

PROJECT MANUAL

ELEVATOR PACKAGE

Grand Junction Regional Airport Level 2 Amenities & Elevator Modernization

Grand Junction, CO

Prepared by
Gensler
1225 17th St, Suite 150
Denver, CO 80202
303.595.8585

Issue for Pricing & Permit
May 7, 2026
Project Number 003.8017.012

REQUEST FOR PROPOSAL

The Property Owners and their designated representatives are inviting a limited number of contractors to bid on the modernization, interim maintenance, and guarantee/warranty maintenance of two (2) hydraulic elevators at Grand Junction Regional Airport, 2828 Walker Field Drive, Grand Junction, CO.

- A. All vendors must perform their own examinations of existing systems and prevailing building conditions prior to submitting a proposal as further defined herein.
 - 1. Access to the building will be permitted by appointment only. Individual vendors must schedule their own visits by calling Rebekah Wagoner at (310) 557-9000.
- B. Individual bidders who wish to submit a Request for Information (RFI) during the bid process must address the technical inquiry to:

Gensler
Attention: Rebekah Wagoner
Email: rebekah_wahoner@gensler.com

VDA, Inc. ("VDA")
Vertical Transportation Systems Consultants
Attention: Janice E. Clavet, Area Manager
Email.: jclavet@vdassoc.com

- 1. All requests to be submitted electronically via email transmissions to expedite the process.
 - 2. RFI's must refer to the document, article and paragraph reference in question by the order of the specification or other document applicable.
 - 3. The Consultant will respond to all RFI's in the same order of inquiry submittal(s) and issue the original vendor questions with the responses to all contractors invited to bid via electronic mail.
 - a. The Owner's project management designee shall be copied on all technical correspondence for record.
- C. Quotations shall be submitted on the form provided herein; however, should an individual wish to provide proposal clarifications or other information pertaining to the project bid(s), the vendor must first utilize the "Alternative Contractor's Value Engineering" option and supplement the reference using his own corporate letterhead stationery.
- D. Contractors are advised that the entire Bid Form and supplemental riders or exhibits must be completed in full. (*References are mandated.*)
 - 1. Alternative price quotations and the Owners form of full comprehensive maintenance must be bid in order for the base price quotation(s) to be given full consideration.
- E. The Owner reserves the right to reject any and all bids in full or in part without explanation or penalty.

1. Acceptance and/or subsequent reviews of contractor proposals shall not be construed as a commitment on the part of the Owners to purchase any goods or services expressed or implied unless an agreement is formerly prepared and accepted as such by the Owner's designee.
- F. The project will be awarded based on experience, price, schedule, references and an Owner's interview.
1. Contractors who wish to clarify their bid, take exception to a particular requirement, or modify the requirements specified in any "way", "shape" or "form" shall reference the particular specification section, clause and sentence in numerical order of presentation and subsequently provide the statement of change, omission, substitution, or clarification on an itemized basis in conjunction with the bid submission. Exhibits provided must be fully executed for basic comparison analysis by the Consultant and Owner.
- G. Grand Junction Regional Airport/Gensler will provide the form of contract to be signed based upon the proposal that is accepted.
- H. Electronic bids on the attached form shall be submitted via email to the following:
- Gensler
Attn: Rebekah Wagoner
Email: rebekah_wagoner@gensler.com
- AND
- VDA, Inc. ("VDA")
Vertical Transportation Systems Consultants
Attn: Janice E. Clavet, Area Manager
Email: jclavet@vdassoc.com
- I. Proposals are due and shall be received up until 2:00 p.m. on Friday, May 29, 2026. Bids may not be modified after submittal but may be withdrawn before the bid opening and then resubmitted. After submittal, bids may not be withdrawn for thirty (30) days.
- J. Verbal proposals and/or discussions will not be accepted.
- K. Contractors are required to acknowledge receipt of any addenda issued by inserting the addenda number in the space provided.

FORM OF PROPOSAL

- A. The Contractor, _____, confirms the specification has been carefully examined and a survey of the prevailing conditions has been performed at Grand Junction Regional Airport, 2828 Walker Field Drive in Grand Junction, CO.
1. The undersigned proposes to furnish all labor, material and fees required for the project execution at Grand Junction Regional Airport, 2828 Walker Field Drive in Grand Junction, CO in accordance with specifications, for the contract prices specified below.
- ☐ No exceptions or clarifications taken.
- ☐ See attachment for exceptions/clarifications.
2. Under no circumstances shall the Contractor submit his own proposal without bidding the project specifications. A Contractor's Value Engineering Alternate is provided for optional equipment proposals and/or implementation methods other than the design specification requirements.
- B. The bid includes Addenda number _____.
- C. The base lump sum bid for the modernization of two (2) hydraulic elevators at Grand Junction Regional Airport is: \$ _____.
- D. Unit pricing included in the base bid above Item "C" quotation:
- Passenger Elevator No. 1: _____ \$
- Service Elevator No. 2: _____ \$
- E. Proposed Guaranteed Scheduling for Project Implementation:
1. Lead time after contract award until submission of shop drawings: _____ (weeks)
2. Lead time after selection item confirmations before start of work: _____ (weeks)
3. Passenger Elevator No. 1 out-of-service time: _____ (weeks)
4. Service Elevator No. 2 out-of-service time: _____ (weeks)
5. Total out-of-service time for two (2) hydraulic passenger elevators: _____ (weeks)
- F. Owners Form of Vertical Transportation Maintenance Full Coverage, Section 14 01 20 Interim monthly maintenance price (not included in the Base Bid) prior to start of modernization work implementation and before final acceptance:
- \$ _____ Two (2) Hydraulic Elevators
- G. Owners Form of Vertical Transportation Maintenance Full Coverage, Section 14 01 20 Guarantee/Warranty monthly maintenance price (included in Base Bid) after completion and final acceptance of all elevators for the first twelve (12) month period:
- \$ _____ Two (2) Hydraulic Elevators

H. Monthly deduct for units out of service for modernization:

\$ (Per Elevator).

I. Costs for Performance, Labor and Material Payment Bond specified in Division 01: \$.

J. Provider's list of supplies/sub-providers:

1. The undersigned Provider will utilize the following suppliers/sub-contractors for major components of work and submits these firms for approval. Upon acceptance of these Suppliers/Sub-Contractors by Owner/Consultant, no substitutions shall be made without written approval of Consultant.

Suppliers/Sub-Contractor Name	Component/Type of Work	Model
	Pump Units	
	Door Operators	
	Fixtures	
	Controls	
	Guides	
	3D Door Reopening Devices	
	Wiring	
	Cylinders	

(Use back of page if necessary)

Alternate Price Quotations

Note: The following price quotes are submitted as plus or minus (+ or -) the base price proposals indicated. Duplicated procedures, materials and/or equipment must be adjusted to specify the variance in cost only.

Alternate No. 1 – Provide new Jack Assembly, Jack Hole and Casing (New/Replacement) and new car buffers:

- Passenger Elevator: \$.
- Service Elevator: \$.

