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SECTION 00020

REQUEST FOR QUOTATION

PART 1 GENERAL

1.01 PROJECT: ELEVATOR MODERNIZATION

- A. Lerch Bates Inc. has been authorized by South Salt Lake City to invite your firm to submit a quotation for:
 - 1. All engineering, labor, materials, transportation, services, and equipment necessary and reasonably incidental to perform work required by Contract Documents.
 - 2. Interim preventive maintenance.
 - 3. Warranty preventive maintenance.
 - 4. Continuing preventive maintenance subsequent to completion of work.

1.02 CONTRACT DOCUMENTS

- A. Electronic Copies of Contract Documents are provided for your use.
- B. Make inquiries to Lerch Bates Inc. Do not contact building personnel or the Purchaser.
- C. Permission to review existing equipment and site conditions shall be secured from Dale McCaw at 720.369.3390.

1.03 CONSTRUCTION SCHEDULE

- A. See Section 00310, "Quotation Form" for project schedule.

1.04 SEALED QUOTATION

Contractor
Address
City/State/Zip

ELEVATOR MODERNIZATION

SSL Police Department
2835 S Main St.
South Salt Lake, UT 84115

CONFIDENTIAL - SEALED QUOTATION - DO NOT OPEN

Send one paper copy to: Craig Burton
City Recorder

City of South Salt Lake
220 East Morris Avenue, Suite 200
South Salt Lake City, Utah 84115

Cburton@southsaltlakecity.com
801-483-6027 (office)

- A. Quotations must be submitted on form provided as a part of Contract Documents, Section 00310. Quotations shall be subject to all requirements of Contract Documents, site conditions, General Conditions, Supplementary, and Special Conditions, and any other documents issued in connection with project. All blank spaces and questions on the quotation form must be completed and/or responded to. Failure to comply will constitute a non-responsive submittal.
- B. If Contractor desires to furnish items differently than specified, Contractor shall submit substitution as an alternate quotation. Contractor shall supply Consultant with information in regard to proposed substitution of components or materials. Consultant shall decide whether the Contractor's substitution is equivalent to that specified. Deviation from requirements of Contract Documents shall be stated, in writing, in Contractor's transmittal letter submitted with quotation.

1.05 NOTICE OF INTENT TO SUBMIT A QUOTATION

- A. Quotations have been invited from a limited number of pre-approved Contractors. Contractors, having reviewed Contract Documents and site conditions, who elect not to provide a quotation, shall notify Consultant no later than ten (10) working days prior to quotation due date. Failure to submit a quotation without prior notice will be construed as justifiable cause for elimination of such Contractor for future consideration.

1.06 OPENING

- A. Opening of quotations will be in private. Contractor selection will be based upon the following criteria:
 - 1. Cost of required work.
 - 2. Cost of interim maintenance.
 - 3. Cost of warranty maintenance.
 - 4. Cost of contract preventive maintenance.
 - 5. Completion schedule.

6. Contractor's successful completion of similar projects and track record in the general location of project.
7. Contractor's maintenance capability in the general location of the project.

1.07 QUOTATION

- A. All quotations shall be firm. Escalation will not be permitted if Contract is awarded within 90 days from quotation due date.
- B. All quotations shall include a 5% bid bond.
- C. Winning bid is required to provide performance and payment bonds.
- D. If award is deferred beyond 90 days, Contractors' quotations shall be subject to adjustment to reflect changes in the cost of labor and material.

1.08 PURCHASER'S RIGHTS

- A. Purchaser reserves right to reject any or all quotations, to accept other than lowest quotation, and to waive any formality in connection with opening and award of Contract.

1.09 INVITED CONTRACTORS

- A. Contractor shall be prepared to provide evidence of experience, qualifications, and financial ability to carry out requirements of Contract Documents.

END OF SECTION

SECTION 00100

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SECTION 00100

INSTRUCTIONS TO CONTRACTOR

PART 1 GENERAL

1.01 EXAMINATION

- A. In order to discover and resolve conflicts or lack of definition which might create problems, Contractor must review Contract Documents, existing site conditions, and existing equipment specified to be retained for compatibility with its product prior to submitting quotation. Site review shall include, but not be limited to adequacy of access, retained equipment, elevator hoistways, pits, machine rooms, overhead clearances, electrical power characteristics, structural supports, etc. Investigation and structural calculations required to determine compliance of existing elevator components including machine support beams, are responsibility of Contractor. Attach specific, written exception and/or clarification with quotation. Compliance with all provisions of Contract Documents is assumed and required in absence of written exception. If written exception is acceptable to Contractor and Consultant, an Addendum to the specifications will be issued. Purchaser will not pay for change to building structure, structural supports, mechanical, electrical or other systems required to accommodate Contractor's equipment if not identified before Contract award and authorized as stipulated above.
- B. Submission of quotation is considered evidence that Contractor has visited and is conversant with the site facilities, site conditions, requirements of the Contract Documents, pertinent state and local codes, state of labor and material markets, and has made due allowance in his quotation for all contingencies. Should Contractor's investigation of site conditions or local codes or rules reveal requirements contrary to Contract Documents, or if Contractor finds any discrepancies or omissions from Contract Documents, or if Contractor is in doubt as to their meaning, it shall contact the Consultant for clarification at least five working days prior to quotation due date.
- C. No oral explanation will be made and no oral instructions will be given before quotation due date. Contractor shall act promptly and allow sufficient time for a reply to reach it before submission of its quotation. Any required interpretation or supplemental instructions will be issued in the form of an addendum to the specifications and forwarded to all pre-qualified Contractors.
- D. Provide everything necessary for and incidental to the satisfactory completion of work required by Contract Documents. All required preparations and hoisting and movement of new equipment, reused equipment, or removal of existing equipment shall be the responsibility of Contractor.

END OF SECTION

SECTION 00200

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SECTION 00200
CONTRACTOR QUALIFICATION FORM

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. Contractors invited to submit a quotation for modernization shall complete this Qualification Form with tender documents.
- B. Minimum Qualifications
 - 1. Minimum 6 years as licensed elevator contractor in local market
 - 2. \$8,000,000 minimum annual revenue for last 6 years
 - 3. Six (6) maintenance routes
 - 4. Four (4) dedicated modernization crews plus dedicated Mod Superintendent
 - 5. One (1) Local Business Manager and one (1) Field Superintendent

1.2 BONDING

- A. Provide a list with a minimum of 10 similar projects completed by your firm in the last 6 years in close proximity to building location. List current projects in progress, including start dates and estimated completion dates. Include the following information on each representative project:
 - 1. Building name
 - 2. Building address
 - 3. Name of principal contact
 - 4. Phone number of principal contact
 - 5. Date completed
 - 6. Scheduled and actual final project completion dates
 - 7. Cost of project
 - 8. Provide current number of new installation and modernization projects in progress and estimated completion dates
- B. Provide general information as follows:
 - 1. Number of years your firm has existed:
 - 2. Number of years your firm has operated in locale of this building:
 - 3. Number of field employees currently employed by your firm in general locale of this building:
 - a. Construction/Modernization Mechanics:
 - b. Construction/Modernization Supervisors:
 - c. Maintenance Mechanics:
 - d. Maintenance Supervisors:
 - 4. Number of Maintenance Routes:
 - 5. Average number of elevator/escalator units maintained by individual Maintenance Mechanic:
 - 6. Average number of hours per month to be expended performing routine site preventive maintenance at the project site upon completion of modernization work:
 - 7. Name of the Union of which your Maintenance Mechanics are members:
 - 8. Name of manufacturer, including system/component designation for the following:
 - a. Group supervisory and motor control:
 - b. Door operator:
 - c. Signal fixtures:
 - d. Car enclosure, new/refurbish:
 - e. Hoist machine:

1.3 PROJECT STAFFING

- A. Attach a commentary to this form summarizing how your firm would propose to staff and complete this project. Also attach a resume of proposed project managers, superintendents, and site mechanic in charge.

END OF SECTION

SECTION 00310

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SECTION 00310
QUOTATION FORM

DATE:

PROJECT: SSL Police Department
2835 S Main St.
South Salt Lake, UT 84115

SUBMITTED BY:

Name of CONTRACTOR

CONTRACTOR'S Representative Telephone Number

Street Address

City State Zip Code

TO Company Craig Burton
City Recorder

City of South Salt Lake
220 East Morris Avenue, Suite 200
South Salt Lake City, Utah 84115

Cburton@southsaltlakecity.com
801-483-6027 (office)

PART 1 GENERAL

1.01 CONTRACTOR'S BASE QUOTATION

- A. Having examined documents prepared by Lerch Bates Inc. dated August 13, 2019, and having reviewed site conditions, applicable codes and all conditions affecting and governing the work, the Undersigned Contractor hereby offers to provide all engineering, labor, materials, transportation, services and equipment necessary and incidental to properly execute required work of the Contract Documents for the sum of:

Item: 1 Modernize Passenger Elevator: _____
Section: 14250 _____
Dollars \$ _____

Item: 2 Provide Work by Other Trades _____
Section: 01900 _____

Total of the above items: _____ through _____
Dollars \$ _____

B. MAINTENANCE

1. Interim Maintenance: We agree to furnish interim, preventive maintenance during the period from written award of this Contract or verbal notice to proceed until all required work is complete for following amount per month per unit:

Passenger Elevators: 1 \$ /Month/Unit

NOTE: Do not include the cost of interim maintenance in "A" above, Base Quotations.

2. 12-Month Warranty Preventive Maintenance:

Passenger Elevators: 1 \$ /Month/Unit

NOTE: Do not include the cost of interim maintenance in "A" above, Base Quotations. Purchaser reserves the right to pay warranty maintenance cost in a lump sum or on a monthly basis during period maintenance is actually performed.

3. Contract Maintenance: We agree to provide continuing preventive maintenance as required by Owner's 5-year contract included with these specifications Section 14325 at a charge per month as follows:

Passenger Elevators: 1 \$ /Month/Unit

NOTE: Contract preventive maintenance shall commence at the completion of the one year warranty maintenance program.

- C. Enter a cost figure for all pricing requested. Failure to comply, subjects quotation to disqualification.
- D. Undersigned affirms that quotations provided represent entire cost including site conditions, code requirements, drawings, specifications, addenda, and any other Contract Documents, and no claim will be made due to any increase in wage scales, material prices, taxes, insurance, cost indexes or any other factors affecting the construction industry or this project except as expressly allowed in Owner's maintenance contract specification Section 14325.

1.02 ADDENDA

Undersigned acknowledges receipt of Addendum No. _____ through _____

1.03 CONTRACTOR'S OTHER SUPPORTING ENCLOSURES

- A. Undersigned has enclosed the following (Check YES or NO):
1. Separate letter containing any "Qualification" related to its Quotation: ☐ YES ☐ NO

1.04 PURCHASER'S CONSTRUCTION SCHEDULE

- A. Undersigned submits the following completion schedule for the project:

UNIT	DURATION IN WEEKS	START WORK DATE	COMPLETION DATE
Award of Contract			
Shop Drawing Review			
Equipment Fabrication			
Equipment Delivery			
Installation			
Final Adjusting and Testing			
Total Project Duration			

Note: Start work date is date existing unit is removed from service for modernization.

