



ideas taking shape

**H&SS Elevator Modernization
USCA Aiken
Aiken, South Carolina
McMillan Pazdan Smith Architecture Project No. 011077.00
OSE Project # H29-9542-JM**

September 12, 2013

ADDENDUM NO. 1

The following clarifications, amendments, additions, deletions, revisions, and/or modifications are hereby made a part of the Contract Documents and change the original documents only in the manner and to the extent stated below:

SPECIFICATIONS

- ITEM No. 1 Replace section 14 24 05 with the attached revised section. Revised section includes information regarding new interior finishes to the elevator cab.
- ITEM No. 2 Reference section 14 24 2.1 A. 5 approved substitute manufacturers. The following substitute manufacturers are approved:
- GAL Manufacturing
 - Unictec
 - Wright Elevator Solutions
- All parts are to be compatible with existing elevator OEM equipment.

End of Addendum No. 1
(This addendum contains 1 page plus attachments.)

SECTION 14 24 05 – ELEVATOR REPAIRS AND RESTORATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. General

1. This Section includes performing hydraulic elevator repairs and restoration as indicated on the Drawings, specified in this section and described in the Elevator Report. A copy of this Elevator Report is attached to this specification and becomes a part of the Contract Documents. The elevator that is a part of this Contract is located in the Humanities and Social Services Building
2. Completed work shall bring the elevator in this contract in compliance with existing governing codes and regulations of applicable governing authorities and shall qualify the elevator in this contract for the warranties described in this section of the Specifications.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 1 Section Cutting and Patching for repairs to disturbed surfaces.
2. Division 1 Section 01026 for Unit Pricing for excavation.
3. Division 2 Section "Selective Demolition" for selective demolition and removal of building and equipment elements and components to be removed.
4. Division 5 Section "Metal Fabrications" for miscellaneous steel framing and components
5. Division 9 Section "Painting" for field painting of hoistway entrances.
6. Division 15 for Mechanical Work
7. Division 16 for Electrical Work

1.3 DEFINITIONS

- A. Defective Elevator Work: Operation or control system failures; performances below specified ratings; excessive wear; unusual deterioration or aging of materials or finishes; unsafe conditions; the need for excessive maintenance; abnormal noise or vibration; and similar unusual, unexpected, and unsatisfactory conditions.
- B. The terms repairs, renovation, restorations, renewal, revisions, etc. whether used collectively or individually or separately, shall mean providing all materials, supplies, equipment, components, systems, and labor to complete work described in the Contract Documents, recommended or

required by the respective elevator manufactures, and that complies with governing authorities, codes, and regulations.

1.4 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.
- B. Product Data for products, material, components, and equipment to be used for repairs, upgrades, and rework and incorporated into the work for the elevator.
- C. Shop Drawings for the elevator showing extent of work and how it is to be performed.
- E. Updated maintenance manuals for the restored elevator, including new operation and maintenance instructions, parts listing with sources indicated, recommended parts inventory listing, emergency instructions, and similar information. Include all diagnostic and repair information available to manufacturer's and Installer's maintenance personnel. Submit for Owner's information at project closeout as specified in Division 1.
- F. Inspection and acceptance certificates and operating permits as required by governing authorities for normal, unrestricted elevator use.

1.5 QUALITY ASSURANCE

- A. Repair and Restoration Contractor Qualifications: Engage the elevator manufacturer or an experienced Installer that has completed elevator installations similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.
 - 1. Be experienced in repairing and restoring elevators of the type in this Contract
 - 2. Have a minimum 5 years' continuous experience in work required by this Contract.
 - 3. Be able to and perform all required work by own work forces.
 - 4. Submit a list of at least 5 successfully completed projects of comparable size, scope, and complexity. Show client, location, completion date, work performed, amount of contract, and contact person.
- B. Regulatory Requirements: In addition to local governing regulations, comply with the applicable provisions of the following:
 - 1. ASME A17.1, "Safety Code for Elevators and Escalators (2010)," referred to as the "Code" and CSA B44 "Safety Code For Elevators"
 - a. Seismic Zone: Comply with code and regulations requirements for governing authorities for applicable seismic classification/zone for this project.
 - 2. South Carolina LLR "Department of Labor Licensing and Regulation" Office of Elevator and Amusement Rides

1.6 WARRANTY

- A. General Warranty: The elevator warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
 - 1. Warranty Period: 12 months from date of Substantial Completion of repairs and restoration of each elevator.