NOTICE TO ALL BIDDERS:

Due to the current tariff situation, all bids that include tariff costs must provide a detailed itemization, with percentage applied, and explanation for these additional charges. Bids that include tariffs within the base price or as a non-specific blanket fee will be returned to bidders for further detail. Any tariffs known at the time of agreement must be identified as separate "Add Alternate" line item, clearly indicating the cost associated with each. Tariffs arising or dissolving after the agreement is signed will be addressed through an Architect's Supplemental Request (ASR) for review. Bids are subject to reduction if applicable tariffs are dissolved after the agreement date. Bidders are required to prioritize local stock and clearly

indicate the timeline for tariff application. Purchase Orders may only reflect tariff rates at the time of purchase. Clients retain the right to verify the applicability and rate of tariffs at the time of each purchase.

Alternate No. 2 – Tariff Costs:

1.

\$.

2.

\$.

3.

\$.

4.

\$.

Alternate No. 3 - Contractor's Value Engineering Options:

1.

\$.

2.

\$.

Gensler
003.8017.012

May 07, 2026
Issue for Pricing & Permit

**GJT Level 2 Amenities and Elevator
Modernization**
Grand Junction, Colorado

The undersigned hereby certifies that he is able to furnish labor that can work in harmony with any other elements of labor employed or that may be employed in the building.

DATE:

(Name of Elevator Contractor)

BY:

(Title)

(Business Address)

(City and State)

(Telephone Number)

(Email Address)

NOTE: Submit in “**DUPLICATE**” with one (1) signed copy of the Owner’s Form of Full Coverage Maintenance Agreement, and Exhibits “A” and “B” attached.

EXHIBIT "A"

SCHEDULE OF INITIAL BASE HOURLY RATES FOR CONTRACTOR'S PERSONNEL

VDA No. 81454	Contractors Hourly Base Cost including Fringe Benefits	Straight Time Rate Hourly Selling Price	Premium Time Rate	*1.7 Rate Hourly Selling Price (Specify)	**Double Time Rate Hourly Selling Price
Maintenance Mechanic					
Helper					
Modernization Mechanic					
Team					
Foreman / Adjuster					
Other					

*Hours and Days of the Week that the Rate applies:

**Hours and Days of the Week that the Rate applies:

EXHIBIT "B"

REQUEST FOR BIDDER QUALIFICATIONS

- A. Date
- B. Firm Name
- C. Address

Telephone No.

- D. Type of Company (Corporation, Partnership, Sole Proprietorship)
- E. Type of elevator work in which you specialize (Check one)

- 1. New Installation ☐
- 2. Renovation/Alteration ☐
- 3. Maintenance ☐

- F. List all principals/officers with their titles and years of experience with this firm

- 1.
- 2.
- 3.

- G. List trade association memberships

- 1.
- 2.
- 3.

- H. Proposed Project Manager and Superintendent with years of experience

- 1. Project Manager
- 2. Superintendent

- I. Recent Projects and References (List information for similar modernization projects started or completed within the last twelve [12] months in the same logistical area. References will be contacted to confirm their experience with your firm.)

- 1. (1) Project
 - (2) Owner
 - (3) Contact Person
- Tele No.

- (4) Scope of Work
- (5) Contract Amount
- 2. (1) Project
- (2) Owner
- (3) Contact Person
- (4) Scope of Work
- (5) Contract Amount

Tele No.

J. List a minimum of two (2) additional similar modernization projects completed within the last four (4) years with contact names, telephone numbers, date of completion and other pertinent information in the same logistical area.

K. List maintenance service references for similar groups of elevator systems currently serviced by your company under a full comprehensive maintenance program in the same logistical area. Provide building address, contact name and telephone numbers. List number of elevator units in each contract.

- 1.
- 2.
- 3.
- 4.
- 5.

L. Shop Union affiliation (if any)

Field Union affiliation (if any)

- M.
- (1) Project
 - (2) Number of employees
 - (3) Number of maintenance mechanics
 - (4) Number of installation mechanics
 - (5) Number of maintenance mechanics familiar with these types of elevators:

PREPARED BY:

TITLE:

(Duly Authorized Principal Officer)

END OF SECTION

DIVISION 010000 – SUPPLEMENTARY GENERAL CONDITIONS

1.1 DEFINITIONS

- A. The term “OWNER”, as used herein, refers to Grand Junction Regional Airport, 2828 Walker Field Drive, Grand Junction, CO 81506.
- B. The term “OWNER/AGENT”, “OWNER’S AGENT”, “OWNER’S DESIGNEE” or references of similar import, as used herein, refers to Gensler, 1225 17th Street, Suite 150, Denver, Colorado 80202.
- C. The term “MANAGER” AND “OWNER’S REPRESENTATIVE”, as used herein, refers to Gensler, 1225 17th Street, Suite 150, Denver, Colorado 80202.
- D. The term “CONSULTANT”, as used herein, refers to VDA, 301 North Lake Avenue, 6th Floor in Pasadena, CA 91101.
- E. The term “CONTRACT” OR “CONTRACT DOCUMENTS”, as used herein, consists of the Agreement, Bidding Information, Conditions of Contract, Specifications and includes any Alternates or Addenda issued during the bidding period.
- F. The term “CONTRACTOR” OR “ELEVATOR CONTRACTOR”, as used herein, refers to any persons, partners, firm or corporation having a contract with the Owner to furnish labor and materials for the execution of the work herein described.
- G. The term “SUBCONTRACTOR”, as used herein, refers to any persons, partners, firm or corporation having materials and/or labor for the execution of the work herein described.

1.2 CONSULTANTS STATUS

- A. The Consultant shall act as a representative of the Owner on matters pertaining to technical work covered in the Specifications. The Consultant shall interpret the Contract Documents for technical requirements, approve shop drawings, conduct periodic examinations of the work in progress, and perform final evaluations of all completed work specified by the Contract Documents prior to acceptance by the Owner.

1.3 PROGRESS OF WORK

- A. Upon signing of the contract, the Contractor shall submit, within two weeks, a complete starting and completion schedule, including equipment delivery dates based on the information submitted on the bid form and confirmed delivery dates for selected materials, components, fixtures and cab enclosures as applicable to the project.
- B. The Contractor shall submit in writing the following information to the Owner throughout the construction or modernization period:

1. A completion schedule, including equipment delivery times and anticipated completion dates for each project work phase.
2. A schedule of values to be used for itemized progress payments (material and labor itemized breakdown).
3. A progress report with submission of each payment request, or upon request of the Consultant, showing the progress being made and the percentage of the job completed and shall certify to the Owner that labor and materials listed on the request for payment have been performed or installed.

