

SECTION 14440

VERTICAL PLATFORM LIFT

PART 1 –GENERAL

1.1 GENERAL

- A. All labor, materials, plant appliances, equipment incidental to fabrication, furnishing, delivery and installation of vertical platform lift shall be provided.
- B. Full maintenance service shall be provided for 12 months following acceptance by Stanford.
 - 1. During the full maintenance portion of contract the elevator contractor is to submit a quarterly report to Stanford University School of Medicine Project Manager.
- C. Requirements of the General Conditions, Supplementary Conditions and Division1 apply to work of this section.
- D. Architect and project manager note: Platform lifts can provide a cost effective option for path of travel access compliance problems, but the Office of Facilities Planning and Management will permit their use only in cases where it can be demonstrated a commercial elevator cannot be installed.
- E. Platform lifts with a rise of five feet or less may be installed without a runway enclosure; for travel of more than 5 feet, an enclosed runway is required. Travel of a platform lift is limited to a max of 12 feet. When fully enclosed runways are installed, they shall be illuminated.

1.2 RELATED WORK- SPECIFIED ELSEWHERE

- A. Supports: A reinforced concrete pad adequate for platform lift insulation will be Provided
- B. Patching: Patching of floors, walls, and surfaces constituting final finishes.
- C. Block-outs: Providing block-outs pockets and chases in walls and floors as required.
- D. Guard railings: will be provided where required.
- E. Elec. work/Power feeders: installation and connection to terminals of control, including fused lockable safety mainline switches or circuit breakers in control area. 110 VAC, single phase or 220 VAC single phase; coordinate with lift

installer.

- F. Painting: Field painting if prime finish items constituting final finishes 1.3 Requirements of Regulatory Agencies
- G. Codes: Materials and workmanship shall be in accordance with the latest applicable edition requirements of the following and as specified:
 - 1. ASME: A17.1; Safety code for elevators and escalators. A17.1; Making buildings and facilities accessible to and usable by physically disabled persons.
 - 2. CCR: Title 8 and 24; California code of regulations
 - 3. NEC: National Electric Code
 - 4. UBC: Uniform Building Code
 - 5. All local codes which govern
- H. Permits: Upon completion of the vertical platform lift, the Contractor shall arrange and pay for inspections by governing authorities and obtain operating permits required.
- I. Where runways and runway doors of transparent construction are installed, detailed drawings of the materials and their fastenings shall be submitted to DOSH, State Elevator unit for review and approval prior to installation.

1.3 SUBMITTALS

- A. Shop Drawings:
 - 1. Scaled and Fully Dimensioned layouts: Plan indicating equipment arrangement, section of hoistway, details of enclosures and entrances, etc.
 - 2. Space requirements, general arrangements of the equipment, and material being supplied shall be clearly indicated. Connections, attachments, reinforcing, anchorage and location of exposed fastenings, and locations and amounts of loads and reaction to be carried on the building structure shall be shown
 - 3. Power confirmation sheets; include motor horse power, code letter, starting current, full load running current, and demand factor for applicable motors.
 - 4. Finish material: submit samples
 - 5. Fixtures: Submit elevations and detail drawings.
 - 6. All drawings showing structural attachments (rails, clips, brackets, machine tie downs, etc...) shall be stamped by a certified engineer and accompanied by a calculation booklet showing how methods of attachment have been achieved
- B. Contract Closeout Submittal
 - 1. Operations and maintenance: after completion of work, 4 copies of final

control wiring diagrams, parts list, type list, typewritten description of operating data and other information helpful for proper operation of equipment installed shall be submitted. Submit 3 copies of all applicable keys for normal operation.

- C. Respond to drawing mark-up within 21 days of return; promptly incorporate required changes due to inaccurate data or incomplete definition so that delivery and installation schedules are not affected. Revision response is not justification for delivery or installation delay

1.5 QUALITY ASSURANCE

A. Qualified Bidders:

- 1. General: Platform lift shall be manufactured by one of the following:
 - a. Access industries, inc.
 - b. The National Wheel-o-Vator Company, inc.

B. Installer & Maintenance Qualifications: Installer must be a properly licensed contractor and shall provide maintenance services on the platform lift and must:

- 1. Be able to show evidence of successful experience in complete maintenance of platform lifts.
- 2. Directly employ sufficient competent personnel within 50 miles of the new project to handle service.
- 3. Command local store of parts adequate for replacement on permanent or emergency basis.
- 4. Be able to respond to trouble calls within 4 hours
- 5. Be able to offer the University agreement for continuing maintenance after expiration of maintenance period under this contract.