1.7 MAINTENANCE SERVICE

- A. Initial Maintenance Service: Beginning at Substantial Completion, provide 12 months' full maintenance service by skilled, competent employees of the elevator repair entity. Include monthly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper elevator operation at rated speed and capacity. Use parts and supplies as used in the manufacture and installation of original equipment.
 - 1. Perform maintenance, including emergency callback service, during normal working hours.
 - 2. Include 24-hour-per-day, 7-day-per-week emergency callback service.
 - a. Response Time: 2 hours or less.
- B. Continuing Maintenance Service: Continuing maintenance and service for the repaired and renovated elevators associated with this project will be assigned to the Owner's existing elevator service company contract.
- C. Maintenance contract provided under this project shall not interfere, conflict with or void any existing elevator maintenance the Owner may have. Additionally, the Owner may ask this elevator contractor to enter into a long term maintenance agreement for all existing elevators.

PART 2 - PRODUCTS

2.1 MATERIALS AND COMPONENTS

- A. General:
 - 1. Provide materials, components, equipment, and systems recommended and approved by the respective elevator manufacturers for the type repairs and restorations required by this Contract for the specific elevator.
 - 2. Where components are not otherwise indicated, provide standard components, published by manufacturer as included in standard pre-engineered elevator systems and as required for a complete system.
 - 3. Provide all materials, components, equipment, and systems for a complete and operational restoration, even if not listed or mentioned in the Contract documents.
 - 4. All pricing is to be based on one of three following manufacturers:
 - a. Otis Elevator
 - b. Schindler Elevator
 - c. Thyssen Krupp Elevator

5. Approved equals substitutes will be reviewed as indicated by the specifications.

- C. Power Supply and Wiring: As required by the manufacturer.
- D. Piping: Provide size, type, and weight piping recommended by manufacturer, and provide isolation couplings to prevent sound/vibration transmissions from power unit.
- E. Inserts: Furnish required concrete and masonry inserts and similar anchorage devices for installing guide rails, machinery, and other components of elevator work where installation of devices is specified in another Specification Section.
- F. PVC Pipe: ASTM D 1785.
 - 1. Fittings for PVC Pipe: ASTM D 2466.
 - 2. Solvent Cement for PVC Pipe and Fittings: ASTM D 2564.
- G. Car Frame and Platform: Welded steel units.
- H. Hydraulic Oil Containment: Provide for a system to collect, receive, and hold hydraulic oil in the event of an oil leak. System shall prevent leaking oil from coming into contact with the floor or building finishes or from draining or running to other parts of the building or into the building sanitary or storm drainage system. Containment system shall meet most current ASME requirements.
- I. Sound Isolation: Provide applicable sound isolation for each elevator to eliminate noise and sound dissemination to adjacent spaces from elevator operation.

2.2 OPERATION SYSTEMS

- A. Where recommended in the Elevator Report or required by governing authorities, provide the proper additions, repairs, renovations, and restorations to the following existing equipments, to comply with the respective elevator manufacturer's requirements:
 - 1. Provide manufacturer's standard recommended microprocessor operation system for each respective elevator.
 - 2. Single Elevator - Passenger: Provide "Selective-Collective Automatic Operation" as defined in ASME A17.1.
- C. Battery Power Source - Automatic Return And Shutdown
 - 1. Provide a battery power source with auxiliary dry relay contacts or an isolated switch in the disconnect switch and shunt trip disconnect that controls the normal power feed to the elevator. This switching equipment shall be provided by the elevator supplier and installed by the electrical contractor. These switches shall allow the disconnect switch and shunt trip disconnect switch to be placed in the "OFF" position without having the elevator move unexpectedly.
 - 2. If normal power fails, the battery power source will sense that normal power has been lost and will activate the automatic and return shutdown feature. All three types of

standby power operation automatic recall and shutdown have the same mode of operation.