1.05 CONTRACTOR'S LIST OF SUPPLIERS/SUB-CONTRACTORS

- A. The undersigned Contractor will utilize the following suppliers/subcontractors for major components of work and submits these firms for approval. Upon acceptance of these Suppliers/Sub-Contractors by Purchaser/Consultant, no substitutions shall be made without written approval of Consultant.

Suppliers/Subcontractor Name

Component/Type of Work

(Use back of page if necessary)

1.06 SUBMISSION AND ACCEPTANCE OF QUOTATIONS

- A. Undersigned Contractor agrees to Purchaser's right to reject any and all quotations without explanation.
- B. Undersigned Contractor declares that preparation and submission of quotations herein contained do not obligate Purchaser or Consultant in any way.
- C. Undersigned Contractor agrees and understands that Purchaser assumes no obligation to enter into a Contract.

1.07 ALTERNATES

- A. State net sum to be added to or deducted from Stipulated Sum (Base Quotation) in event any Alternate Quotation is accepted.
- B. Submit Alternate Quotations by filling in blank spaces provided herein.
- C. Purchaser reserves right to accept or reject any or all Alternates.
- D. Provide lump sum price for all alternates as described below and in Section 01030, Alternates.

ALTERNATE 1: Provide and install a new island style six panel ceiling with LED light fixtures.

DOLLARS \$ _____

1.08 CONTRACTOR SIGNATURE

DATE: _____
SIGNED: _____
PRINT NAME: _____
TITLE: _____
NAME OF FIRM: _____
STATE LICENSE NO.: _____

LEGAL ADDRESS:

ORGANIZED AS A (MARK ONE):

☐ INDIVIDUAL

☐ PARTNERSHIP

☐ CORPORATION

UNDER STATE LAW OF _____

TELEPHONE: _____

(SEAL)

END OF SECTION

SECTION 00800

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SECTION 0800

SUPPLEMENTAL CONDITIONS

PART 1 GENERAL

1.01 DEFINITION OF TERMS

- A. Term **ELEVATOR CONSULTANT** or **CONSULTANT** as used herein, refers to Lerch Bates Inc., (Lerch Bates).
- B. **PURCHASER** as used herein refers to South Salt Lake City
- C. The term **CONTRACT** or **CONTRACT DOCUMENTS** as used herein consists of the Agreement, Conditions of Contract, Specifications, Addenda, Drawings if included, and Alternates if accepted.
- D. **CONTRACTOR** or **ELEVATOR CONTRACTOR**, as used herein, refers to any persons, partners, firm, or corporation having a contract with Purchaser to furnish labor and materials for the execution of work required.
- E. **CONTRACT AWARD** as used herein refers to Purchaser's verbal or written award for work required.
- F. **SUBCONTRACTOR**, as used herein, refers to any persons, partners, firm, or corporation having a contract with Contractor to furnish labor and materials for the execution of work required.
- G. As used in these Contract Documents "provide" shall be understood to mean "furnish and install."
- H. As used in these Contract Documents "retain or reuse existing" shall be understood to mean restore existing components or parts to like-new condition.
- I. Words in the singular shall include the plural whenever applicable or context so indicates.
- J. All technical terms in these Contract Documents have their definition given in latest edition of American National Standard Safety Code for Elevators, Dumbwaiters, Escalators and Moving Walks ASME A17.1. and A17.2.

1.02 CONSULTANT'S STATUS

- A. Consultant shall act as Purchaser's and/or Building Management's representative on all matters pertaining to required work. Consultant shall interpret Contract Documents, analyze Contractor's quotations, review Contractor suggested alternates, review all submittals of Contractor, approve billings, review technical details and construction procedure, perform work progress reviews and review and test completed work for compliance with Contract Documents prior to acceptance of work by Purchaser.
- B. **Field Review Scheduling:** Schedule progress and final work reviews with Consultant. Reply promptly, in writing, to corrective work indicated on Consultant's progress and/or final review reports, indicating status, and schedule for completion. Consultant anticipates scheduled site review appointments will be met. Contractor's price will be reduced to

reimburse Consultant at its normal billing rates for appointments not kept or for additional follow up reviews required due to Contractor's gross noncompliance with previous review requirements.

1.03 CONTRACT

- A. Contract includes all engineering, labor, tools, and material required to complete the work in every respect. Contractor is cautioned to familiarize itself with existing site conditions and to include all incidental work which might occur or be required during the work. After Contract has been awarded, verbally or in writing, no extra charges will be allowed for any labor or material necessary to complete required work whether exactly described in these specifications herein or not, as long as such work, labor, and material are required to accomplish desired effect and results.
- B. Any discrepancies or ambiguities found in Contract Document or drawings shall be reported to the Consultant prior to Contractor's quotation submittal.

1.04 MEASUREMENTS AND DRAWINGS

- A. Drawings or measurements included with Contract Documents are for convenience of Contractor. Complete responsibility for detailed dimensions lies with Contractor. Contractor shall verify all dimensions with the actual on site conditions. Where work of Contractor is to join another trade, Contractor's shop drawings shall show actual dimensions and method of joining work of those trades.

1.05 CODES AND ORDINANCES

- A. All work covered by these Contract Documents is to be done in full accord with national code, state and local codes, ordinances, and elevator safety orders as are in effect at time of Contract award. All requirements of local Building Department and fire jurisdiction are to be fulfilled by Contractor and its Subcontractors. Also see Section 01040, Article 1.01.

1.06 CONTRACTOR'S INSURANCE

- A. Contractor shall take out and maintain during the life of this Contract Worker's Compensation Insurance with statutory limits set by the requirements of the laws for protection of its employees in the state where the work is completed.
- B. Contractor shall carry a comprehensive general liability policy including completed operations blanket contractual broad form property damage and Purchaser's and Contractor's protective liability in a casualty or liability insurance company acceptable to Purchaser. Insurance policy shall fully protect Contractor, its Subcontractors, Purchaser, and Consultant from all loss and liability.
- C. Prior to commencing work, Contractor shall secure required insurance, at its sole cost, and submit certificate of confirmation naming indemnified parties as additional insured. Said policies, including an endorsement which states that such insurance will not be cancelled or materially changed unless Purchaser is given thirty (30) days' notice, in writing, of the intention of said insurer to cancel or change any such policy. In the event Property is owned by a joint venture or other multi-party entity, all joint venture partners or parties with an equity interest in the ownership shall be named as additional insureds. Contractor's insurance shall be primary to any applicable loss. With Purchaser's prior approval, an Owners & Contractors Protective Liability (OCPL) Policy may be substituted for commercial general liability coverage. Following are minimum insurance coverage requirements:

Type Of Insurance Coverage	Amount
Workers' Compensation And Occupational Disease	Statutory Limits
Employer's Liability (Including Occupational Disease Coverage)	\$1,000,000
Commercial General Liability, Including Operations, Contractual, And Completed Operations Coverages, Occurrence Basis	\$1,000,000 per occurrence and \$2,000,000 aggregate.
Commercial Automobile Liability Covering Owned, Non-Owned And Hired Vehicles Used In The Performance Of The Services	\$1,000,000 Combined Single Limit For Bodily Injury And Property Damage

- D. Contractor shall file with Purchaser a certificate of insurance from its insurance company, stating that such insurance is being carried and that Purchaser will be notified at least 10 days prior to any cancellation of said insurance.

1.07 PURCHASER'S INSURANCE

- A. Purchaser's insurance policy covers work and equipment in place in building and approved and accepted by Consultant and Purchaser. All material and equipment stored on site and not actually installed is not included in Purchaser's policy and such material and equipment shall be covered under Contractor's Property Damage Insurance.

1.08 TAXES, OLD AGE PENSIONS AND UNEMPLOYMENT INSURANCE

- A. Contractor's quotations for required work, materials and equipment shall include all local, state and federal occupational and sales taxes, luxury taxes, excise taxes, federal and state old age pensions, unemployment insurance contributions, and any other similar taxes and contributions in effect at time of award of Contract (verbally or in writing). Contractor shall be liable for aforementioned taxes whether or not specifically included in his quotation or in final Contract Document. In event additional sales or use taxes are imposed after award of Contract, such sales or use taxes are to be paid, in addition to original Contract amount, by Purchaser to Contractor, who in turn is to pay them to proper authorities. Reciprocally, if any of above mentioned taxes or contributions in effect at time of award of Contract should be revoked before consummation of Contract, Contractor shall rebate Purchaser amount of taxes included in original quotation and Contract. Where required by law, amount of the tax is to be specifically stated in Contractor's quotation; however, failing to do so will not relieve Contractor from responsibility for assumption of these taxes.

1.09 LABOR LAWS

- A. Contractor and its Subcontractors performing work under this Contract shall comply with applicable provisions of all federal, state, and local labor laws.

1.10 PATENTS

- A. Contractor shall save and hold harmless Purchaser and its officers, agents, servants, employees, and Consultant from liability of any nature or kind on account of any patented or unpatented invention, process, article, or appliance manufactured or used in performance of Contract, including its use by Purchaser including all cost and expenses for defending any suits unless otherwise specifically stipulated in Contract Documents.

- B. Licenses which may be required for completion of required work are to be obtained and paid for by the Contractor.

1.11 ASSIGNMENTS

- A. Neither party to this Contract shall assign Contract or sublet it as a whole without written consent of other party, nor shall Contractor assign any payment due him or to become due to him hereunder without previous written consent of Purchaser.

1.12 ADVERTISING

- A. Advertising privileges will be retained by Purchaser. It is the duty of Contractor to keep premises free from posters, signs, decorations, etc., unless specifically approved by Purchaser.

1.13 PROTECTION OF WORK AND PROPERTY

- A. Contractor shall continuously maintain adequate protection of all its work from damage and shall protect Purchaser property from injury or loss arising out of this Contract. Contractor shall make good any such damages, injury, or loss, except such as may be directly caused by agents, subcontractors, or employees of the Purchaser. Contractor shall provide all barricades required to protect open hoistways or shafts per OSHA regulations. Design of barricades in public areas shall be approved by Purchaser prior to fabrication and installation.
- B. If Contract includes work which would be disruptive during normal business operations or would be dangerous to building occupants said work shall be performed during hours as building management dictates. Examples of such work include, without limitation, saw cutting of concrete, jack hammering, welding, metal cutting, pouring concrete, erecting steel or hoisting equipment over occupied portions of the building, or performing tests requiring all elevators in a group. Contractor shall perform such work during off-hours and shall include all costs in its quotation.
- C. Contractor shall install a suitable protective covering on all finished floors (whether marble, wood, carpet or other) in areas where work is being performed. No material handling equipment shall be permitted on or over finished floors unless said floors have been protected in a manner approved by building management.
- D. Portable fire extinguishers shall be provided throughout Contractor's area of work and shall be placed so as to be accessible at all times. Extinguishers shall be multi-purpose dry chemical type, provided on a basis of one 2A-20BC rated unit for each 3,000 square feet of floor area. Extinguishers to remain property of Contractor.
- E. Contractor shall at all times maintain work areas so that all portions are accessible to fire department personnel and apparatus. Fire hydrants and fire department connections to building sprinkler systems must be kept free from obstruction at all times.
- F. Contractor shall strictly supervise any welding, metal cutting or other operations employing open flame work. All welding and cutting equipment shall be safely arranged and all combustibles in vicinity of any work being performed shall either be removed or protected by a noncombustible cover. Welding or cutting shall be attended by an assistant or fire watchman who is equipped with at least one 2A-20BC rated multi-purpose dry chemical fire extinguisher. Fire watchman will maintain strict surveillance during entire welding or cutting operation and extinguish flying sparks or burning slag. After welding or cutting operation, fire watchman shall thoroughly search entire area for remnants of smoldering materials

before he is released from his duty. Any welding or other operation employing open flame in any portion of building shall be scheduled with and receive approval of Purchaser.