1.4 PAYMENT WITHHELD

- A. The Consultant, Owner and/or Owner's Designee may withhold approval for payment on any request to such extent as may be necessary to protect the Owner from loss on account of:
 1. Negligence on the part of the Contractor to execute the work properly or failure to perform any provisions of the contract. The Owner, after three (3) days written notice to the Contractor, may, without prejudice to any other remedy, make good such deficiencies and may deduct the cost from the overall contract sum provided. However, the Consultant shall approve such action and the amount paid by the Owner and charged against the Contractor.
 2. Claims filed or reasonable evidence indicating probable filing of claims.
 3. Failure of Contractor to make payments properly to subcontractors for material and labor.
 4. A reasonable doubt that the contract can be completed for the balance then unpaid.
 5. Damage to the building or another Contractor.
- B. When the above grounds are removed to the Owner's satisfaction, payment shall be made for amount withheld because of them.

1.5 LIENS AND AFFIDAVITS

- A. Neither the final payment nor any part of the retained percentage shall become due until the Contractor has delivered to the Owner lien waivers for all labor and materials for which a lien could be filed arising out of this contract or any subcontracts. In addition, the Contractor shall furnish an affidavit to the Owner that the Contractor has delivered all lien waivers for labor and materials for which a lien could be filed. If any lien remains unsatisfied after all payments are made, the Contractor shall refund to the Owner all monies that the latter may be compelled to pay in discharging such a lien, including all costs and reasonable attorneys' fees.
 1. Monthly partial releases shall be required with payment requests.

1.6 PERFORMANCE BOND, LABOR AND MATERIAL PAYMENT BOND

- A. At Owner's option, the Contractor may be asked for a bond covering the faithful performance of the contract and the payment of all obligations arising thereunder. Such Bonds, in the absence of notice hereafter provided, shall be obtained by the Contractor and the premium for such Bonds will be paid by the Owner. The Contractor agrees to furnish to the Owner's authorized insurance representative, complete and detailed financial information required for the issuance of such Bonds, also, a completed and signed Application for Bond, without deletions, on Surety's form, chosen by the Owner. The Contractor also agrees to comply with any other reasonable requests of the surety so that Bonds may be issued. All information submitted by the Contractor shall be considered privileged information and therefore kept as confidential as possible. This information will be used only in connection with securing said bonds for this project.
- B. Upon notice to the Contractor, prior to the signing of the contract, or within 60 days thereafter, the Owner shall have the right to require the Contractor to obtain the aforementioned Bonds, at prevailing rates, with a surety acceptable to the Owner. The Contractor shall have fifteen (15) days from date of notice to obtain and furnish such Bonds.

1.7 PENALTY/BONUS CLAUSE

- A. It is mutually agreed that a penalty of \$500 per calendar day will be incurred by the Elevator Contractor if all work included in this contract is not completed and elevators are not placed in operation within thirty (30) calendar days from the completion date indicated by the Contractor in the bidding documents.
- B. This agreement is subject to contract provisions as set forth in the Bidding Specifications and Contract Document.

1.8 ASBESTOS

- A. In the event asbestos is discovered during a modernization project, the Elevator Contractor shall suspend work on the affected components and immediately notify the Owner. The Owner is then responsible for the abatement, demolition, removal, and disposal of asbestos and related abatement materials, ensuring compliance with all local, state, and federal guidelines.

1.9 EQUAL OPPORTUNITY

- A. The Contractor and all Subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, or age. The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, religion, color, sex, national origin, or age. Such actions shall include, but not be limited to, the following: Employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in

conspicuous places, available to employees and applicants for employment, notices setting forth the policies of non-discrimination.

- B. The Contractor and all Subcontractors shall, in all solicitations or advertisements for employees placed by them or on their behalf, state that all qualified applicants will receive consideration for employment without regard to race, religion, color, sex, national origin, or age.

1.10 ERRORS AND OMISSIONS

- A. Contractor shall notify Consultant in writing regarding any necessary items which may have been omitted from the specifications or drawings or both, and any irregularities, discrepancies or duplications between drawings and specifications according to the evident intent. In case of such errors or omissions, the Contractor shall not proceed with the work in uncertainty but shall consult the Consultant, regarding proper intent, and revision, if necessary.
- B. Any duplication of work specified in two or more Sections shall require the Contractor to provide the Work so specified without extra or additional charge to the Owner. Such duplication, if any, is not intended.
- C. In any conflict with Contract Documents, requirements for the more extensive work shall govern.
- D. Where a job condition arises and detail drawings do not show the intent, the Contractor shall review with the Consultant to determine the manner of doing the Work, so that aesthetic effect is not compromised.

1.11 INTERPRETATIONS IN WRITING

- A. Neither the price bid for the work of the Contract nor the contract sum, shall be based in any manner upon oral opinions or real or alleged instructions of an oral nature, regardless of whether such opinions or instructions are expressed by the Owner, the Consultant, the Contractor, or agents or representatives of any of them.
- B. These provisions do not intend to deny normal discussion, recommendations, explanations, suggestions, approvals, rejections, and similar activity in pursuit of the work of the project on an oral basis, such as job conferences and otherwise at the site. In such instances of the written minutes, correspondences, shop drawing records, written field orders and other written data shall govern over personal claims regarding statement made contrary to the written data.
- C. Interpretations of contract documents, to be effective for claim purposes or for justification as to proper procedure in performing the work, must be obtained in writing before such claim is made or such work begun.

1.12 PREVAILING DOCUMENTS

- A. In the event there is a conflict between the bid specifications, a form of agreement, a supplemental rider or addendum issued prior to the contract execution; and no request for interpretation is submitted by the Contractor, the most stringent requirement, as confirmed by the Purchaser, (Owners' Designee), shall prevail.
- B. Under no circumstance shall the Contractor modify or supplement the agreement documents without the express and written approval of the Purchaser, (Owner Designee).
- C. The Purchaser, (Owner Designee), shall retain the right to supersede contingencies prior to the execution of the contract; and such changes or variances in scope of work shall be reviewed by the Contractor for acceptance approval accordingly.

1.13 CONTRACT RIDER

- A. To the extent that any provision of the RIDER is inconsistent with the provisions specified to which it is attached, the requirements and relative provisions of this rider shall prevail.

1.14 CONTRACTOR'S INSURANCE

- A. The Contractor shall maintain during the life of this contract, Worker's Compensation Insurance, with statutory limits no less than limits listed below.
- B. The Contractor shall maintain a Comprehensive General Liability policy including Completed Operations, Bodily Injury, Property Damage, Personal Injury, General Aggregate, "Per Project", blanket contractual, broad form property damage, and Owner's and Contractor's protective liability, with an insurance company, Licensed, Admitted (Surplus Lines licensed carrier, not acceptable) with an A.M. Best's rating of no less than "A-, size VII" rating and acceptable to the Owner; which, insurance shall fully protect the Contractor, any Subcontractor performing the work covered by this contract, the Owner, Owner's Representatives, Owner's Designee and the Consultant for all loss.
- C. Insurance: Contractor shall not commence work under this contract until it has obtained all insurance required hereunder and certificate of such insurance has been filed with and approved by Owner. The Contractor shall provide and maintain until the work covered in this Contract is completed and accepted by the Owner, the minimum insurance coverage as follows:

TYPE OF COVERAGE

- WORKER'S COMPENSATION
- EMPLOYER'S LIABILITY

LIMITS OF LIABILITY

STATUTORY

Bodily Injury by Accident:
\$1,000,000 each accident.