3. If a power loss is sensed while the car is traveling above a preselected floor, the car will stop and lower to a preselected landing. If the car is below the preselected landing when power is lost, the car will travel down to the next available landing, cycle the doors, and shut down. If the car is level with a landing when power is lost, and the preselected landing is above the car, the car will remain at the landing, cycle the doors, and shut down. The door open button located in the car will remain operative to prevent passengers from being trapped inside the car.
4. When the disconnect switches are in the normal power position, the auxiliary contacts shall be closed. The minimum rating of the auxiliary contacts are 1 amp @ 48 VDC, dry and isolated with a contact configuration of SPST. Provide a sealed contact or a contact set with generous wiping action to allow switching operations to clean the contacts.

- D. Key switch operation: Provide feature with car and hall push buttons activated and deactivated by security key switches. Key is removable only in the deactivated position. Coordinate exact keying requirements with the Owner.

2.3 SIGNAL EQUIPMENT

- A. General: Where recommended in the Elevator Report or required by governing authorities, provide the following equipments, additions, repairs, and restorations to comply with elevator manufacturer's requirements: Provide signal equipment complying with requirements indicated below.
1. Illuminated hall-call and car-call buttons that light when activated and remain lit until call has been fulfilled. Fabricate of acrylic or other permanent translucent plastic.
 2. Except for buttons and illuminated elements, fabricate signal equipment with exposed surfaces as follows:
 - a. Car Fixtures: Satin stainless steel.
 - b. Hall Fixtures: Recessed type with no exposed-metal surfaces.
- B. Car Control Stations: Provide manufacturer's standard semi-recessed car control station in each car. Include call buttons for each landing served and other buttons, switches, and controls required for specified car operation. Provide operating device symbols as required by the "Code." Mark other buttons and switches with manufacturer's standard identification for required use or function. Mount in return panel adjacent to car door, if not otherwise indicated.
1. Mount controls as shown or scheduled and at heights complying with ANSI A117.1 and ADA requirements.
- C. Telephone: Provide rough-in for telephone handset in each car, contained in flush-mounted cabinet and complete with identification and instructions for use. Provide a hands free phone for each car compatible with the Owner's communication system.
- D. Car-Top Alarm: Provide switches on top emergency exits that will cause alarm to sound when cover is opened.

- E. Hall Push-Button Stations: Provide 1 hall push-button station at each landing
 - 1. Provide units with flat faceplate designed for mounting on wall with body of units recessed in wall: 2-button stations at intermediate landings; 1-button stations with direction indication at terminal landings. Provide push button with key operated activation.

- K. Hall Lanterns: Provide units with illuminated arrows, but provide single arrow at terminal landings. Match materials, finishes, and mounting method of hall push-button stations.
 - 1. Provide units projecting from faceplates for ease of angular viewing.
 - 2. Place 1 lantern either above or beside each hoistway entrance, unless otherwise shown. Mount at minimum of 72 inches above finished floor.
 - 3. Place lanterns in both jambs of entrance frame for each elevator. Mount at minimum of 72 inches above finished floor.
 - a. At manufacturer's option, audible signals and an in-car lantern may be placed on each car.

- L. Hall Position Indicator: Provide illuminated-signal type or digital-display type, located above each hoistway entrance at ground floor. Match materials, finishes, and mounting method of hall push-button stations.
 - 1. Integrate ground-floor hall lanterns with hall position indicators.