- G. Contractor shall keep noise level below 80 db level during normal building hours. When it is necessary to produce noise above this level, Contractor shall advise building management of such needs and times will be scheduled as directed. The Contractor shall anticipate and schedule excessive noise-generating procedures and include allowance for same in its quotation and schedule.

1.14 ACCIDENT REPORTS

- A. In the event of accidents of any kind, Contractor shall furnish Purchaser with copies of all accident reports. Reports shall be sent without delay and at same time that they are forwarded to any other parties.

1.15 STORAGE OF MATERIALS

- A. Contractor shall confine storage of materials on job site to limits approved by Purchaser and shall not unnecessarily encumber premises or overload any portion of building with materials to a greater extent than structure design load.

1.16 REMOVAL OF EQUIPMENT AND RUBBISH

- A. Contractor shall remove and properly dispose of all rubbish, as fast as it accumulates including all existing parts and components not retained, keeping building and premises clean during progress of work, and leave premises at completion in a condition acceptable to the Purchaser. Store parts and components identified by Consultant as useful for maintenance of units not being modernized as directed by Purchaser. All other parts and components not retained shall become property of Contractor.

1.17 MATERIALS AND WORKMANSHIP

- A. All materials and equipment furnished shall be new and best quality. Installation shall be accurate, workmanlike, and subject to approval of Consultant. All materials and equipment provided shall conform to regulations of enforcement bodies having jurisdiction. Contractor shall furnish material samples for approval.

1.18 SUPERVISION

- A. Contractor shall assign a competent Project Manager, superintendent, and on-site foreman for project satisfactory to Purchaser and Consultant. Such persons shall represent Contractor and all instructions given to them shall be binding as if given to Contractor.

1.19 ROUTINE BUSINESS

- A. After award of Contract all business relating to required work shall be transacted through Consultant unless otherwise directed.

1.20 CHANGES AND EXTRA WORK

- A. Purchaser may at any time make changes to Contract Documents, plans, and drawings, omit work, or require additional work by Contractor. For such additional work performed hereunder, Purchaser shall pay Contractor on the basis of a mutually agreed lump sum. See Article 1.25 for method of computing lump sum cost of additional work. Contractor

shall make no additions, changes, alterations, or omissions, or perform extra work, without receipt of written authorization of Purchaser.

1.21 PAYMENTS

- A. Unless otherwise agreed, Contractor shall submit monthly applications for payment together with necessary data, information, waivers, and affidavits to Consultant. Consultant shall review data for accuracy and forward such applications to Purchaser for payment. Information shall be submitted with payment request and work progress forms included at the end of this section as Appendix "A."
- B. Applications for payments are to cover 90% of the value of labor performed and material installed and delivered during the preceding month.
- C. Balance (retention) shall be paid by Purchaser upon final acceptance of entire work by Consultant and Purchaser and after performance guarantees have been satisfactorily demonstrated. See Section 01700, Article 1.02, D-G.

1.22 PAYMENT WITHHELD

- A. Purchaser and/or Consultant may withhold approval of payment on any Contractor request to such extent as may be necessary to protect Purchaser from loss on account of:
 - 1. Believed negligence on part of Contractor to execute the work properly or fail to perform any provision of Contract. Purchaser may, after 90 day's written notice to Contractor, and without prejudice to any other remedy it may have, make good such deficiencies and may deduct its cost from the overall Contract sum.
 - 2. Claims filed or reasonable evidence indicating probable filing of claims by other Contractors or Subcontractors.
 - 3. Failure of Contractor to make proper payments to its material suppliers or Subcontractors for material and labor.
 - 4. A reasonable doubt that required work can be completed by Contractor for balance then unpaid or in Contract time frame.
 - 5. Contractor's damage to building or another Contractor.
- B. When the above grounds are removed, payment shall be made in full, less retention.

1.23 LIENS AND AFFIDAVITS

- A. Neither final payment nor any part of billing retention shall become due until Contractor shall deliver to Purchaser a complete release of all liens arising out of this Contract, or receipts marked paid in full in lieu thereof. In addition, Contractor shall furnish an affidavit to Purchaser that so far as he has knowledge or information, releases or receipts include all labor and materials for which a lien could be filed. If any lien remains unsatisfied after all payments are made by Purchaser, Contractor shall refund to Purchaser all monies the latter may be compelled to pay in discharging such a lien, including all costs and reasonable attorney's fees.

1.24 CLAIMS FOR EXTRA COST

- A. Contractor claims for extra cost due to additions or changes to required work shall be submitted to Consultant in writing within a reasonable time after such additions or changes identified or are requested and in any event before proceeding with required work. No such claim shall be valid unless so made. Maximum charge for additions/changes to work shall be Contractor cost +5% handling fee + 10% for overhead and profit. Contractors cost shall be verifiable from actual supplier invoices, purchase orders, time tickets, etc.

1.25 DELAYS AND EXTENSION OF TIME

- A. If Contractor progress is delayed due to acts of Purchaser or Consultant, acts of other Contractors, fire, floods, strikes, or other casualties beyond the control or without fault or negligence of Contractor, time for completion of the work shall be extended for a period determined by Consultant to be equivalent to time of such delay. Contractor must notify Consultant, in writing, of such delay within 48 hours after delay commences or no extension of time will be granted. Extension of time without written request within said period on one or more occasions shall not be deemed a waiver of provisions of this article.

1.26 PERMITS

- A. Contractor shall obtain and pay for or cause its Subcontractor to obtain and pay for all permits required to complete required work. In addition, Contractor shall arrange, schedule, and pay for or cause its Subcontractors to arrange, schedule and pay for all required final inspections by state, local, or independent certified inspecting authorities necessary for issuance of all required Purchaser utilization permits in regard to completed work.

PART 2 SPECIAL CONDITIONS

2.01 PROGRESS OF WORK

- A. Upon award, verbally or in writing, Contractor shall reconfirm in writing starting and completion schedule including equipment delivery dates based upon the information submitted on its quotation form, Section 00310.
- B. Contractor shall submit, in writing, monthly reports with payment request, including current equipment delivery dates and anticipated completion dates for individual units and groups of units.

END OF SECTION

SECTION 01010

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SECTION 01010

SUMMARY OF WORK

PART 1 GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS

- A. Modernize One Elevator.
- B. Provide all labor, engineering, tools, transportation, services, supervision, materials, and equipment necessary for and incidental to satisfactory completion of required work as indicated in Contract Documents.
- C. Provide all required staging, hoisting, and movement of new equipment, reused equipment, or removal of existing equipment.
- D. Applicable conditions of Purchaser's General, Special, and Supplemental Conditions.
- E. Prime contracts are defined below and each is recognized to be a major part of required work to be performed concurrently in close coordination with work of other Contractors.
 - 1. This Contract: Elevator Modernization, including associated work specified in Section 01900.
- F. Scope of Contract includes, but is not limited to, the following:
 - 1. Coordination, scheduling, and management of work of component suppliers and subcontractors.
 - 2. Modernize or furnish and install equipment as specified utilizing existing and/or modified hoistways and machine rooms.
 - 3. Specific item of required work which cannot be determined to be included in another contract is thereby determined to be included in prime contract.

1.02 PRIME CONTRACTOR'S DUTIES

- A. Prime Contractor's duties include the following:
 - 1. Provide and pay for labor, materials and equipment, tools, construction equipment and machinery, and other facilities and services necessary for proper execution and completion of required work.
 - 2. Pay for legally required sales, consumer, and state remodel taxes.
 - 3. Secure and pay for required permits, fees and licenses necessary for proper execution and completion of required work, as applicable at time of quotation due date.
 - 4. Give required notices.
 - 5. Comply with codes, ordinances, rules, regulations, orders and other legal requirements of public authorities which bear on performance of required work.
 - 6. Promptly submit written notice to Consultant of observed variance of Contract Documents from legal requirements.
 - 7. Enforce strict discipline and good order among employees. Do not employ persons unskilled in assigned task.

1.03 WORK SEQUENCE

- A. Construct work in stages. Description and proposed sequence dates are as listed on Quotation Form Section 00310.

1.04 CONTRACTOR USE OF PREMISES

- A. Confine operations at site to areas permitted by law, ordinances, permits, Contract Documents, and Purchaser's specific instructions.
- B. Do not unreasonably encumber site with materials or equipment. Staging area will be located as directed by Purchaser.
- C. Do not load structure with weight that will endanger structure. Coordinate with Purchaser.
- D. Assume full responsibility for protection and safekeeping of tools and products stored on or off premises.
- E. Move stored products which interfere with operations of building or the operations of other trades.
- F. Obtain and pay for use of additional storage or work areas needed for operations.

1.05 CONCURRENT MODERNIZATION WORK AND BUILDING OPERATION

- A. This project is a major elevator modernization in an existing building which is open for public business and will continue to operate throughout all phases of required work. It is essential that Contractor give special attention and priority to all matters concerning project safety, protection from dust and loose materials, reduction of noise level, protection from water and air infiltration into building, and maintenance of neat, sightly conditions in and around work areas inside and outside of building. Packaging, scrap materials, and demolition debris shall be promptly removed from building and site on a daily basis.
- B. At all times, Contractor shall provide clearly visible warning and directions signs, barricades, temporary lighting, overhead protection, and hazard-free walking surfaces throughout public areas. At all times, special attention must be given to building entrances, exits, and proper safe exiting through work areas as required by law.

Contractor shall consult Purchaser and other Contractors to establish and maintain safe temporary routes including, but not limited to, proper barricades, walking surfaces, lighting, fire protection, exiting, warning and directional signs, and general protection of persons from all hazards in accordance with OSHA Standards due wholly or partially to its operations.

END OF SECTION

SECTION 01030

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SECTION 01030

ALTERNATES

PART 1 GENERAL

1.01 SCOPE

- A. Provide material and labor required for complete execution of accepted alternates. Comply with all provisions of the Contract Documents.
- B. Alternates:
 - 1. Provide and install a new island style six panel ceiling with LED light fixtures.

END OF SECTION

SECTION 01040

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SECTION 01040

PROJECT PROCEDURES

PART 1 GENERAL

1.01 APPLICABLE CODES

- A. Compliance with Regulatory Agencies: Comply with most stringent applicable provisions of following Codes, laws, and/or Authorities, including revisions and changes in effect:
 - 1. Safety Code for Elevators and Escalators, ASME A17.1
 - 2. Guide for Inspection of Elevators, Escalators, and Moving Walks, ASME A17.2
 - 3. Elevator and Escalator Electrical Equipment, ASME A17.5
 - 4. National Electrical Code, NFPA 70
 - 5. Americans with Disabilities Act, ADA
 - 6. Local Fire Authority
 - 7. Requirements of most stringent provision of local applicable building code.
 - 8. Life Safety Code, NFPA 101
 - 9. Uniform Federal Accessibility Standard, UFAS

1.02 STAGING AREA

- A. An equipment staging area will be available for use by Contractor. Contractor shall restrict usage to area designated and shall notify Purchaser/Property Management prior to storing of any large equipment which will impose heavy concentrated loading on floor area. Do not store such equipment until approval is received.