C. Design Criteria

- 1. Performance:
 - a. Contract speed: Speed variation under any loading condition in either direction shall be no more than 5%
 - b. Leveling: Within 3/8 inch under any loading condition. Lift shall level into floor at all times, not overrun floor and level back.
- 2. Operating Qualities: Architect and University's Representative shall judge riding quality of lift and enforce the following requirements. The Contractor shall make all necessary adjustments.
 - a. Transition: Starting and stopping shall be smooth and comfortable. Stopping shall be without objectionable jars or bumps.
 - b. Full Speed: Riding shall be free from vibration and sway.
- 3. Sound Control:
 - a. Vibration: Provide effective sound isolation materials to isolate the machine from building structure to prevent objectionable noise transmission to occupied building spaces.

- b. Airborne noise: Maximum acoustical output level shall not exceed 86 decibels within a frequency range of 20 to 10,000 cycles, measured in machine area.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Protect equipment during transportation, erection and construction. Store under cover to prevent damage due to weather conditions. Replace damaged materials.

1.7 WARRANTY

- A. Provide a special project warranty, signed by contractor, installer, and manufacturer, agreeing to replace/repair/restore defective materials and workmanship of platform lift which may develop within 1 year from final date of completion and acceptance of the entire installation. A defective is hereby to include, but not by way of limitation, operation and control, system failures, performance below required minimums, 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.

1.8 MAINTENANCE SERVICE

- A. Provide 12 months of monthly maintenance service during the warranty period, by trained mechanics. Maintenance shall commence upon completion and acceptance of all elevator work and shall include examination, adjustment, greasing, oiling, parts replacement due to normal use. Provide 24 hour call back complete maintenance for all installed equipment.
- B. Provide a monthly report to Facilities Zone management showing date and time of monthly service, services done and parts replaced.
- C. A list of ALL “special tools” is to be provided to Stanford University, School of Medicine Project Manager.

PART 2 - PRODUCTS

2.1 DESCRIPTION OF SYSTEMS

- A. Vertical Platform Lift:
 - 1. Type: Access Industries Inc. & National Wheel-o-Vator
 - 2. Capacity: 750 pounds
 - 3. Speed: Manufacturer's standard - not to exceed 20 fpm
 - 4. Stops/Openings: Refer to drawings
 - 5. Travel: Refer to drawings not more than 12 feet

6. Drive: Recirculating ball screw
7. Platform Size: 12 sq. ft net area; with non skid surface
8. Control: Constant pressure type

B. There shall be a level and clear floor area or landing at each floor or level served by the lift to allow safe access to and exiting from the platform. The minimum size of all landings shall be 60" by 60".

2.2 MATERIAL

A. Aluminum: alloy and temper best suited for anodizing finish specified.

B. Sheet Steel: ASTM A366, uncoated, pickled, free from defects.

C. Stainless Steel: ASTM A167, type 302 or 304.

2.3 FINISHES

A. Exposed-to-View Surfaces:

1. Aluminum: Submit manufacturer's standard sample for approval.
2. Sheet Steel: Clean of foreign substances. Apply one coat of primer and two coats finish paint; color as selected from manufacturer's standards
3. Stainless steel: Satin directional polish, no. 4 finish unless otherwise specified
4. Touch-up; Painted Surfaces: Use same paint as factory for field touch up.

B. Non-Exposed-to-View Surfaces: Degrease and shop paint manufacturer's standard rust inhibiting primer.

2.4 OPERATION:

A. General: Provide control system to perform the functions of motion, platform operation and protection.

B. Provide continuous pressure operation. Operation shall be by means of pressure type paddle switches in the lift and at the landings, any one of which may be used to control the movement of the lift as long as the switch is manually maintained in the activating position.

2.5 RAMP AND GATE OPERATION:

A. For installations without a pit, provide a non-slip ramp/guard plate which operates automatically permitting access to the platform.

1. When the platform is at the lower landing, the ramp automatically folds down for entry and exit.
2. The ramp automatically folds up to form a vertical barrier when the upper

lift or landing button is activated. Provide a safety device that disconnects the power supply if the ramp is not fully engaged in the "up" position.

- B. Provide 42" high self closing and locking gates at the top landing level and lower landing side of the platform.
 - 1. Equip each gate with a tamper proof interlock which shall prevent operation of the platform until the gates are locked in the "closed" position and shall prevent opening of the gate at a landing unless the platform is at rest at that landing.
- C. Ramps are not required when a pit is provided. Pit depth shall be no more than 4" and a contrasting stripe shall outline the pit area.
- D. At Architect's option, 6'-8" self-closing doors may be substituted when an enclosed runway is provided.