2.4 DOOR SAFETY DEVICES

- A. Where recommended in the Elevator Report or required by governing authorities, provide the following equipments, additions, repairs, and restorations to comply with elevator manufacturer's requirements:

- B. Infrared Array: Provide door reopening device with uniform array of 36 or more microprocessor-controlled, infrared light beams projecting across car entrance. Interruption of one or more light beams shall cause doors to stop and reopen.
 - 1. Nudging Feature: After car doors are prevented from closing for predetermined adjustable time, through activating door reopening device, a loud buzzer shall sound and doors shall begin to close at reduced kinetic energy.

2.5 PASSENGER ELEVATOR CAR ENCLOSURES

- A. General: Where recommended in the Elevator Report or required by governing authorities, provide the following equipments, additions, repairs, and restorations to comply with elevator manufacturer's requirements:

1. Include ventilation, lighting, access doors, doors, power door operators, sills (thresholds), trim and accessories. When replacing doors, provide manufacturer's standard flush-panel horizontal-sliding doors of type indicated.

2.6 PASSENGER HOISTWAY ENTRANCES

- A. Where recommended in the Elevator Report or required by governing authorities, provide the following equipments, additions, repairs, and restorations to comply with elevator manufacturer's requirements:
 1. Where door replacement is required, provide manufacturer's standard hollow-metal, sliding, door-and-frame hoistway entrances complete with track systems, hardware, sills, and accessories. Match car doors for size, number of panels, and door movement. Provide frame size and profile to coordinate with hoistway wall construction. Fabricate frames with reinforced head sections.
 2. Materials and Fabrication: Provide selections indicated; provide manufacturer's standards, but not less than the following:
 - a. Stainless Steel Door and Frames: Stainless steel sheet, ASTM A167, Type 302 or 304, with No. 4 satin finish.
 - b. Aluminum Sills: Extruded aluminum, with grooved surface, 1/4 inch thickness, mill finish.
 - c. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107. Provide grout specifically recommended by manufacturer for grouting doorsills and similar applications.
 3. Sign: If missing, or damaged, provide and install illuminated signs that complies with location and visibility requirements of local governing authorities. Refer to owner's sign package.

2.7 PASSENGER ELEVATOR CAR ENCLOSURES

- A. General: Provide manufacturer's standard finish products of the selections indicated. Include trim, accessories, and wall and ceiling finishes. Provide manufacturer's standard protective edge trim system for door and wall panels.
- B. Materials and Fabrication: Provide selections indicated for each car enclosure surface; provide manufacturer's standards, but not less than the following:
 1. Cab. Stainless steel cab fronts with swing return. Rear and side panels to be a horizontal plastic laminate system. Color "Wild Cherry".
 2. Fabricate car with recesses and cutouts for signal equipment.
 3. Stainless Steel Ceiling: 6 LED can lights with dimmer (easy mount system) and ceiling panels of #4 stainless steel.
 4. Handrails: Provide # 4stainless-steel flat (2"x3/8") handrails on side walls and back wall

5. Pad Hooks and Pads: Manufacturer's standard pad hooks and quilted pads for side and rear panels.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine existing elevator areas for extent of work to be performed, coordination with the elevator report, compliance with requirements, installation tolerances, and other conditions affecting performance of elevator work. Examine installed elevators, hoistways, hoistway openings, pits, and machine rooms, as constructed; and verify critical dimensions; and examine supporting structure and other conditions under which elevator repair and restoration work is to be performed. Do not proceed with installation without complete comprehension and understanding of the full scope of required work under this Contract.