Bodily Injury by Disease:
\$1,000,000 each employee.

Bodily Injury by Disease:
\$1,000,000 policy limit.

- **COMPREHENSIVE GENERAL LIABILITY**
Damage,
\$5,000,000 Including:
Bodily Injury, Property
Personal Injury and contractual
liability.

Policy will also include Owner, Owner's Designee, Managing Agent, and/or Owner's Representatives and VDA and VDA LLC, as an Additional Insured with respect to this contract and work performed by Contractor on behalf of Owner.

Notice of cancellation or Non-Renewal will be provided to Owner giving 30 days' notice in writing (10 day notice for non-Payment of Premium).

- **COMPREHENSIVE AUTOMOBILE LIABILITY**
 - **BODILY INJURY**
\$1,000,000 EACH PERSON
\$1,000,000 EACH OCCURRENCE
 - **PROPERTY DAMAGE**
\$1,000,000 EACH
OCCURRENCE

- D. Contractor shall file with Owner a Certificate of Insurance with evidence of above insurance requirements prior to any work being performed.

1.15 PROPERTY INSURANCE

- A. The Owner's insurance policy covers work and equipment included in place in the building and approved and accepted by the Consultant and the Owner. All material and equipment stored on the premises and not actually installed as accepted and complete is not included in the Owner's policy and such material and equipment shall be included in the Contractor's Property Damage Insurance.

1.16 TAXES, OLD-AGE PENSIONS AND UNEMPLOYMENT INSURANCE

- A. All bids for work to be done and materials and equipment to be furnished on the job, are to include all local, state and federal occupational and sales taxes, luxury taxes, excise taxes, federal and state old-age pensions and unemployment insurance contributions, and any other similar taxes and contributions in effect at the time of the signing of the contract. The Elevator Contractor shall be liable for the aforementioned taxes. In the event additional sales or use taxes not in effect at time of the signing of the contract are imposed after the signing of the contract, these are to be paid, in addition to the original contract amount, by the Owner to the Elevator Contractor, who in turn is to pay them to the proper authorities. Reciprocally, if any of the above-mentioned taxes or contributions in effect at the time of the signing of the contract should be revoked before the consummation of the contract, the Elevator Contractor shall rebate to the Owner the amount of the taxes included in the original contract. Where demanded by

the law, the amount of the taxes is to be specifically stated in the Elevator Contractor's proposal, but failing to do so will not relieve the Elevator Contractor from responsibility for the assumption of these taxes.

1.17 LABOR LAWS

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

1.18 ASSIGNMENTS

- A. Neither party to the contract shall assign the contract or sublet it as a whole without the written consent of the other, nor shall the Elevator Contractor assign any payment due them or to become due to them hereunder without the previous written consent of the Owner.

1.19 ACCIDENT REPORTS

- A. In the event of accidents of any kind, the Contractor shall immediately notify the Owner, Designee and Consultant. Written reports shall be sent within twenty-four (24) hours and at the same time that they are forwarded to any other parties.

1.20 ADVERTISING

- A. Advertising privileges shall be retained by the Owner. It shall be the duty of the Contractor to keep the job site free of posters, signs, and/or decorations. Contractor's logo shall not appear on faceplates or entrance sills.

END OF SECTION 01 00 00

140120 – MAINTENANCE OF ELEVATORS – FULL COVERAGE AGREEMENT AND SPECIFICATIONS

(hereinafter called the Contractor) shall furnish services to Grand Junction Regional Airport (hereinafter called the Owner) on the following vertical transportation systems and related equipment located at Grand Junction Regional Airport, 2828 Walker Field Drive, Grand Junction, CO:

Two (2) Hydraulic Elevators

PART 1 - GENERAL CONDITIONS

1.1 AGREEMENT INTENT

- A. The purpose of this agreement is to state and define the terms and conditions under which the Contractor shall provide full comprehensive maintenance and repair services for the vertical transportation systems identified, and the terms and conditions under which the Owner shall compensate the Contractor for such services rendered.
- B. It is the intent of this Agreement to ensure all requirements, procedures, tests, inspections, service practices, component repairs, equipment renewals, system adjustments, filing procedures and recording documentation as referenced, mandated or otherwise implied herein are all inclusive, and to guarantee to the Owner that the absence or omission of a particular item of work, service or procedure shall not alleviate the Contractor of the sole responsibility to provide such labor, expertise, materials, equipment, services or other procedures applicable to the Agreement and practical requirements unless same is specifically excluded, or prorated herein.
- C. Minimum standards and requirements for services to be rendered shall be performed in accordance with the original equipment manufacturer (OEM) specifications, Maintenance Control Program, and relative time periods. Where there is no specific requirement for a preventive maintenance procedure, the OEM standard shall be employed unless no relevant documentation is available. The absence of both a contract requirement herein and the OEM design standard shall cause the Contractor to engage the services of a qualified engineer to formulate the relative standards and incorporate same as an addendum to this agreement with the Professionals' Seal and Stamp.

1.2 DEFINITIONS OF TERMS

- A. The term "Owner," as used herein, refers to the person, organization, corporation, or other entity representing the building's ownership or acting with authority as the Owner's agent. The term "Owner" includes any individual or entity with legal authority to act on behalf of the building owner in relation to the management, coordination, and purchase of services under this Agreement. This includes, but is not limited to, hired agents and designated representatives.

- B. The term “Authority,” “Governing Authority (GA),” “Authority Having Jurisdiction (AHJ),” or references of similar import, as used herein, shall mean the local government agency responsible for enforcement of vertical transportation Safety Codes and local laws or their designated representative, private inspection agency, consultant or other licensed designee.
- C. The term “Contractor,” “Elevator Contractor” or “Vendor” as used herein, refers to any persons, partners, firm, corporation or officer(s) of such companies having an agreement with the Owner to furnish qualified labor and materials for the execution of the services and maintenance work described herein.
- D. The term “Subcontractor,” as used herein, refers to any persons, partners, firm, or corporation having materials and/or labor for the execution of the work herein described.
- E. The term “Consultant,” as used herein, refers to VDA.
- F. The term “Agreement,” “Contract” or “Contract Documents,” as used herein, consists of this specific document, pages 1 to 34 and any alternates, addenda, or substitutions as may be referenced under Exhibits or Riders approved by the parties for the final execution of the Agreement.