1.03 WORK PHASE

- A. See Section 00310, Quotation Form.

1.04 OCCUPANCY AND WORK BY OTHERS

- A. Contractor expressly affirms Purchaser's rights to let other contracts and employ other Contractors in connection with required work. Contractor will afford other Contractors and their workmen reasonable opportunity for introduction and storage of materials and equipment, for execution of their work and will properly connect and coordinate his work with theirs. Contractor will also incorporate comparable provisions in all its subcontracts.
- B. Contractor declares that other Contractors employed by Purchaser on basis of separate contracts may proceed at such times as necessary to install items of work required by Purchaser.
- C. Contractor declares that it will cooperate with other Contractors employed by Purchaser and, in addition to other coordination and expediting efforts, will coordinate their work by written notices regarding necessity of such work to be done on or before certain dates.
- D. Contractor declares that it is responsible for review, stamped, and signed approval of all shop drawings for required work.
- E. Contractor hereby declares that content of foregoing paragraphs and influence they may have on project:
 - 1. Shall not cause a change in stipulated Contract Sum

2. Shall not cause a change in Construction Time Schedule

END OF SECTION

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SECTION 01300

SUBMITTALS

PART 1 GENERAL

1.01 SUBMITTALS

- A. Within 30 calendar days after award of contract and before beginning equipment fabrication, submit shop drawings, and required material samples for review. Allow 15 days for response to initial submittal.
 - 1. Scaled or Fully Dimensioned Layout: Plan of pit, hoistway, and machine room indicating equipment arrangement, elevation section of hoistway, details of car enclosures, hoistway entrances, and car/hall signal fixtures.
 - 2. Design Information: Indicate equipment lists, reactions, and design information on layouts.
 - 3. Power Confirmation Information: Design for existing conditions.
 - 4. Fixtures: Cuts, samples, or shop drawings.
 - 5. Finish Material: Submit 3" x 12" samples of actual finished material for review of color, pattern, and texture. Compliance with other requirements is the exclusive responsibility of the Contractor. Include, if requested, signal fixtures, lights, graphics, Braille plates, and detail of mounting provisions.
 - 6. Design Information: Provide calculations verifying the following:
 - a. Adequacy of existing electrical provisions.
 - b. Machine room heat emissions in B.T.U.
 - c. Adequacy of existing car platform structure for intended loading.
 - d. Adequacy of plunger wall thickness for intended loading.
 - 7. Written Maintenance Control Program (MCP) specifically designed for the equipment included under this contract. Include any unique or product specific procedures or methods required to inspect or test the equipment. In addition, identify weekly, bi-weekly, monthly, quarterly, and annual maintenance procedures, including statutory and other required equipment tests.
- B. Submittal review shall not be construed as an indication that submittal is correct or suitable, or that the work represented by submittal complies with the Contract Documents. Compliance with Contract Documents, code requirements, dimensions, fit, and interface with other work is Contractor's responsibility.
- C. Acknowledge and/or respond to review comments within 14 calendar days of return. Promptly incorporate required changes due to inaccurate data or incomplete definition so that delivery and installation schedules are not affected. Identify and cloud drawing revisions, including Contractor elective revisions on each re-submittal. Contractor's revision response time is not justification for equipment delivery or installation delay.

1.02 FINAL CONTRACT DOCUMENTS

- A. See Section 01700, Project Closeout.

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SECTION 01600

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SECTION 01600

MATERIAL AND HANDLING

PART 1 GENERAL

1.01 SITE CONDITION INSPECTION

- A. Prior to beginning installation of equipment, examine hoistway and machine room areas. Verify no irregularities exist which affect execution of work specified.
- B. Do not proceed with installation until work in place conforms to project requirements.

1.02 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver material in Contractor's original, unopened protective packaging.
- B. Store material in original protective packaging. Prevent soiling, physical damage, or moisture damage.
- C. Protect equipment and exposed finishes from damage and stains during transportation, erection, and construction.
- D. Allocate available site storage areas and coordinate their use with Purchaser and other Contractors.
- E. Provide suitable temporary weather-tight storage facilities as may be required for materials which will be stored in the open.

1.03 INSTALLATION REQUIREMENTS

- A. Install all equipment in accordance with Contractor's instructions, referenced codes, specification, and approved submittals.
- B. Install machine room equipment with clearances in accordance with referenced codes and specification.
- C. Install all equipment so it may be easily removed for maintenance and repair.
- D. Install all equipment for ease of maintenance.
- E. Install all equipment to afford maximum accessibility, safety, and continuity of operation.
- F. Remove oil, grease, scale, and other foreign matter from the following equipment and apply one coat of field-applied machinery enamel.
 - 1. All exposed equipment and metal work installed as part of this work which does not have architectural finish.
 - 2. Machine room equipment, and pit equipment.
 - 3. Hoistway equipment including guide rails, guide rail brackets, and pit equipment.
 - 4. Neatly touch up damaged factory-painted surfaces with original paint color. Protect machine-finish surfaces against corrosion.

1.04 MANUFACTURER'S NAMEPLATES

- A. Manufacturer's name plates and other identifying markings shall not be affixed on surfaces exposed to public view. This requirement does not apply to Underwriter's Laboratories and code required labels.
- B. Each major component of mechanical and electrical equipment shall have identification plate with the Manufacturer's name, address, model number, rating, and any other information required by governing codes.

1.05 COLORS OF FACTORY-FINISHED EQUIPMENT

- A. All colors will be selected from the Manufacturer's standard range unless custom colors are specified herein.
- B. Submit samples of all standard colors available and/or specified custom colors for review and approval. See Section 01300, Submittals
- C. Submit samples of all specified architectural metals specified for review and approval. See Section 01300, Submittals.

1.06 MATERIALS AND FINISHES

- A. Steel:
 - 1. Sheet Steel (Furniture Steel for Exposed Work): Stretcher-leveled, cold-rolled, commercial quality carbon steel, complying with ASTM A366, matte finish.
 - 2. Sheet Steel (for Unexposed Work): Hot-rolled, commercial quality carbon steel, pickled and oiled, complying with ASTM A568/A568M-03.
 - 3. Structural Steel Shapes and Plates: ASTM A36.
- B. Stainless Steel: Type 302 or 304 complying with ASTM A240, with standard tempers and hardness required for fabrication, strength and durability. Apply mechanical finish on fabricated work in the locations shown or specified, Federal Standard and NAAMM nomenclature, with texture and reflectivity required to match Architect's sample. Protect with adhesive paper covering.
 - 1. No. 4 Satin: Directional polish finish. Graining directions as shown or, if not shown, in longest dimension.
 - 2. No. 8 Mirror: Reflective polish finish with no visible graining.
 - 3. Textured: 5WL as manufactured by Rigidized Metals or 5-SM as manufactured by Rimex Metals or approved equal with .050 inches mean pattern depth with bright directional polish (satin finish).
 - 4. Burnished: Non-directional, random abrasion pattern.
- C. Bronze: Stretcher-leveled, re-squared sheets composed of 60% copper and 40% zinc similar to Muntz Metal, Alloy Group 2, with standard temper and hardness required for fabrication, strength, and durability. Clean and treat bronze surfaces before mechanical finish. After completion of the final mechanical finish on the fabricated work, use a chemical cleaner to produce finish, Federal Standard, and NAAMM nomenclature, matching Architect's sample:
 - 1. No. 4 Satin: Directional polish finish, fine-satin, clear-coated with clear-organic coating recommended by Fabricator. Provide graining direction as shown or, if not shown, in longest dimension.
 - 2. No. 8 Mirror: Reflective polish finish with no visible graining, bright-polished, clear-coated finish with clear-organic lacquer coating recommended by Fabricator.

3. Acid-Etched Pattern: Provide a No. 8 mirror reflective-polished background with selectively acid-etched, matte-textured, custom pattern as shown. Acid selection and dilution, if required, as recommended by Fabricator. After final finishing, coat bronze with clear-organic lacquer coating recommended by Fabricator.
- D. Aluminum: Extrusions per ASTM B221; sheet and plate per ASTM B209.
- E. Plastic Laminate: ASTM E84 Class A and NEMA LD3.1, Fire-Rated Grade (GP-50), Type 7, 0.050" ± 0.005" thick, color and texture as follows:
 1. Exposed Surfaces: Color and texture selected by Architect.
 2. Concealed Surfaces: Contractor's standard color and finish.
- F. Fire-Retardant Treated Particle Board Panels: Minimum ¾" thick backup for natural finished wood and plastic laminate veneered panels, edged and faced as shown, provided with suitable anti-warp backing; meet ASTM E84 Class "I" rating with a flame-spread rating of 25 or less, registered with local authorities for elevator finish materials.
- G. Natural Finish Wood Veneer: Standard thickness, 1/40" thoroughly dried conforming to ASME/HPMA HP-1983, Premium Grade. Place veneer, tapeless spliced with grain running in direction shown, belt and polish sanded, book-matched. Species and finish designated and approved by Architect.
- H. Paint: Clean exposed metal parts and assemblies of oil, grease, scale, and other foreign matter and factory paint one shop coat of standard rust-resistant primer. After erection, provide one finish coat of industrial enamel paint. Galvanized metal need not be painted.
- I. Prime Finish: Clean all metal surfaces receiving a baked enamel paint finish of oil, grease, and scale. Apply one coat of rust-resistant primer followed by a filler coat over uneven surfaces. Sand smooth and apply final coat of primer.
- J. Baked Enamel Finish: Prime finish per above. Unless specified "prime finish" only, apply and bake three (3) additional coats of enamel in the selected solid color.
- K. Refinishing of natural metals: Remove existing protective finish. Buff as necessary to remove scratches. Regrain or finish as specified and protect as indicated for particular metal type.

END OF SECTION

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SECTION 01700

FINAL CONTRACT COMPLIANCE REVIEW

PART 1 GENERAL

1.01 FINAL CLEANING

- A. See Section 00800, Supplemental Conditions, for contractual requirements governing site cleaning. As a minimum:
 - 1. Elevator hoistways and all equipment therein shall be cleaned and left free of rust, filings, welding slag, rubbish, loose plaster, mortar drippings, extraneous construction materials, dirt, and dust. Include walls, building beams, sill ledges, and hoistway divider beams.
 - 2. Care shall be taken by workpersons not to mark, soil, or otherwise deface existing or new surfaces. Clean and restore such surfaces to their original condition.
 - 3. Clean down surfaces and areas which require final painting and finishing work. Cleaning includes removal of rubbish, broom cleaning of floors, removal of any loose plaster or mortar, dust, and other extraneous materials from finish surfaces, and surfaces that will remain visible after the work is complete.