3.2 INSTALLATION

- A. General: Where recommended in the report or required by governing authorities, install required and recommended materials, products, equipment and components to complete the additions, repairs, and restorations as specified in the Contract Documents.
- B. Comply with respective elevator manufacturer's requirements, instructions, and recommendations and with all governing authorities.
- C. Welded Construction: Provide welded connections for performing required work where bolted connections are not required for subsequent removal or for normal operation, adjustment, inspection, maintenance, and replacement of worn parts. Comply with AWS standards for workmanship and for qualifications of welding operators.
- D. Coordination: Coordinate elevator work with work of other trades for proper time and sequence to avoid construction delays. Use established benchmarks, lines, and levels to ensure dimensional coordination of the Work.
- E. Sound Isolation: Install recommended sound isolation and reduction designed to effectively prevent transmission of vibrations and noise to structure and adjacent spaces.
- G. Install new and replacement piping above the floor, where possible. Where not possible, cover underground piping with permanent protective wrapping before backfilling.
- H. Lubricate operating parts of systems, including ropes, if any, as recommended by manufacturers.
- I. Alignment: Coordinate hoistway entrances with elevator guide rails for accurate alignment of entrances with cars.
- J. Leveling Tolerance: 1/4 inch up or down, regardless of load and direction of travel.

- K. Set sills flush with finished floor surface at landings. Fill space under sills solidly with nonshrink, nonmetallic grout.

3.3 FIELD QUALITY CONTROL

- A. Acceptance Testing: Upon nominal completion of repairs, renovations, restorations, and revisions, perform acceptance tests as required and recommended by the "Code" and by governing regulations and agencies.
- B. Advise Owner, Architect, and authorities having jurisdiction in advance of dates and times tests are to be performed on elevators.

3.4 DEMONSTRATION

- A. Instruct Owner's personnel in proper use, operations, and daily maintenance of reworked elevators especially where procedures may be different than prior to updates. Review emergency provisions, including emergency access and operating procedures to be followed at time of failure in operation and other building emergencies. Train Owner's personnel in procedures to follow in identifying sources of operational failures or malfunctions. Confer with Owner on requirements for a complete elevator maintenance program.
- B. Make a final check of each elevator operation with Owner's personnel present and just prior to date of Substantial Completion. Determine that operation systems and devices are functioning properly.

3.5 PROTECTION

- A. Temporary Use: Do not use elevators for construction purposes unless cars are provided with proper temporary protection to protect finishes, components, and equipment.
 - 1. Provide full maintenance service by skilled, competent employees of the elevator Installer for elevators used for construction purposes. Include preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper elevator operation at rated speed and capacity. Use parts and supplies as used in the manufacture and installation of original equipment.
 - 2. Provide protective coverings, barriers, devices, signs, or other procedures to protect elevators. If, despite such protection, elevators become damaged, engage elevator Installer to restore damaged work so that no evidence remains of correction work. Return items that cannot be refinished in the field to the shop, make required repairs and refinish entire unit, or provide new units as required.

- B. Provide final protection and maintain conditions, in a manner acceptable to elevator manufacturer and installer, that ensure elevators are without damage or deterioration at the time of Substantial Completion.

END OF SECTION 14 24 05

Provide engineering services, material and labor to modernize one Southeastern hydraulic passenger elevator installed in 1977 for University of South Carolina Aiken as detailed in the following pages:

Equipment: (1) Passenger Hydraulic Elevator

Stops: 2

Openings: 1

Capacity: 2050 lbs.

Speed: 100 fpm

Pumping Unit

Hydro Controller 2010 Code Compliant with New Landing System & Limit Switches

Existing relay control system will be replaced. Reliability and performance to be improved by converting to a new microprocessor control. The new control permits faster addition of new features, now or in the future, and will include on-board LCD screen diagnostics.

Provide all labor, material, engineering and supervision required to perform the following scope of work during regular working hours of the elevator trade:

- Remove existing elevator control components and control cabinet
- Install new microprocessor controller in new cabinet
- Perform all required wiring to interface control with other elevator components
- Replace components so they properly interface with the new controller
- Test and adjust the system for proper operation

Machine Room Wiring

All new wiring duct and conduit between the hoistway and machine room equipment to be furnished and installed according to applicable codes and in a workmanlike fashion.

Top of Car Inspection Station

The existing inspection station to be replaced. A new top of car inspection station to be provided as a control panel on top of the elevator car which, when activated, removes the car from normal service and allows the car to run at inspection speed from the car top station only.