1.3 ABBREVIATIONS AND SYMBOLS

- A. Abbreviations for associations, institutions, societies, reference documents and/or governing agencies, which may appear in this Contract Document, shall mean the following:

ADA	Americans With Disabilities Act
AHJ	Authority Having Jurisdiction
AIA	American Institute of Architects
ANSI	American National Standards Institute
ASME	American Society of Mechanical Engineers
BOCA	Building Officials and Code Administrators International, Inc. (Basic National Building Code)
IBC	International Building Code
EPA	Environmental Protection Agency
GA	Governing Agency
IEEE	Institute of Electrical and Electronics Engineers
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Agency
NEC	National Electrical Code
OSHA	Occupational Safety and Health Administration

1.4 AGREEMENT COVERAGE

- A. The entire vertical transportation system(s) shall be maintained as hereinafter described, in accordance with the following detailed terms. Trained employees of the Contractor will use all reasonable care to keep the systems in proper adjustment and in safe

operating condition, in accordance with all applicable Codes, ordinances, and regulations.

- B. The specifications are written in the singular with the understanding identical work, materials, and equipment shall be provided for all vertical transportation units identified unless otherwise specified.
- C. With the exception of only those items specifically identified as being performed by others, the specifications are intended to include all engineering, material, including hydraulic oil, hoist ropes, suspension belts, etc., labor, testing, and inspections needed to achieve work specified by the contract. Inasmuch as it is understood that any incidental work necessary to execute the Agreement is also covered by the Contract specifications, the Contractor is cautioned to familiarize himself with the existing equipment and job site conditions. Additional charges for material or labor shall not be permitted subsequent to execution of the Contractual Agreement for work, services, or procedures covered herein.
- D. Maintenance coverage shall include, but is not limited to, preventive services, callback services, inspection and testing services, repair(s) and/or direct replacement component renewal procedures, and housekeeping.

1.5 HOURS OF WORK

- A. All scheduled work shall be performed during regular working hours of the regular working days of the elevator trade, 8:00 A.M. to 4:30 P.M., Monday through Friday, except union-designated holidays. Contractor to provide a list of union-designated holidays.
- B. Scheduled repairs and/or other major adjustment procedures necessitating removal of a piece of equipment from service for an extended period of time must be scheduled through the Owner.
 - 1. Owner retains the right to have such work completed during overtime hours with the understanding the Contractor shall pay for the regular labor portion and the Owner extraordinary obligation is extra premium labor costs only.
 - 2. Callback services shall be twenty-four (24) hours per day, seven (7) days per week, including weekends and holidays as further specified herein.

1.6 SOLE RESPONSIBILITY

- A. The maintenance work shall be performed only by Certified and/or Qualified Technicians and Mechanics directly employed and supervised by the Contractor, who are experienced and skilled in maintaining vertical transportation units similar to those to be maintained under this Contract and shall not be assigned or transferred to any agent or subcontractor without the express consent of the Owner.
- B. It is mutually agreed that the Contractor shall not be under any obligation hereunder to make any repairs or replacements except those incidental to the normal operation of the machinery, and that the Contractor is not required under this Contract to make repairs or

replacements necessitated by reason of malicious damage, fire, including non-elevator component electrical fire, which are the result of causes beyond Contractor's control. All repairs, if necessitated by this paragraph, will be performed at the fees indicated in Exhibit A.

1. It is mutually agreed that the Contractor shall make any and all repairs or replacements caused by Contractor's improper repair, negligent or willful acts or omissions at Contractor's expense.

1.7 OWNER'S RIGHT TO CORRECT WORK

- A. Should the Contractor fail to perform any replacements, repairs, or upgrades (outside of mutually agreed backordered parts), within one hundred (120) days, the Owner may cancel the said service, and no amount shall be due the Contractor thereunder. If the Contractor fails to perform satisfactory work to the Owner, the Owner may elect to have work corrected by another qualified Contractor, and the cost may be deducted from the Contract at the Owner's option.

1.8 SERVICE/REPAIR TIMEFRAME

- A. Any service or repair that requires a single technician or team shall be performed within ten (10) working days, excluding weekends and/or holidays. If part(s) needed are not in stock, or are special order, the date the Contractor receives the part(s) will be the start of the ten (10)-day requirement for completion of the service or repair(s). Confirmation for receiving parts/materials can be requested by the Elevator Contractor, Vendor, Owner, Consultant, or manufacturer.
 1. Should the Owner request the work be performed on weekends and/or holidays, the Owner shall only pay the overtime premium portion of the service or repair(s).

1.9 COMPENSATION

- A. Payment for services rendered shall be made on a monthly basis, within thirty (30) days of the end of each billing period. In addition, Owner shall pay any tax imposed upon the Contractor by existing or future law, as due in conjunction with the services rendered or purchase of materials used to provide the services. No additional travel and/or sundries fees will be permitted.
 1. Payment for callback services shall be included in the fixed monthly lump sum price for services rendered twenty-four (24) hours per day, seven (7) days per week, without extra charge to the Owner.

1.10 BREAKDOWN, MALFUNCTION OR DAMAGE

- A. Immediately upon the Contractor's discovery of any damage or signs of disrepair, mechanical breakdown or malfunction of, or cracks or breaks in any item to be repaired hereunder, they shall advise the Owner and the Contractor shall place such "Out of

Order" or warning signs as are appropriate with necessary barricades or other required protection as directed by the Owner. Such signs will be furnished by the Contractor upon request of the Owner and shall remain in place until necessary repairs are completed.

1.11 TRASH/OIL REMOVAL

- A. The Contractor shall remove daily from the building, all garbage, debris, and other waste materials (whether solid or liquid) arising out of or in connection with its operations hereunder, and any such garbage, debris and other waste materials not immediately removed shall be temporarily stored in a clean and sanitary condition, approved by the Owner, in suitable garbage and waste receptacles, also approved by the Owner and shall be kept covered except when filling or emptying them. The Contractor shall exercise care in removing such garbage, debris, and other waste materials from the building. The manner of such storage and removal shall always be subject in all respects to the continual approval of the Owner. No equipment or facilities of the Owner shall be used in such removal unless with its prior consent in writing. No such garbage, debris or other waste materials shall be permitted to be thrown, discharged, or disposed into or upon the streets bounding the Site of Work.
- B. Equipment or oil removal shall be the responsibility of the service Contractor and shall be recycled or disposed of in an environmentally friendly manner in accordance with EPA regulations. All costs are to be incurred by the Contractor.

1.12 SUSTAINABILITY REQUIREMENTS

- A. The Contractor agrees to dispose of the aforementioned equipment and rubbish in accordance with any and all applicable federal, state, and municipal environmental regulations, and further accepts all liability that may result from handling and/or disposing of said material at no cost to the Owner. The contractor shall implement sound practices for recycling and disposal in an ecofriendly manner of old equipment and materials to include packaging and shipping supplies.
- B. When requested, the contractor shall submit a detailed sustainability program to the Owner for review that includes documenting and monitoring of the processes. The sustainability program shall encompass a sound waste/recycling management plan that identifies and categorizes the different types of materials, proper storage, removal and disposal or recycling on this project to minimize the environmental impact. In addition, to Environmental Training, Chemical Storage and Spill Containment, the program shall include, but is not limited to, proper containment and disposal of Batteries, Bulbs, Electronics, including data deletion, New & Used Oil, Solvents, Paints, Aerosols, Cathode Ray Tubes, Paper and Plastic.