1.02 CONSULTANT'S FINAL OBSERVATION AND REVIEW REQUIREMENTS

- A. Review procedure shall apply for individual elevators, portions of groups of elevators and completed groups of elevators accepted on an interim basis, or elevators and groups of elevators completed, accepted, and placed in operation.
- B. Contractor shall perform review and evaluation of all aspects of its work prior to requesting Consultant's final review. Work shall be considered ready for Consultant's final contract compliance review when all Contractor's tests are complete and all elements of work or a designated portion thereof are in place and elevator or group of elevators are deemed ready for service as intended.
- C. Furnish labor, materials, and equipment necessary for Consultant's review. Notify Consultant five (5) working days in advance when ready for final review of elevator or group of elevators.
- D. Consultant's written list of observed deficiencies of materials, equipment, and operating systems will be submitted to Contractor for corrective action. Consultant's review shall include as a minimum:
 - 1. Workmanship and equipment compliance with Contract Documents.
 - 2. Contract speed, capacity, floor-to-floor, and door performance comply with Contract Documents.
 - 3. Performance of following is satisfactory:
 - a. Starting, accelerating, running
 - b. Decelerating and stopping accuracy
 - c. Door operation and closing force
 - d. Equipment noise levels
 - e. Signal fixture utility
 - f. Overall ride quality
 - g. Performance of door control devices
 - h. Operations of emergency two-way communication device
 - i. Operations of firefighters' service

4. Test Results:
 - a. In all test conditions, obtain specified contract speed, performance times, stopping accuracy without re-leveling, and ride quality to satisfaction of Purchaser and Consultant. Tests shall be conducted under both no load and full load condition.
 - b. Temperature rise in motor windings limited to 50° Celsius above ambient. A full-capacity one (1) hour running test, stopping at each floor for ten (10) seconds in up and down directions, may be required.
- E. Performance Guarantee: Should Consultant's review identify defects, poor workmanship, variance or noncompliance with requirements of specified codes and/or ordinances, or variance or noncompliance with the requirements of Contract Documents, Contractor shall complete corrective work in an expedient manner to satisfaction of Purchaser and Consultant at no cost as follows:
 1. Replace equipment that does not meet code or Contract Document requirements.
 2. Perform work and furnish labor, materials, and equipment necessary to meet specified operation and performance.
 3. Perform retesting required by Governing Code Authority, Purchaser, and Consultant.
- F. A follow-up final contract compliance review shall be performed by Consultant after notification by Contractor that all deficiencies have been corrected. Provide Consultant with copies of the initial deficiency report marked to indicate items which Contractor considers complete.

1.03 PURCHASER'S INFORMATION

- A. Provide three sets of neatly bound written information necessary for proper maintenance and adjustment of equipment within 30 days following final acceptance. Final retention will be withheld until data is received by Purchaser and reviewed by Consultant. Include the following as minimums:
 1. Straight-line wiring diagrams of "as-installed" elevator circuits with index of location and function of components. Provide one set reproducible master. Mount one set wiring diagrams on panels, racked, or similarly protected, in elevator machine room. Provide remaining set rolled and in a protective drawing tube. Maintain all drawing sets with addition of all subsequent changes. These diagrams are Purchaser's property.
 2. Written Maintenance Control Program (MCP) specifically designed for the equipment included under this contract. Include any unique or product specific procedures or methods required to inspect or test the equipment. In addition, identify weekly, bi-weekly, monthly, quarterly, and annual maintenance procedures, including statutory and other required equipment tests.
 3. Provide any necessary interface cards required for equipment maintenance, code mandated testing, and troubleshooting.
 4. Lubrication instructions including recommended grade of lubricants.
 5. Parts catalogs for all replaceable parts including ordering forms and instructions.
 6. Four sets of keys for all switches and control features properly tagged and marked.
 7. Neatly bound instructions explaining all operating features including all apparatus in the car and lobby control panels.
 8. Neatly bound maintenance and adjustment instructions explaining areas to be addressed, methods and procedures to be used, and specified tolerances to be maintained for all equipment.
 9. Diagnostic equipment complete with access codes, adjusters manuals and set-up manuals for adjustment, diagnosis and troubleshooting of elevator system, and performance of routine safety tests.

- B. **Non-Proprietary Equipment Design:** Provide three sets of neatly bound written information necessary for proper maintenance and adjustment of equipment within 30 days following final acceptance. Final retention will be withheld until data is received by Purchaser and reviewed by Consultant. Include the following as minimums:
1. Straight-line wiring diagrams of "as-installed" elevator circuits with index of location and function of components. Mount one set wiring diagrams on panels, racked, or similarly protected, in elevator machine room. Provide remaining set rolled and in a protective drawing tube. Maintain all drawing sets with addition of all subsequent changes. These diagrams are Purchaser's property. A legend sheet shall be furnished with each set of drawings to provide the following information:
 - a. Name and symbol of each relay, switch, or other apparatus.
 - b. Location on drawings, drawing sheet number and area, and location of all contacts.
 - c. Location of apparatus, whether on controller or on car.
 2. Written Maintenance Control Program (MCP) specifically designed for the equipment included under this contract. Include any unique or product specific procedures or methods required to inspect or test the equipment. In addition, identify weekly, bi-weekly, monthly, quarterly, and annual maintenance procedures, including statutory and other required equipment tests.
 3. Printed instructions explaining all operating features.
 4. Complete software documentation for all installed equipment.
 5. Lubrication instructions, including recommended grade of lubricants.
 6. Parts catalogs listing all replaceable parts including Contractor's identifying numbers and ordering instructions.
 7. Four sets of keys for all switches and control features properly tagged and marked.
 8. Diagnostic test devices together with all supporting information necessary for interpretation of test data, troubleshooting of elevator system, and performance of routine safety tests.
 9. The elevator installation shall be a design which can be maintained by any licensed elevator maintenance company employing journeymen mechanics, without the need to purchase or lease additional diagnostic devices, special tools, or instructions from the original equipment Contractor.
 - a. Provide on site capability to diagnose faults to the level of individual circuit boards and individual discrete components for the solid state elevator controller.
 - b. Provide a separate, detachable device, as required, to the Purchaser as part of this installation if the equipment for fault diagnosis is not completely self-contained within the controller. Such device shall be in possession of and become property of the Purchaser.
 - c. Installed equipment not meeting this requirement shall be removed and replaced with conforming equipment at no cost to the Purchaser.
 10. Provide upgrades and/or revisions of software during the progress of the work, warranty period and the term of the ongoing maintenance agreement between the Purchaser and Contractor.
- C. **Preventive Maintenance Contract:** Furnish properly executed contract for continuing, preventive maintenance. Utilize contract form herein provided, Section 14325, Vertical Transportation Preventive Maintenance Contract.
- D. Acceptance of such records by Purchaser/Consultant shall not be a waiver of any Contractor deviation from Contract Documents or shop drawings or in any way relieve Contractor from his responsibility to perform work in accordance with Contract Documents.

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SECTION 01800

MAINTENANCE

PART 1 GENERAL

1.01 INTERIM MAINTENANCE

- A. Furnish preventive maintenance service on elevators described herein for a period from notice to proceed, verbal or written, until each unit is removed from building service for modernization. In addition, furnish interim preventive maintenance on completed units until the modernization of each group of elevators is complete and one-year warranty maintenance, defined in Item 1.02 below, is commenced. Cost of interim maintenance shall not be included as part of modernization quotation. Indicate costs on a per-unit basis for interim maintenance as requested on quotation form, Section 00310. Costs for interim maintenance shall be paid by Purchaser separately and monthly based upon the number of units in service. Perform interim maintenance based upon terms and conditions of Section 14325.
- B. Use competent personnel, acceptable to Purchaser, employed and supervised by the Contractor.

1.02 WARRANTY MAINTENANCE

- A. Provide preventive maintenance and 24-hour emergency callback service for one year commencing on date of final acceptance by Purchaser. Systematically examine, adjust, clean, and lubricate all equipment. Repair or replace defective parts using parts produced by the Contractor of installed equipment. Maintain elevator machine room, hoistway, and pit in clean condition.
- B. Use competent personnel, acceptable to the Purchaser, supervised and employed by Contractor.
- C. The warranty maintenance period specified in Item 1.02, A. above shall be extended one (1) month for each three (3) month period in which equipment related failures average more than .25 per unit per month.
- D. Purchaser retains the option to delete cost of warranty maintenance from new equipment contract and remit twelve (12) equal installments directly to Contractor during period in which maintenance is being performed.

1.03 CONTRACT PREVENTIVE MAINTENANCE

- A. Quote monthly cost for five-year Preventive Maintenance Agreement commencing upon completion of the warranty period specified in Item 1.02, A. above. Submit quote based upon terms and conditions of the Preventive Maintenance Agreement, Section 14325. Base quotation on present labor and material cost. Price adjustment will be made at Agreement commencement date and thereafter as provided in Agreement.
- B. Use competent personnel, acceptable to the Purchaser, employed and supervised by Contractor.

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SECTION 01900

RELATED WORK

PART 1 GENERAL

1.01 RELATED WORK BY CONTRACTOR

- A. Hoistway and Pit:
 - 1. Cutting and patching.
 - 2. Pit access stationary ladder for each elevator. Retractable ladder if provided shall include an electrical contact conforming to ASME A17.1, Rule 2.2.2.4.2.7.
- B. Machine Room and Machinery Spaces:
 - 1. Provide new 1.5 hour fire rated self-closing and locking access door.
 - 2. Ventilation and heating. Maintain minimum temperature of 55° F, maximum 90° F. Maintain maximum 80% relative humidity, non-condensing. As required include low ambient kit on condensing unit.
 - 3. Paint walls and ceiling.
 - 4. Class "ABC" fire extinguisher in each elevator machine room.
- C. Electrical Service, Conductors, and Devices:
 - 1. Lighting and GFCI convenience outlets in pit, machine room, and overhead machinery spaces. Provide one additional non-GFCI convenience outlet in pit for sump pump and oil return pump.
 - 2. Three-phase mainline copper power feeder with true earthen grounding to terminals of each elevator controller in the machine room with protected, lockable "open" disconnecting means with auxiliary contacts to allow Elevator Contractor to electronically interlock battery power lowering unit.
 - 3. Single-phase copper power feeder to each elevator controller for car lighting and exhaust blower with individual protected, lockable "open" disconnecting means located in machine room.
 - 4. Emergency telephone line to each individual elevator control panel in elevator machine room.
 - 5. Fire alarm initiating devices in each elevator lobby for each group of elevators or single elevator and each machine room to initiate firefighters' return feature. Device at top of hoistway if sprinklered. Provide alarm initiating signal wiring from hoistway or machine room connection point to elevator controller terminals. Device in machine room and at top of hoistway to provide signal for general alarm and discrete signal for Phase II firefighters' operation.
 - 6. Means to automatically disconnect power to affected elevator pump unit and controller prior to activation of machine room fire sprinkler system and/or hoistway fire sprinkler system. Manual shut-off means shall be located outside bounds of machine room.
 - 7. When sprinklers are provided in the hoistway all electrical equipment located less than 4'-0" above the pit floor shall be identified for use in wet locations. Exception: seismic protection devices.