Car Leveling (Banner)

The existing leveling is to be replaced. The new system is to include the necessary hardware to control the leveling of the elevator at each floor. Leveling accuracy to be within code-accepted standards.

Hoistway Leveling

The existing hoistway leveling vanes are to be replaced with new vanes mounted at each floor landing and along with the car leveling sensors provide the necessary feedback to the controller for landing and leveling.

Car Wiring

The existing car wiring is to be replaced with all new car wiring and is to be furnished and installed by applicable codes in a workmanlike fashion.

All wiring is to have flame retarding and moisture resistance outer covering. All new wiring will contain Underwriters Laboratories labels. All wiring will be in strict accordance with good wiring practices and in compliance with the National Electric Code and ANSI A17.1 requirements.

Door Operator

A new single speed center opening door operation is to be provided. This linear, digital solid state operator will interface with the new controller to provide closed lop door operation. Doors will react quickly safety sensors while maintaining door-closing speed and force limits within applicable safety standards. Hoistway windage and other environmental conditions that may affect reliability and passenger safety are compensated for with this operator.

Car Clutch

Provide a mechanical clutch to connect the car hoistway door. The operation of the clutch will provide driving motion of the hoistway doors for full open and full close direction. The drive rollers will remain engaged to prevent separation of the hoistway doors from the car doors.

Electronic Edge

The existing electronic door edge is to be replaced with a new light curtain. The new edge will detect objects in the path of the closing doors at such a distance that reversal of the doors can be provided without necessarily contacting the detector. The device will provide this operation for a minimum of the lower two-thirds of the opening height.

The device will include photoelectric units that provide protection across the entire opening. The operation will be to maintain the doors in a full open direction if the doors are open and the beams obstructed. Should the doors not be obstructed and in the closing motion the reversal will be dependent on the detector assembly to allow continuous closing until minimum distance to object is reached. An automatic adjustable timed cutout will be provided should the beams become obstructed for an extensive period of time.

Cab Doors

The existing doors are to be replaced with new 42" x 84" stainless steel #4 finish, single speed center opening door panels.

The door panels will be formed of not lighter than 16 gauge steel and all joints will be welded.

The bottom of the doors will be provided with removable laminated phenolic guides which run in the sill slots. Doors will be reinforced for separate hangers or built to include integral hangers and will contain suitable material for sound deadening.

Gibs (car)

The present car door gibs are to be replaced with new gibs which will be mounted to the bottom edge of horizontally sliding door panels.

Interlock Assembly

The existing hoistway door interlocks shall be replaced. An electro-mechanical interlock will be provided for each hoistway entrance. The interlock system will be a tested and approved system to comply with the applicable codes.

The interlocks will prevent operation of the car away from the landing unless the doors are in closed and locked position as defined by applicable codes.

The interlocks will also prevent the opening of a hoistway door from the landing side unless the car is within the landing zone and is either stopped or being stopped at that level. Interlocks will be so located that they are not accessible from the landing side when the hoistway doors are closed.

Hoistway Duct/Conduit

All existing duct and conduit in the hoistway is to be replaced with new duct and conduit of proper size and type for the equipment furnished as needed. Duct and conduit meeting applicable codes, installed in a workmanlike manner is to be used. All wiring will be totally enclosed in conduit or duct.

Travel Cables

The existing traveling cables shall be replaced. All traveling cables will be new and properly suspended between car and hoistway or machine room cable support. All cables will incorporate the specified types of conductors. At a minimum each traveling cable will contain one shielded and jacketed pair. Cables will be supported by steel supporting strands if travel exceeds 150 feet and in a loop compatible to size of cable. The outer covering will be fire resistant and will meet Underwriters Laboratories standard test. The cables will be hung free of all contact from hoistway or car equipment. Cables will contain adequate number of conductors to provide a minimum of 10% of spares.

Hoistway Wiring

The existing hoistway wiring shall be replaced with all new wiring between the hoistway and machine room equipment and installed by applicable codes in a workmanlike fashion.