1.13 GRATUITIES/LOST AND FOUND

- A. No personnel employed in performing the Work shall solicit or accept gratuities, for any reason whatsoever, from passengers, tenants, customers, or other persons at the Site of the Work. Any articles found by such employees at the Site of the Work shall be

immediately turned over to the office of the Owner. The Contractor shall instruct their employees (and shall cause any Subcontractor's to instruct their employees) in the provision of this numbered clause.

1.14 LABOR ACTIONS

- A. Whenever any labor strike, slowdown, work stoppage, picketing or other labor action which might interfere with the performance of the Contract, occurs at the Site of the Work as a result of the Contractor's (or its Subcontractor's) utilization of particular means, methods or manpower to perform the Work required by this Contract, the Contractor shall pursue all remedies which are appropriate and available to him to avoid such interference including, but not limited to the utilization of supervisory and other non-union employees trained in the proper maintenance and repair of the equipment.

1.15 USE OF PATENTED MATERIALS

- A. The right to use all patented material, composition of matter, manufacturers, apparatus, or appliances required in connection with this Contract shall be obtained by the Contractor without separate or additional compensation.
- B. The Contractor shall indemnify the Owner and their agents against and save them harmless from all loss and expense incurred in the defense, settlement or satisfaction of any claims in the nature of patent infringement arising out of or in connection with the Owner's use, in accordance with the preceding paragraph of this numbered clause, of such patentable subject matter or patented material, manufacturer's and/or their composition of matter, apparatus or appliances. If requested by the Owner, and if notified promptly in writing of any such claim, the Contractor shall conduct all negotiations with respect to and defend such claims without expense to the Owner.

1.16 GENERAL OBLIGATIONS

- A. Except with the prior written approval of the Owner, or as specifically authorized or required elsewhere herein, the Contractor shall not erect, maintain, or display any signs, posters, or advertising at the Site of the Work. Interior signs affecting public safety and security shall be in accordance with guidelines established by the Owner and shall be subject to the approval of the Owner.
- B. In order to effectuate the policy of the Owner, the Contractor shall comply with all provisions of federal, state, municipal, local and departmental laws, ordinances, rules, regulations and orders which affect the Contract and the performance thereof, except where stricter requirements are contained in these Specifications, in which event the latter requirements shall apply. The Contractor shall apply for any permits, licenses, or variances in the name of or on behalf of the Owner, where required by law or, by the immediately preceding sentence, shall obtain express written approval from the Governing Authority.
- C. The Contractor shall provide qualified labor or other assistance on behalf of the Owner for work performed by other trades, professionals, inspectors, and Owner personnel

when conditions warrant or upon request of the Owner. The Owner shall approve all requests for the Contractor's labor assistance and, when applicable, shall approve requests for additional compensation by the Contractor under "Extra Work" provisions included herein.

1.17 COMMUNICATION

- A. **CHECK IN / OUT PROCEDURES:** Carefully follow the check-in procedures for the facility. Proper identification badges must be worn always while in the building. Keys must be signed out and returned daily.
- B. **CUSTOMER REPRESENTATIVE:** A representative of the Contractor will be available to discuss with the Owner the vertical transportation needs in the areas of modernization, traffic handling ability, recommendations, and requirements of Government Authorities, proper use, and care of the units.
- C. **QUARTERLY MEETING WITH Owner:** Account Representative shall meet with Owner on a quarterly basis. The meeting should consist of the following agenda items: (1) status of the account, (2) review of the prior month's activities, (3) review of any problem areas, and (4) occupancy level review. Owner shall prepare and distribute minutes for these meetings.
- D. **REPORTS:** Contractor shall provide at each quarterly meeting, detailed reports of the previous quarter's activities including details by unit of all callbacks, repairs, testing, preventive maintenance along with dates, reason for unit out of service, time taken out of service, task performed (PM, callback, repair, etc.), resolution to any problems, time placed back in service, total time out of service and a listing of all credits to be issued as a result of non-compliance with the requirements of this specification.
- E. **DATA COLLECTION:** Contractor shall coordinate with VDA representative(s) to provide the necessary application programming interface (API) between VDA's VERIFY or such similar system with Contractor's portal for the routine collection of data to fulfill the requirements under this Contract within ninety (90) days of Contract execution. Should the required data and/or systems change throughout the term of this Contract, the Contractor shall be responsible for making the necessary adjustments to their system(s). The cost of setting up, maintaining, or modifying the system shall be included in the price of this Contract.
 - 1. Should the protocol fail or be disrupted, the Contractor shall be responsible for submitting the data electronically outside of the system in a format acceptable to VDA and/or the Owner.
 - 2. Should VDA and/or the Owner's designee elect to receive data outside of the interface system noted above, the Contractor shall submit the data electronically in a format acceptable to the Owner.
 - 3. During the interface phase outlined above, the Contractor is responsible for submitting the data monthly.
 - 4. All data submitted to VDA and/or the Owner shall be submitted by the tenth (10th) of the following month.

**1.18 SUBSEQUENT EQUIPMENT
MODERNIZATIONS/ALTERATIONS/UPGRADES**

- A. Full comprehensive service and repair coverage shall be included under the terms of this Agreement when equipment and/or component systems represented herein are modified or upgraded.
- B. Such changes in equipment necessitating continuing full maintenance coverage may be initiated by the Owner under a separate voluntary extra cost upgrading Agreement with or without this Contractor's permission or direct authorization and involvement before the work is performed.
- C. Modernized or otherwise upgraded systems and parts thereof shall automatically be included under the terms of this full comprehensive Agreement, whether such components are specifically identified or not, without extra cost to the Owner.

1.19 NOTICE BY AUTHORITY OR COMPANY TO REPAIR OR REPLACE

- A. The Contractor shall comply with all written recommendations of the Governing Authority or independent inspectors, consultants, and insurance carriers employed by the Owner. However, Contractor is not required under this Contract to install new attachments or parts different from those now constituting the equipment, as recommended or directed by insurance companies, Government Authorities, or otherwise.

1.20 RECORD KEEPING

A complete permanent record of inspections, maintenance, lubrication, and callback service, including a Maintenance Control Program (MCP) shall be kept in the machine room or other designated location at the site of work, per the requirements of ASME A17.1 and the local AHJ. These records are to be available to Owner at all times. The records shall indicate the reason the mechanic was in the building, arrival and departure time, the work performed, etc., and these records will be property of the Owner. Record keeping requirements shall include Contractor-assigned maintenance personnel and scheduled preventive maintenance procedures, inspections, tests, and third-party-assisted examinations. Records shall be kept on site for the life of the equipment. Upon request, a copy of the records shall be provided to the Owner. The Contractor will interface with and utilize the Owner's web-based maintenance software and shall maintain up-to-date records of all activities related to the elevators. The Owner will provide all necessary system training.

- A. Contractor shall provide to the Owner quarterly detailed reports of the previous quarters period activities including details by unit of all callbacks, repairs, testing, and preventive maintenance along with dates, reason for car out of service, time taken out of service, task performed (PM, callback, repair, etc.), resolution to any problems, time placed back in service, total time out of service, and a listing of all credits to be issued as a result of non-compliance with the requirements of this Agreement.