END OF SECTION

SECTION 14250

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SECTION 14250

HYDRAULIC ELEVATOR MODERNIZATION

PART 1 GENERAL

1.01 WORK INCLUDED

- A. One hydraulic elevators as follows:
- B. All engineering, equipment, labor, and permits required to satisfactorily complete elevator modernization required by Contract Documents.
- C. Applicable conditions of General, Special, and Supplemental Conditions, Division 1, and all sections listed in Contract Documents "Table of Contents."
- D. Preventive maintenance as described in Section 01800 and Section 14325 herein.
- E. Additional equipment or finishes furnished under other sections, installed under this section:
 - 1. Building announcement speaker
 - 2. In car Firefighters' telephone jack
 - 3. CCTV system
 - 4. Card reader security system
- F. Cartage and Hoisting: All required staging, hoisting and movement to, on, and from the site including new equipment, reused equipment, or dismantling and removal of existing equipment.
- G. Unless specifically identified as "Reuse," "Retain," or "Refurbish," provide new equipment.
- H. Protective barrier(s) between car(s) in normal operation and adjacent car(s) in the modernization process. Full depth and height of hoistway.
- I. Hoistway, pit, and machine room barricades as required.

1.02 RELATED WORK PROVIDED UNDER OTHER SECTIONS

- A. See Section 01900, Related Work Provided Under Other Sections.

1.03 DEFINITIONS

- A. Terms used are defined in the latest edition of the Safety Code for Elevators and Escalators, ASME A17.1.
- B. Reference to a device or a part of the equipment applies to the number of devices or parts required to complete the installation.
- C. Provisions of this specification are applicable to all elevators unless identified otherwise.

1.04 QUALITY ASSURANCE

- A. **Qualified Contractors:** Alternate Contractors must receive approval of Architect, Purchaser, and/or Consultant at least 14 days prior to bid date. See Section 00020.
- B. **Approved Contractors:** Alternate Contractors must receive approval of Purchaser and/or Consultant at least 14 calendar days prior to bid date.
 - 1. Hydraulic Elevator: KONE, Minnesota Elevator Inc., Otis, Schindler, ThyssenKrupp.
- C. **Compliance with Regulatory Agencies:** See Section 01040, Project Procedures.
- D. **Warranty:**
 - 1. Material and workmanship of installation shall comply in every respect with Contract Documents. Correct defective material or workmanship which develops within one year from date of final acceptance of all work to satisfaction of Architect, Purchaser and Consultant at no additional cost, unless due to ordinary wear and tear, or improper use or care by Purchaser. Perform maintenance in accordance with terms and conditions indicated in the Preventive Maintenance Agreement.
 - 2. Defective is defined to include, but not be limited to: operation or control system failures, car performance below required minimum, excessive wear, unusual deterioration, or aging of materials or finishes, unsafe conditions, the need for excessive maintenance, abnormal noise, or vibration, and similar unsatisfactory conditions.
 - 3. Retained Equipment: All retained components, parts, and materials shall be cleaned, checked, modified, repaired or replaced, so each component and its parts are in like new operating condition. Retained equipment must be compatible for integration with new systems. All retained equipment shall be covered under the warranty provisions, of Article 1.04, D., 1. & 2. above. No prorations of equipment or parts shall be allowed on preventive maintenance contract, Section 14325, between the Contractor and Purchaser.
 - 4. Make modifications, requirements, adjustments, and improvements to meet performance requirements of Sections 01700 and 14250.

1.05 DOCUMENT AND SITE VERIFICATION

In order to discover and resolve conflicts or lack of definition which might create problems, Contractor must review Contract Documents and site conditions for compatibility with its product prior to submittal of quotation. Review existing structural, electrical provisions, and mechanical provisions for compatibility with Contractor's products. Purchaser will not pay for change to structural, mechanical, electrical, or other systems required to accommodate Contractor's equipment.

1.06 SUBMITTALS

- A. See Section 01300, Submittals, and Section 01700, Final Contract Compliance Review, Article 1.03.

1.07 PERMIT, TEST AND INSPECTION

- A. Obtain and pay for permit, license, and inspection fee necessary to complete installation.
- B. Perform test required by governing authority in accordance with procedure described in ASME A17.2 Guide for Inspection of Elevators, Escalators, and Moving Walks in the presence of Authorized Representative.

- C. Supply personnel and equipment for test and final review by Consultant, as required in Section 01700.

1.08 MAINTENANCE

- A. Interim: See Section 01800, Maintenance, Article 1.01, A.
- B. Warranty Maintenance: See Section 01800, Maintenance, Article 1.02, A.
- C. Preventive Maintenance: See Section 01800, Maintenance, Article 1.03, A.

PART 2 PRODUCTS

2.01 SUMMARY

- A. Passenger Elevator
- B. Unless specifically identified as "retain existing," provide new equipment.

	Existing Equipment	Disposition
Number:	Car One	Retain Existing
Capacity:	2000#	Retain Existing
Class Loading:	Passenger Class A	Retain Existing
Contract Speed:	95 F.P.M.	Retain Existing
Machine:	Hydraulic Pump	New Submersible
Machine Location:		Adjacent
Supervisory Control:	Microprocessor-Based System	Microprocessor-Based System
Operational Control:	Selective Collective	Microprocessor-Based System
Motor Control:	Single Speed AC with Wye Delta Start	Single Speed AC with Electronic Soft Start
Power Characteristics:	Field Verify	Retain Existing
Stops:	2 Front	Retain Existing
Openings:	2 Front	Retain Existing
Floors Served:	2 Front	Retain Existing
Travel:	Field Verify	Retain Existing

	Existing Equipment	Disposition
Entrance Type:	Singe Speed Center Opening	Retain Existing
Door Operation:	Medium Speed, Heavy-Duty, Door Operator, Minimum Opening Speed 1-1/2 F.P.S.	Medium Speed, Linear, Heavy-Duty, Door Operator, Minimum Opening Speed 1-1/2 F.P.S.
Door Protection:	Mechanical Safety Edge	Infrared, Full Screen Device, with Differential Timing Nudging and Interrupted Beam Time
Hydraulic Type:	Direct Plunger	Retain Existing
Guide Rails:	Planed Steel Tees	Retain Existing
Buffers:	Spring	Spring Retain Existing
		Battery Powered Emergency Car Lighting. Provide Separate Constant Pressure Test Button in Car Service Compartment. Illuminate Portion of Normal Car Lighting
Signal Fixtures:		LED Illumination Contractor's Standard Vandal Resistant Assembly
Hall and Car Pushbutton Stations:		Single Hall Pushbutton Riser
		Vandal Resistant Car and Hall Pushbuttons
Car Position Indicators:		Dual Digital with Car Direction Arrows
In Car Lanterns:		All Car Entrance Columns with Volume Adjustable Electronic Chime or Tone. Sound Twice for Down Direction. Vandal Resistant Assembly
Communication System:		Intercom with Distress Signal

Existing Equipment	Disposition
	Self-Dialing, Vandal Resistant, Push To Call, Two-Way Communication System with Recall, Tracking and Voiceless Communication
Fixture Submittal:	Submit Brochure Depicting Contractor's Proposed Designs with Bid
Additional Features:	Car Roller Guides
	Car Top Inspection Station
	Firefighters' Service, Phase I And II, Including Alternate Floor Return
	Battery Pack Standby Power Provision
	Accessibility and Emergency Medical Services Signage
	Stationary Car Return Panels Arranged for Surface Applied Car Operating Panel
	Hoistway Access Switches Top and Bottom Floors
	Hoistway Door Unlocking Device All Floors
	Platform Isolation Jack to Platen Connection(s)
	Independent Service Feature
	Individual Floor Lockoff Featurefor Floors 1,2
	Card Reader Provisions, All Cars
	Hydraulic Pump Unit, and Controller Sound Isolation

Existing Equipment	Disposition
	Tamper Resistant Fasteners for All Fastenings Exposed to the Public
	One Year Warranty Maintenance with 24-Hour Call-Back Service
	Firefighters' Telephone Jack
	Emergency Paging Speaker Installation
	Seismic Safety Valve
	Seismic Devices
	No Visible Company Name or Logo
	Wiring Diagrams, Operating Instructions, and Parts Ordering Information
	System Diagnostic Means and Instructions
	Non-Proprietary Control System and Diagnostics Provisions

2.02 MATERIALS

- A. See Section 01600, Materials.

2.03 CAR PERFORMANCE

- A. Car Speed: $\pm 10\%$ of contract speed under any loading condition.
- B. Car Capacity: Safely lower, stop and hold 125% of rated load.
- C. Car Stopping Zone: $\pm 1/4"$ under any loading condition.
- D. Door Opening Time: Seconds from start of opening to fully open: 3.1 Seconds.
- E. Door Closing Time: Seconds from start of closing to fully closed: 4.0
- F. Car Floor-to-Floor Performance Time: Seconds from start of doors closing until doors are 3/4 open (1/2 open for side opening doors) and car level and stopped at next successive floor under any loading condition or travel direction (10' typical floor height): 16.5 Seconds
- G. Pressure: Fluid system components shall be designed and factory tested for 500 p.s.i. Maximum operating pressure shall be 400 p.s.i.

- H. Car Ride Quality:
 - 1. Horizontal and vertical acceleration within car during all riding and door operating conditions. Not more than 20 mg peak to peak (adjacent peaks) in the 1 - 10 Hz range.
 - 2. Acceleration and Deceleration: Smooth constant and not less than and not more than 3 feet/second² with an initial ramp between 0.5 and 0.75 second.
 - 3. Sustained Jerk: Not more than 6 feet/second³.
 - 4. Measurement Standards: Measure and evaluate ride quality consistent with ISO 18738, using low pass cutoff frequency of 10 Hz and A95 peak-to-peak average calculations.
- I. Noise and Vibration Control
 - 1. Airborne Noise: Measured noise level of elevator equipment and its operation shall not exceed 60 dBA inside car under any condition including door operation and car ventilation exhaust blower on its highest speed. Limit noise level in the machine room relating to elevator equipment and its operation to no more than 80 dBA. All dBA readings to be taken 3'-0" off the floor and 3'-0" from the equipment using the "A" weighted scale.
 - 2. Vibration Control: All elevator equipment provided under this contract, including power unit, controller, oil supply lines, and their support shall be mechanically isolated from the building structure and electrically isolated from the building power supply and to each other to minimize the possibility of objectionable noise and vibrations being transmitted to occupied areas of the building.

2.04 OPERATION

- A. Selective Collective Microprocessor-Based:
 - 1. Operate car without attendant from pushbuttons in car and located at each floor. When car is available, automatically start car and dispatch it to floor corresponding to registered car or hall call. Once car starts, respond to registered calls in direction of travel and in the order the floors are reached.
 - 2. Do not reverse car direction until all car calls have been answered, or until all hall calls ahead of car and corresponding to the direction of car travel have been answered.
 - 3. Slow car and stop automatically at floors corresponding to registered calls, in the order in which they are approached in either direction of travel. As slowdown is initiated for a hall call, automatically cancel hall call. Cancel car calls in the same manner. Hold car at arrival floor an adjustable time interval to allow passenger transfer.
 - 4. Answer calls corresponding to direction in which car is traveling unless call in the opposite direction is highest (or lowest) call registered.
 - 5. Illuminate appropriate pushbutton to indicate call registration. Extinguish light when call is answered.
- B. Other Items:
 - 1. Low Oil Control: In the event oil level is insufficient for travel to the top floor, provide controls to return elevator to the main level and park until oil is added.
 - 2. Independent Service: Provide controls for operation of each car from its pushbuttons only. Close doors by constant pressure on desired destination floor button or door close button. Open doors automatically upon arrival at selected floor.
 - 3. Car-to-Lobby Feature: Provide the means for automatic return to the ground floor. Return car nonstop after answering pre-registered car calls, and park with doors open for an adjustable time period of 60 - 90 seconds. Upon expiration of time period, car shall automatically revert to normal operation and close its doors until

assigned as next car or until the car is placed on manual control via in-car attendant or out-of-service switch.