The hoistway door interlocks' wiring shall be replaced with new SF-2 high heat resistance wiring. All other new wiring will have flame retarding and moisture resistance outer covering. All new wiring will contain Underwriters Laboratories labels. All wiring will be in strict accordance with good wiring practices and in compliance with the National Electric code and ANSI A17.1 requirements.

Pit Switch

The existing pit stop switch is to be replaced.

Car Buffer – Spring

The car spring buffer is to be reused.

Platform

The existing platform is to be reused.

Main Car Operating Panel #4 Stainless Steel – Fixed

The existing main car operating panel is to be replaced. A new main car operating panel is to be provided in front return panel. The panel will contain floor call buttons corresponding the number of floors served plus the standard devices of door open, door close, alarm and emergency stop buttons, independent service key switch, fan and light switches as a minimum.

The standard required cluster of devices will be located at a centerline height of 35" from cab floor to comply with handicap requirements. All standard required devices and floor call buttons will have handicap indications adjacent to them.

Appropriate fire fighter's service key switch, jewel, fire and call cancel button, will be provided in car operating panel. Appropriate key switches for functions of the operating system provided will be included. These switches will be clearly identified as to their function.

In lieu of key switches, the devices may be incorporated in a separate covered portion of the COP.

Cab Fan

Refurbish Guide Shoes

ADA Phone

The phone in the existing main car operating panel is to be replaced with a new ADA compliant hands-free phone.

Emergency Light

A new emergency light is to be provided in the main car operating panel.

Car Position Indicator

The existing position indicator(s) in the car operating panel is to be replaced. An electronic readout type position indicator(s) shall be provided which will give a visual indication of the car position.

As the car travels through the hoistway, the numeral corresponding to the floor at which the car has stopped or is passing will be displayed on the position indicator. Change from one numeral to another will be instantaneous and complete.

The readout size letters will be two inches in height unless herein specified to be of a different size. A blank cover plate is to be provided to cover the previous hole if additional cab work is not included.

Car Lanterns

New car lantern units are to be installed to indicate direction. Arrows will illuminate for the direction the car is traveling. An audible sound will indicate the direction of travel.

Landing Push Button Stations

The existing hall call fixtures are to be replaced with flush mount box and cover fixtures. Terminal floors will have single push buttons and intermediate floors will have one button for up, and one for down. Any key switches necessary for continued proper operation will be provided with the fixtures if the related feature is provided by this project or for currently existing switches that are functional. The finish of the fixtures will be per project specification.

Landing Push Button Stations – Flush

The existing hall call fixtures will be replaced with flush mount box and cover fixtures. Terminal floors will have single pushbuttons and intermediate floors will have one button for up, and one for down. Any key switches necessary for continued proper operation will be provided with the fixtures if the related feature is provided by this project or for currently existing switches that are functional. The finish of the fixtures will be per project specification.

Car Top Inspection Station

Hoistway Access Switch

A new keyed switch is to be installed at the designated landings that will allow an authorized person to move the elevator at a slow speed, while the car and hoistway doors are open. The technician can then stop it so that the top of the car can be accessed from the corridor landing.

Braille on Jambs

Existing Braille plates are to be replaced with new Braille plates on each entrance side jamb in a manner compliant with ADA regulations.

New Interior Cab Finishes

Existing interior finishes to be removed and replaced with a horizontal panel laminate wall system, stainless steel, ceiling with LED lights and new #4 stainless steel flat handrails

A new keyed switch is to be installed at the designated landings that will allow an authorized person to move the elevator at a slow speed, while the car and hoistway doors are open. The technician can then stop it so that the top of the car can be accessed from the corridor landing.

Related Work to include but not limited to:

- Modify pit lighting and electrical service to meet Code.
- Add fire alarm system.
- Add HVAC to maintain room temp between 55-90 degrees.
- Modify equipment room lighting and electrical to meet Code requirements.
- 120 VAC disconnect for cab lighting.
- New finishes per specifications.

All work performed shall conform to current Code requirements and ADA regulations where applicable.