2.6 EQUIPMENT

- A. General: Provide equipment which fits space and structural conditions as specified
 - 1. Drive: Recirculating ball screw type with rotating screw or hydraulic drive may be provided at contractor's option. For ball screw type drive, provide the following:
 - a. Ball safety: Ball nut provided with integral safety to prevent uncontrolled descent in the event of ball nut failure.
 - b. Motor: Manufacturer's standard acceptable. As a minimum, provide 1/4 HP, 1725 RPM, 110 VAC, instant reverse, single phase motor.
 - c. Brake: Spring actuated, electrically released type; mounted directly on ball screw shaft. Brake sets automatically upon release of control switches or loss of main power.
 - 2. Platform: Provide a sheet steel platform that is 12 sq. ft. net (usable area inside the barriers). Platform to have a non-skid surface and grab rail.
 - 3. Platform sensors: Provide with safety sensors to stop downward movement, should obstruction be encountered.
 - 4. Limit Switches: Provide with final limit to deactivate lift in the event of control limit failure.
 - 5. Platform and Landing Controls: Constant pressure paddle type; activation of switch operates lift in direction desired. Security key-locks on controls meeting access limitation requirements of ASME A17.1, part 2000 shall be provided.
 - 6. Gate Lock: Provide, at upper landings, electric or mechanical locks to prevent movement of platform should gate be in open position.
 - 7. Platform enclosure: Provide 42" high side guard enclosure constructed of durable aluminum or steel. Provide an access door, hinge and lock on the

outside face (opposite side from platform) of the motor and control housing to provide easy access to that area. Housing may be made of 12-gauge sheet steel.

8. Manual lowering device: provide a device that will manually lower the platform in the event of a power failure.
9. Wiring: provide electrical wiring and components in the vertical platform lift that will comply with the National Electric Code.
10. Signs: Durable signs with lettering on a contrasting background shall be permanently posted at each landing indicating:
 - a. The international symbol accessibility
 - b. The lift can not be used for material or equipment transport.
 - c. The lifts capacity
 - d. Telephone number to call in case of emergency
11. Security: The platform lift may be locked for security reasons, but must remain unlocked during normal building hours.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Bidders shall examine architectural, structural, electrical, and mechanical plans and specifications. Any discrepancies that affect the vertical platform lift work or conditions adverse to the bidders equipment shall be brought to the Stanford University School of Medicine Project Manager attention at least 7 calendar days prior to the bid date. If no discrepancies are presented, changes required to plans or specifications become the responsibility of and cost to the contractor

3.2 PREPARATION

- A. Field measurements: Field verify dimensions before proceeding with the work. Coordinate related work by other trades.

3.3 INSTALLATION

- A. Install by approved manufacturer's representative per requirements of regulatory agencies and as specified. Lift shall be installed on a level, reinforced concrete anchor pad.

3.4 FIELD QUALITY CONTROL

- A. Tests: Upon completion of the vertical platform lift, contractor shall provide instruments, weights and personnel to conduct the State and the following tests that shall be witnessed by a representative of the architect. The contractor shall submit a complete report describing the results of the tests.
 1. Performance and leveling tests, empty and fully loaded lift.

2. Check and verify operation of all safety features.

- B. Inspection: Assist Stanford in making a walk through inspection of entire installation to assure workmanship and equipment complies with contract documents.
- C. Correction: Make corrections to defects or discrepancies at no cost to Stanford University.

3.5 INSTRUCTIONS

- A. Instruct the School of Medicine E&M Shop personnel in proper use of system.

3.6 MAINTENANCE

- A. General: Provide continuing maintenance on vertical platform lift equipment during regular working hours on regular working days for a period of 12 months after filing Notice of Completion.
- B. Examination: Include systematic examination once a month, adjustment and lubrication of vertical platform lift equipment whenever required and replacement of defective parts with parts of same manufacturer as required for proper operation. Contractor is not responsible for repairs to lift resulting from misuse, accidents, and negligence unless caused by contractors' acts or omissions.
- C. Performance Standards:
 - 1. Maintain the performance standard set forth in the specification.
 - 2. Starting and stopping shall be smooth and comfortable.
- D. Call-Backs: In event of failures, provide 24-hour call back service at no additional cost to Stanford
- E. Shutdowns:
 - 1. Should the platform lift become inoperative, repair within 24 hours of notification of such failure. Breakdown of major components shall be completed and service restored within 72 hours.
 - 2. Failure to comply with above, Stanford may order the work done by other contractors at the contractor's expense.
 - 3. If devices are repaired or replaced by other than the installing contractor, contractor shall, nevertheless, provide maintenance and become completely responsible for correct operation of such devices for lifetime of this contract.
- F. Maintenance materials: Maintain an adequate supply of spare parts.

- G. Final Service and inspection: Two weeks before expiration of the year's maintenance, the equipment shall be lubricated, fully serviced, adjusted to the standards designated. A complete inspection will be made by a representative of the Stanford.
- H. Quotation: Base bid shall include cost of maintenance as described above.

END OF SECTION