1. Callback events and preventative maintenance records will be delivered to Owner on a monthly basis via electronically transmitted, mailed, or via OEM online service no later than the tenth 10th of the following month.

1.21 RECORD DRAWINGS

- A. Contractor shall provide and maintain two (2) complete sets of updated electrical wiring diagrams and control schematic drawings on file with the building, and they are to become the property of the Owner for each group and/or individual system.

1.22 REPORTS BY CONTRACTOR

- A. The Contractor shall, at any time during the term of this Contract, upon written request of the Owner, render a report of inspections, repairs or replacements made by the Contractor at the premises herein, itemized as to parts installed or services performed, and supply samples of lubricants, compounds, or other materials employed.
 1. Contractor shall prepare and issue all required forms and/or reports relative to examinations, tests and inspections as specified herein.

1.23 PRICE ADJUSTMENT

- A. Labor Contracts and Overtime:
 1. It is further understood and agreed that the Contractor shall furnish to the Owner in duplicate, a copy of their current labor contract and any subsequent labor contracts effective during the term of this Contract pertaining to elevator maintenance personnel, and the Contractor further agrees to furnish any additional information concerning overtime charges to the Owner at any time upon request.
- B. The Contractor shall be entitled to a review of their labor and material costs for the purpose of adjusting the maintenance fee thirty (30) days prior to the annual renewal date of this Agreement each year.
- C. Upon submission of proof satisfactory to the Owner that the Contractor's actual labor and/or material costs for performance of service have changed, the monthly price for service coverage shall be adjusted in an amount equal to the established variance based on the following formula:
 1. Eighty percent (80%) of the current fee shall be used to represent the labor portion of the contract.
 2. Twenty percent (20%) of the current fee shall be used to represent the material portion of the contract.
- D. The current labor portion of the contract shall be increased or decreased by the percentage of increase or decrease of the current straight-time hourly rate for a mechanic, compared with same rate used for the previous year's labor portion of the agreement.

1. The initial base labor cost amount is \$. This represents the cost of the maintenance mechanic's hourly wage with associated cost of fringe benefits. (No additional overhead or profit.)
- E. The current materials portion of the contract shall be adjusted based on the established monthly difference in the "Producer Commodity Prices for Wholesale Metals and Metal Products Index" as published by the United States Department of Labor, Bureau of Labor Statistics, during the month within such adjustment occurs for comparison.
 1. Using 20 as the base month, the material factor is .
- F. Annual adjustments shall be effective the first day of the new Contract year and shall remain unchanged for the next twelve (12) months.
- G. Notwithstanding anything to the contrary, the maximum annual increase shall not be more than two percent (2%) of the total contracted payment for the preceding Contract year.

1.24 INSURANCE COVERAGE

- A. The Contractor shall not begin work under this Contract until it has been agreed to and obtained the following minimum insurance coverage:
 1. The Contractor hereby agrees, to the fullest extent permitted by law, to assume the entire responsibility and liability for the defense of and to pay and indemnify the Owner, their agent and employees against any loss, cost expense, liability or damage and will hold each of them harmless from and pay any loss, cost, expense, liability or damage (including without limitation, judgment, attorney's fees, court costs and the cost of appellate proceedings) which the Owner incurs because of sickness, injury to or death of any person or on account of damage to or destruction of property, including loss of use thereof, or any other claim arising out of, in connection with, or as a consequence of the performance of the services or the furnishing of the equipment and supplies and/or any acts or omissions of the Contractor or any of its officers, directors, employees, agents, subcontractors, or anyone directly or indirectly employed by the Contractor for whom it may be liable as it relates to the scope of this Contract.
 2. The Contractor shall, before the commencement of any provisions of any services, file certificates, showing existence of such insurance with the Owner, and such insurance shall be subject to the Owner's approval as to the adequacy of protection and compliance with this Contract, and the satisfactory character of the Insurer. Such insurance shall be placed with Licensed and Admitted carriers who write insurance and do business in the State of Colorado. Licensed for Surplus is not acceptable.
 3. The Owner agrees to give the Contractor notice within a reasonable time (Sunday and holidays excluded) of any accidents, alterations, or changes affecting the equipment covered by this contract and of any change of Ownership. It is understood and agreed that the Contractor will notify the Owner immediately when any equipment becomes unsafe or operates in a manner which might cause injury to anyone using said equipment and it is further understood and agreed that the Contractor will immediately remove any equipment from service when the

equipment becomes unsafe or operates in a manner which might cause injury to anyone using said equipment.

4. The Contractor agrees to maintain such insurance as will fully protect the Contractor, Agent, and the Owner of the building from any and all claims under worker's compensation act or employers' liability laws, and from any and all other claims of whatsoever kind of nature for damage to property or for bodily injury, including death to anyone whomsoever, that may arise from the operations of the Contractor.
5. Prior to the commencement of operations, Contractor will purchase and maintain the following minimum insurance as will protect it, the Owner from any claim which may arise out of a result of Contractors operations under this service Contract whether such operation shall be by the Contractor, its employees or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable:
 - a. Commercial General Liability Insurance on an Occurrence basis including:
[LEAVE THIS SECTION IF INSURANCE IS PROVIDED BY THE
SERVICE CONTRACTOR IF NOT INSERT THE INSURANCE
COVERAGE PROVIDED BY THE THIRD PARTY SUCH AS CBRE;
JLL] FOR INSURANCE COVERAGE
 - 1) Bodily Injury, Property Damage including Personal Injury and death.
 - 2) "Per Project" endorsement.
 - 3) Broad form property damage liability.
 - 4) Blanket Contractual Liability including contractual liability assumed by this contract.
 - 5) Independent Contractors Protective Liability coverage. The minimum limit for Comprehensive Liability insurance coverage shall be:
 - a) Each Occurrence: \$1,000,000
General Aggregate: \$2,000,000
including "Per Project"
endorsement Products & Completed
Operations Aggregate: \$1,000,000
 - b) Excess liability limits of not less than:
Each Occurrence: \$4,000,000
Coverage to follow form of underlying policies.
 - c) Worker's Compensation Insurance - In accordance with the statutory limits.
 - d) Employer's Liability Insurance – With a minimum limit of not less than:
Bodily Injury by Accident: \$1,000,000 each
accident
Bodily Injury by Disease: \$1,000,000 each
employee
Bodily Injury by Disease: \$1,000,000 policy
limit