- C. Firefighters' Service: Provide equipment and operation in accordance with code requirements.
- D. Automatic Car Stopping Zone: Stop car within 1/4" above or below the landing sill. Maintain stopping zone regardless of load in car, direction of travel, distance between landings.
- E. Motion Control: AC type with unit valve suitable for operation specified and capable of providing smooth, comfortable car acceleration and retardation. Limit the difference in car speed between full load and no load to not more than $\pm 10\%$ of the contract speed in either direction of travel.
- F. Selective Leveling: Provide means to limit elevator car speed when traveling between adjacent floors.
- G. Door Operation: Automatically open doors when car arrives at main floor. At expiration of normal dwell time, close doors.
- H. Standby Lighting and Alarm: Car mounted battery unit with solid-state charger to operate alarm bell and car emergency lighting. Battery to be rechargeable with minimum 5-year life expectancy. Include required transformer. Provide constant pressure test button in service compartment of car operating panel. Provide lighting integral with portion of normal car lighting system.
- I. Battery Standby Power Transfer:
 - 1. Upon loss of normal power, provide controls to automatically lower the car(s) to the nearest lower landing. Upon arrival at the nearest landing, the elevator doors shall open automatically and remain open until regular door time has expired. The elevator shall then become deactivated. The standby power source shall be provided via 12-volt D.C. battery units installed in machine room, including solid-state charger and testing means mounted in a common metal container. Battery to be rechargeable lead acid or nickel cadmium with a 10-year life expectancy.
 - 2. Upon restoration of normal power, the elevator shall automatically resume normal operation.
- J. Security System: Provide means to limit access to each building floors as follows:
 - 1. Individual floor lockout means in main car operating panel and security control panel to prevent registration of car calls to any selected secure floor.
 - 2. Arrange system so that independent service overrides security system.
 - 3. Arrange system so that firefighters' service overrides security system.
 - 4. Actuate hall lantern each time car arrives at main lobby during secure mode operation.
 - 5. Provide warning light and signal in lobby indicator panel to indicate an attempt to register unauthorized destinations or to open car doors when car is moving or parked at a secured floor. Provide reset switch or button to cancel warning light and signal.
- K. Card/Proximity Reader Security System: Provide provisions inside Car for reader unit. Mount reader unit as directed by Architect and cross connect from car pushbuttons to control module in machine room. Reader control unit, mounting brackets, wiring materials, logic circuits, etc., by Security Subcontractor. Provide a filler plate to match card slot size and car return panel finish, including direction of graining, where card slot or proximity

reader cutout is not initially utilized. Elevator control systems shall facilitate system tracking of persons accessing secure floors via printout by passenger I.D. number, floor accessed, and time of entry.

2.05 MACHINE ROOM EQUIPMENT

- A. Arrange equipment in existing machine room spaces.
- B. Pump Unit: Assembled unit consisting of positive displacement pump, induction motor, master-type control valves combining safety features, holding, direction, bypass, stopping, manual lowering functions, shut off valve, oil reservoir with protected vent opening, oil level gauge, outlet strainer, drip pan, muffler, all mounted on isolating pads. Provide oil thermal unit oil cooling unit and oil temperature thermostat to maintain oil at operating temperature. Enclose entire unit with removable sheet steel panels lined with sound-absorbing material. Provide SCR soft start with closed transition. Design unit for 80 upstarts/hour.
- C. Landing Systems: Solid-state, magnetic, or optical type.
- D. Controller: UL/CSA labeled.
 - 1. Compartment: Securely mount all assemblies, power supplies, chassis switches, relays, etc., on a substantial, self-supporting steel frame. Completely enclose equipment with covers. Provide means to prevent overheating.
 - 2. Relay Design: Magnet operated with contacts of design and material to insure maximum conductivity, long life, and reliable operation without overheating or excessive wear. Provide wiping action and means to prevent sticking due to fusion. Contacts carrying high inductive currents shall be provided with arc deflectors or suppressors.
 - 3. Microprocessor-Related Hardware
 - a. Provide built-in noise suppression devices which provide a high level of noise immunity on all solid-state hardware and devices.
 - b. Provide power supplies with noise suppression devices.
 - c. Isolate inputs from external devices, such as pushbuttons, with opto-isolation modules.
 - d. Design control circuits with one leg of power supply grounded.
 - e. Safety circuits shall not be affected by accidental grounding of any part of the system.
 - f. System shall automatically restart when power is restored.
 - g. System memory shall be retained in the event of power failure or disturbance.
 - h. Equipment shall be provided with Electro Magnetic Interference (EMI) shielding within FCC guidelines.
 - 4. Wiring: CSA labeled copper for factory wiring. Neatly route all wiring interconnections and securely attach wiring connections to studs or terminals.
 - 5. Permanently mark components, relays, fuses, PC boards, etc., with symbols shown on wiring diagrams.
 - 6. Provide controller or pump unit mounted auxiliary lockable "open," disconnect if mainline disconnect is not in sight of controller and/or pump unit.
- E. Muffler: Provide in discharge oil line near pump unit. Design shall dampen and absorb pulsation and noise in the flow of hydraulic fluid.
- F. Piping and Oil: Provide piping, connections and oil for the system. Buried piping shall be secondarily contained with watertight Schedule 40 PVC sleeves between elevator machine room and pit. A minimum of two (2) sound isolation couplings shall be provided between

the pump unit and oil line and the oil line and jack unit. Provide isolated pipe stands or hangers as required.

- G. Shutoff Valve: Manual valve in line adjacent to pump unit. Provide second valve in pit adjacent to jack unit.

2.06 HOISTWAY EQUIPMENT

- A. Guide Rails: Retain main guide rails in place.
1. Clean rails and brackets. Remove rust.
 2. Check all rail and bracket fastenings and tighten.
 3. Realign rails as required to provide smooth car ride.
 4. Provide supplemental rail brackets and/or backing as required by code or to enhance car ride quality.
- B. Buffers, Car: Retain existing.
1. Rebuild as required and paint.
- C. Hydraulic Jack Assembly: Retain existing.
1. Cylinder: Retain existing.
 2. Plunger: Retain existing. Isolate plunger from car frame.
- D. Jack Support and Fluid Shut-Off Valve(s): Retain existing steel pit channels to support jack assembly and transmit loads to building structure. Provide manual on/off valve(s) in oil line(s) adjacent to pump unit and jack unit(s) in pit adjacent to jack unit(s).
- E. Overspeed Valves: Provide a pressure sensitive, mechanically-actuated seismic safety valve, conforming to ASME A17.1, Rule 2410.6 3.19.4.7. Connect valve directly to jack assembly inlet.
- F. Terminal Stopping: Provide normal and final devices.
- G. Electrical Wiring and Wiring Connections:
1. Conductors and Connections: Copper throughout with individual wires coded and connections on identified studs or terminal blocks. Use no splices or similar connections in wiring except at terminal blocks, control compartments, or junction boxes. Provide 10% spare conductors throughout. Run spare wires from car connection points to individual elevator controllers in the machine room. Provide four pair of spare shielded communication wires in addition to those required to connect specified items. Tag spares in machine room.
 2. Conduit: Painted or galvanized steel conduit, EMT, or duct. Conduit size, 1/2". Flexible heavy-duty service cord may be used between fixed car wiring and car door switches for door protective devices. Conduit from the closest hoistway of each elevator group or single elevator to the firefighters' control room, and/or main control console. Coordinate size, number, and location of conduits with Electrical Contractor.
 3. Traveling Cables: Flame and moisture-resistant outer cover. Prevent traveling cable from rubbing or chafing against hoistway or equipment within hoistway. Provide five (5) pair of shielded wires and two (2) RG-6/U type coaxial cables for card reader. <>Provide two (2) RG-6/U coaxial CCTV cables within traveling cable from car controller to car top, plus 3'-0" excess loop at both ends. <>Provide two (2) pair 14 gauge wire for CCTV power.
 4. Auxiliary Wiring: Connect fire alarm initiating devices, emergency two-way communication system, firefighters' phone jack, paging speaker, CCTV, digital video

display, card reader, intercom, and announcement speaker in each car controller in machine room.

- H. Entrance Equipment: Retain existing. Refurbish/replace and adjust assemblies to ensure smooth and quiet mechanical open and close of doors.
 - 1. Door Hangers and Rollers: Replace all rollers.
 - 2. Door Track: Retain existing. Clean and sand for smooth, quiet operation. Check and tighten all fastenings.
 - 3. Door Interlocks: Operable without retiring cam. Paint interlock box flat black.
 - 4. Door Closers: Spring, spirator, or jamb/strut mounted counterweight type. Design and adjust to insure smooth, quiet mechanical close of doors.
- I. Hoistway Door Unlocking Device: Retain existing.
- J. Hoistway Access Switches: Mount in wall at top and bottom floors. Provide switch with faceplate.
- K. Floor Numbers: Stencil paint 4" high floor designations in contrasting color on inside face of hoistway doors or hoistway fascia in location visible from within car.

2.07 HOISTWAY ENTRANCES

- A. Frames: Retain existing.
- B. Braille Plates: Provide Arabic floor designation/Braille plates, centered at 60" above finished floor, on both side jambs of all entrances. Provide plates at main egress landing with "Star" designation. For designated emergency car, provide "Star of Life" designation plates at height of 78" – 84" above finished floor on both side jambs at all floors. Braille indications shall be below Arabic floor designation. Provide cast floor designation/Braille plates as manufactured by SCS Elevator Products, Inc. or Vision Mark
- C. Transom Panels: Retain existing.
- D. Door Panels: Retain existing. Provide new door gibs with fire tabs at all floors. Minimum two gibs per panel, one at leading edge, and one at trailing edge of each panel
- E. Sight Guards: Retain existing. Replace damaged sight guards.
- F. Sills: Retain existing. Clean and polish. Check and tighten all fastenings.
- G. Fascia, Toe Guards, and Hanger Covers: Retain existing. Provide as required where damaged or missing. Check and tighten all fastenings.
- H. Struts and Headers: Retain existing. Check and tighten all fastenings.

2.08 CAR EQUIPMENT

- A. Frame: Retain Existing. Check and tighten all fastenings.
- B. Platform: Retain existing. Reinforce if required. Check and tighten all fastenings.

