caused by substitutions of material that is specified herein.
  - The Elevator Contractor shall be responsible for arranging for all travel time and costs of Architect and Elevator Consultant (if used on project) associated with visiting, or revisiting, the manufacturer's facilities to examine the work of any firm not on the approved bidders list. No extension of time in the completion schedule for the work will be granted as a result of the need to correct defects or deficiencies associated with the use of material substitutions.