- C. Platform Apron: Retain existing. Check and tighten all fastenings. Replace damaged or missing sections.
- D. Guide Shoes: Roller type with three or more spring dampened, sound-deadening rollers per shoe. Maximum roller rotation speed, 350 r.p.m.
- E. Sills: Retain existing. Clean and polish. Check and tighten all fastenings.
- F. Doors: Retain existing. Retrofit dual gibbs, one at trailing edge and one at leading edge of each panel.
- G. Door Hangers: Retain existing. Replace all rollers.
- H. Door Track: Retain existing. Clean and sand for smooth, quiet operation. Check and tighten all fastenings.
- I. Door Header: Retain existing. Check and tighten all fastenings.
- J. Door Electrical Contact: Prohibit car operation unless car door is closed.
- K. Door Clutch: Heavy-duty clutch, linkage arms, drive blocks and pickup rollers or cams to provide positive, smooth, quiet door operation. Design clutch so car doors can be closed, while hoistway doors remain open.
- L. Restricted Opening Device: Provide car-door interlock per code to prevent opening of car door(s) outside unlocking zone. Plunger type restrictors not acceptable.
- M. Door Operator: Medium speed, heavy-duty linear, door operator capable of opening doors at no less than 1-1/2 f.p.s. Accomplish reversal in no more than 2-1/2" of door movement. Provide solid-state door control with closed loop circuitry to constantly monitor and automatically adjust door operation based upon velocity, position, and motor current. . Provide a minimum of four (4) controller-activated motion profiles, per floor, per door, to maintain consistent, smooth, and quiet door operation at all floors, regardless of door weight or varying air pressure.
- N. Door Control Device:
 - 1. Infrared Reopening Device: Black, fully enclosed device with full screen infrared matrix or multiple beams extending vertically along leading edge of each door panel to minimum height of 7'-0" above finished floor. Device shall prevent doors from closing and reverse doors at normal opening speed if beams are obstructed while doors are closing, except during nudging operation. In event of device failure, provide for automatic shutdown of car at floor level with doors open.
 - 2. Nudging Operation: After beams of door control device are obstructed for a predetermined time interval (minimum 20.0 - 25.0 seconds), warning signal shall sound and doors shall attempt to close with a maximum of 2.5 foot pounds kinetic energy. Activation of the door open button shall override nudging operation and reopen doors.
 - 3. Interrupted Beam Time: When beams are interrupted during initial door opening, hold door open a minimum of 3.0 seconds. When beams are interrupted after the initial 3.0 second hold open time, reduce time doors remain open to an adjustable time of approximately 1.0 - 1.5 seconds after beams are reestablished.
 - 4. Differential Door Time: Provide separately adjustable timers to vary time that doors remain open after stopping in response to calls.
 - a. Car Call: Hold open time adjustable between 3.0 and 5.0 seconds.

- b. Hall Call: Hold open time adjustable between 5.0 and 8.0 seconds. Use hall call time when car responds to coincidental calls.
- O. Car Operating Panel:
- 1. One with faceplate, consisting of a metal box containing vandal resistant operating fixtures, mounted behind the car stationary front return panels. Faceplate shall be hinged and constructed of stainless steel, satin finish.
 - 2. Suitably identify floor buttons, alarm button, door open button, door close button, and emergency push-to-call button with SCS Elevator Products, Inc. or Visionmark cast tactile symbols surface, rear mounted. Configure plates per local building code accessibility standards including Braille. Locate operating controls no higher than 48" above the car floor; no lower than 35" for emergency push-to-call button and alarm button.
 - 3. Provide minimum 3/4" diameter raised or flush floor pushbuttons which illuminate to indicate call registration. Include 5/8" high floor designation on face of pushbutton.
 - 4. Provide alarm button to ring bell located on car. Illuminate button when actuated.
 - 5. Provide keyed stop switch at bottom of car operating panel faceplate. Arrange switch to sound main control panel distress signal when actuated. Mark device to indicate "run" and "stop" positions.
 - 6. Provide "door open" button to stop and reopen doors or hold doors in open position.
 - 7. Extended Door Hold Open Button: Provide button to extend normal door hold open period up to 30 seconds. Cancel extended time by registration of car call or actuation of door close button. When activated, illuminate the door hold open button and the door close button. Cancel the hold open time when the door close button is activated. If a hall call is entered at another floor, sound a buzzer to indicate call waiting is activated.
 - 8. Provide "door close" button to activate door close cycle. Cycle shall not begin until normal door dwell time for a car or hall call has expired, except firefighters' operation.
 - 9. Provide firefighters' locked box as required by code.
 - 10. Provide firefighters' Phase II key switch with engraved instructions filled red. Include light jewel, audible signal, and call cancel button.
 - 11. Install firefighters' telephone jack with approved mounting.
 - 12. Earthquake indicator light jewel and audible signal required on Seismic Zone 2 or greater.
 - 13. Provide lockable service compartment with recessed flush door. Door material and finish shall match car return panel or car operating panel faceplate. Inside surface of door shall contain an integral flush window for displaying the elevator operating permit.
 - 14. Include the following controls in lockable service cabinet with function and operating positions identified by permanent signage or engraved legend:
 - a. Inspection switch.
 - b. Light switch.
 - c. Four-position exhaust blower switch.
 - d. Independent service switch.
 - e. Constant pressure test button for battery pack emergency lighting.
 - f. 120-volt, AC, GFCI protected electrical convenience outlet.
 - g. Card reader override switch.
 - h. Stop switch.
 - i. Switch to select either floor voice annunciation, floor passing tone, or chime.
 - j. Car lighting dimmer switch.
 - 15. Provide black paint filled (except as noted), engraved, or approved etched signage as follows with approved size and font:
 - a. Phase II firefighters' operating instructions on main operating panel above corresponding keyswitch filled red.

- b. Car number on main car operating panel.
 - c. "Certificate of Inspection on File in Building Office" on main car operating panel.
 - d. "No Smoking" on main car operating panel.
 - e. Car capacity in pounds on service compartment door.
- P. Car Top Control Station: Mount to provide safe access and utilization while standing in an upright position on car top.
- Q. Work Light and Duplex Plug Receptacle: GFCI protected outlet at top and bottom of car. Include on/off switch and lamp guard. Provide additional GFCI protected outlet on car top for installation of car CCTV.
- R. Communication System:
 - 1. "Push to Call," two-way communication instrument in car with automatic dialing, tracking, and recall features with shielded wiring to car controller in machine room. Provide dialer with automatic rollover capability with minimum two numbers.
 - a. "Push to Call" button or adjacent light jewel shall illuminate and flash when call is acknowledged. Button shall match car operating panel pushbutton design. Provide uppercase "PUSH TO CALL," "HELP ON THE WAY" engraved signage adjacent to button.
 - b. Provide "Push to Call" button tactile symbol, engraved signage, and Braille adjacent to button mounted integral with car front return panel.
 - 2. Firefighters' telephone jack in car with four shielded wires to machine room junction box. Jack bezel shall match adjacent controls.
 - 3. Provide two-way communication between car and machine room if required.

2.09 CAR ENCLOSURE

- A. Retain existing. Modify as required for application of new signal and pushbutton fixtures. Check and tighten all fasteners.
 - 1. Ventilation: Morrison Products, Inc. three-speed model, SOE No. 06-01055 mounted to car canopy on isolated rubber grommets. Exhaust blower shall meet requirements of Item 2.03, I. Ventilation shall shut off after adjustable period (60 – 180 seconds) of no elevator demand.

2.10 HALL CONTROL STATIONS

- A. Pushbuttons: Provide 1 riser with flush mounted faceplates. Include pushbuttons for each direction of travel which illuminate to indicate call registration. Include approved engraved message and pictorial representation prohibiting use of elevator during fire or other emergency situation as part of faceplate. Pushbutton design shall match car operating panel pushbuttons. Provide enlarged faceplate to cover existing wall blockout and facilitate handicapped access requirements. Include approved engraved message and pictorial representation prohibiting use of elevator during fire or other emergency situation as part of faceplate. Provide any cutting and patching required.

2.11 SIGNALS

- A. Car Direction Lantern: Provide flush-mounted car lantern in all car entrance columns. Illuminate up or down LED lights and sound electronic tone once for up and twice for down direction travel as doors open. Sound tone once for up direction and twice for down direction. Sound level shall be adjustable from 0 - 80 dBA measured at 5'-0" in front of hall

control station and 3'-0" off floor. Provide adjustable car door dwell time to comply with ADA requirements relative to hall call notification time. Car direction lenses shall be arrow shaped with faceplates. Lenses shall be minimum 2-1/2" in their smallest dimension. Provide vandal resistant lantern and light assemblies consisting of series of dots or lines for maximum visibility.

- B. Car Position Indicator: Alpha-numeric digital indicator containing floor designations and direction arrows a minimum of 1/2" high to indicate floor served and direction of car travel. Locate fixture in car front return panel each car operating panel. When a car leaves or passes a floor, illuminate indication representing position of car in hoistway. Illuminate proper direction arrow to indicate direction of travel.
- C. Faceplate Material and Finish: Stainless steel Satin all fixtures.
- D. Floor Passing Tone: Provide an audible tone of no less than 20 decibels and frequency of no higher than 1500 Hz, to sound as the car passes or stops at a floor served.

2.12 SEISMIC OPERATIONS AND EQUIPMENT

- A. Provide design, components, and operation per governing code.

PART 3 EXECUTION

3.01 SITE CONDITION INSPECTION

- A. Prior to beginning installation of equipment, examine hoistway and machine room areas. Verify no irregularities exist which affect execution of work specified.
- B. Do not proceed with installation until work in place conforms to project requirements.

3.02 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver material in Contractor's original, unopened protective packaging.
- B. Store material in original protective packaging. Prevent soiling, physical damage, or moisture damage.
- C. Protect equipment and exposed finishes from damage and stains during transportation, erection, and construction.

3.03 INSTALLATION

- A. Install all equipment in accordance with Contractor's instructions, referenced codes, specification, and approved submittals.
- B. Install machine room equipment with clearances in accordance with referenced codes and specification.
- C. Install all equipment so it may be easily removed for maintenance and repair.
- D. Install all equipment for ease of maintenance.

- E. Install all equipment to afford maximum accessibility, safety, and continuity of operation.
- F. Remove oil, grease, scale, and other foreign matter from the following equipment and apply one coat of field-applied machinery enamel.
 - 1. All exposed equipment and metal work installed as part of this work which does not have architectural finish.
 - 2. Neatly touch up damaged factory-painted surfaces with original paint color. Protect machine-finish surfaces against corrosion.

3.04 FIELD QUALITY CONTROL

- A. Work at jobsite will be checked during course of installation. Full cooperation with reviewing personnel is mandatory. Accomplish corrective work required prior to performing further installation.
- B. Have Code Authority acceptance inspection performed and complete corrective work.

3.05 ADJUSTMENTS

- A. Install hydraulic jack assembly and guide rails plumb and align vertically with tolerance of 1/16" in 100'-0". Secure guide rail joints without gaps and file any irregularities to a smooth surface.
- B. Static balance car to equalize pressure of guide shoes on guide rails.
- C. Lubricate all equipment in accordance with Contractor's instructions.
- D. Adjust motors, valves, controllers, leveling switches, limit switches, stopping switches, door operators, interlocks, and safety devices to achieve required performance levels.

3.06 CLEANUP

- A. Keep work areas orderly and free from debris during progress of project. Remove packaging materials on a daily basis.
- B. Remove all loose materials and filings resulting from work.
- C. Clean machine room equipment and floor.
- D. Clean hoistways, car, car enclosure, entrances, operating and signal fixtures.

3.07 ACCEPTANCE REVIEW AND TESTS

- A. See Section 01700, Article 1.02, Consultant's Final Observation and Review Requirements.

3.08 PURCHASER'S INFORMATION

- A. See Section 01700, Article 1.03, Final Contract Compliance Review.

END OF SECTION

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