- e) Statutory State Disability Benefits Insurance covering all persons employed by the Contractor in connection with this contract.
- B. The foregoing insurance policies shall be primary to any other insurance which may be carried by the Owner and shall name Owner as additional insured with a specific policy endorsement as follows:
 - Gensler
 - Grand Junction Regional Airport
 - VDA, Inc. and its affiliates and subsidiaries
- C. Certificates of Insurance evidencing such coverage shall be filed with the Owner prior to the commencement of the contract and renewal of insurance certificates shall be furnished prior to the expiration of any coverage herein.
- D. The policies shall contain a provision giving Owner at least a thirty (30)-day prior written notice of any change or cancellation of such insurance, in the event of cancellation of Non-Payment of Premium, in which a ten (10)-day notice will be provided. This notice will be included on the Certificate of Insurance.
- E. All insurance must be with a licensed and Admitted (licensed for Surplus Lines is not acceptable) insurance carrier with and maintain no less than, A.M. Best's rating of "A-, size VII," and shall be acceptable insurance carriers subject to the discretion of the Owner.
- F. The Contractor agrees that the required insurance is not intended to limit the Contractor's liability in the event the Contractor is deemed to be negligent in causing bodily injury or property damage during the course of its operation.
- G. The Contractor will, at its own expense, maintain physical damage insurance in the amounts and against the perils desired by the Contractor on all property owned or rented by the Contractor. The Contractor hereby waives its rights of recovery against the Owner for any damage or loss to property of any kind which is owned or rented by Contractor or for which the Contractor is liable.

1.25 CANCELLATION

- A. The Owner shall have the right to cancel this Contract upon at least thirty (30) days prior written notice to the Contractor of its election to do so without penalty for the following:
 - 1. Elective upgrading of apparatus awarded to another vendor.
 - 2. Substandard services and/or poor maintenance practices as confirmed by the Consultant or other qualified professional.
 - 3. Failure to comply with Governing Authority directives and/or citations.
 - 4. Cost analysis completed prior to expiration date.

- B. For the purposes of this maintenance Agreement, if the Owner finds fault in the Contractor's performance, the Owner shall notify the Contractor, citing the examples of default, and this communication will be presented via certified mail. The Owner will then allow the Contractor thirty (30) days from the date of receipt of the certified letter for the Contractor to reasonably cure said defaults.
- C. In addition to the rights provided in paragraph "A" hereunder, the Owner shall have the right to cancel this Contract immediately, upon the occurrence of any of the following contingencies: bankruptcy of the Owner or Contractor, mortgage foreclosure, condemnation, destruction, or transfer or conveyance of Title to the premises in which the subject equipment is located or the premises in which the subject equipment is located is rendered unusable in the opinion of the Owner.
- D. Cancellation of this Agreement prior to the expiration date shall entitle the Contractor to payment for services rendered up to and including the date of cancellation; and the Owner shall not be responsible for any expenses or subsequent costs that may be incurred by the Contractor as a result of an early cancellation or standard Contract Agreement expiration.

1.26 NOTICES

- A. All notices to be given under the Contract shall be in writing and addressed to the party to be notified, postage prepaid, by registered or certified mail, return receipt requested, or by delivering the same in person to such party. All notices shall be deemed to have been given as of the date of delivery indicated on the return receipt or date of failure to deliver by reason of changed address of which no notice was given or refusal to accept delivery, or when personally delivered. Any party or person to whom notices are to be sent or given pursuant to the Contract may, by notice to all such other parties or persons mentioned herein, change its address for the giving of notices, provided, however, that a notice of change of address shall be deemed effective only when received by the addressee. Notices to be given hereunder shall be sent or delivered to:

Contractor:

Owner:

Gensler
1225 17th Street, Suite 150
Denver, Colorado 80202

Grand Junction Regional Airport
2828 Walker Field Drive
Grand Junction, CO 81506

1.27 PAYMENT/TERMS

- A. This service will be furnished from award of modernization for Interim maintenance, following the completion of the modernization for the twelve (12) month warranty maintenance. All replacement parts, repairs, adjustments, and associated services, as specified herein, shall be supplied, installed, performed, and conducted at the Contractor's sole cost and expense unless otherwise specified herein.
1. Automatic Renewal:
 - a. The Owner shall have the right to renew this Agreement on a year-to-year basis upon expiration of the initial Contract period. All terms, conditions, and provisions shall remain intact.
 - b. There will be no automatic Renewal unless Owner authorizes in writing or as outlined below to prevent lapse in service coverage.
 2. The Owner agrees to pay the Contractor on a monthly basis, the fee of Dollars (\$) during the term of this Agreement, subject to price adjustments as specified herein.
 - a. Monthly invoices shall indicate the base monthly portions of the Contract amount due under the Agreement for maintenance services.
 - b. Any state or local tax charges, which may be applicable, are not included in the monthly fee indicated and shall be itemized on the monthly billing invoice statement accordingly.
 - c. Extraordinary work and/or other work, as approved by the Owner, shall be invoiced separately upon completion and acceptance of the work or other services performed.
 3. In order to prevent any lapse in service coverage, this Agreement shall automatically renew on a month-to-month basis upon expiration of the initial Contract period. All terms, conditions, and provisions shall remain intact. Either party may provide thirty (30)-day written notice to cancel the contract during the month-to-month period.

1.28 NON-PAYMENT

- A. The Owner may have the Contractor's work and systems' performance operations checked monthly to ensure the Contractor is performing in accordance with this Contract. If the work requirements are not maintained, the Owner will retain the monthly payment to the Contractor until the Consultant verifies that the work and/or operating performance is back to standard. If three (3) consecutive months of substandard maintenance is noted, the Owner has the right to immediately cancel the Contract without notice to the Contractor.
- B. The Consultant or Owner may withhold approval for payment on any request to such extent as may be necessary to protect the Owner from loss on account of:
1. Negligence on the part of the Contractor to execute the work properly or failure to perform any provisions of the Contract. The Owner, after three (3) days written

notice and/or email to the Contractor, may, without prejudice to any other remedy, make good such deficiencies and may deduct the cost of remedy from the maintenance Contract.

2. Claims filed or reasonable evidence indicating probable filing of claims due to the Contractor's failure to perform.
3. Failure of Contractor to make payments properly to subcontractors for material and labor used to fulfill contractual requirements.
4. Damage to the building and/or equipment as a result of work performed or another subcontractor's failure to perform.

1.29 ERRORS AND OMISSIONS

- A. Contractor shall notify the Owner and Consultant in writing regarding any necessary services, coverage or items which may have been omitted from the maintenance Contract specifications and any irregularities, discrepancies or duplications that could affect the full comprehensive intent of the Agreement.
 1. Any duplication of work or coverage is specified as a means of demonstrating the Contract requirements, but such duplication, if any, is not intended to expand coverage or increase requirements for such work or services, and such duplication shall not increase costs or provide justification for extra or additional charge to the Owner.

1.30 LABOR LAWS

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

1.31 BACKGROUND CHECKS

- A. The Contractor agrees to submit to background checks, as required by the Owner, for any of their employees who are assigned to work on this project, or in the building, at any time at the Owner's expense

1.32 ASSIGNMENTS

- A. Neither party to the Contract shall assign the Contract or sublet it as a whole without the written consent of the other, nor shall the Elevator Contractor assign any payment due them or to become due to them hereunder without the previous written consent of the Owner.
- B. Notwithstanding any provision in this section to the contrary, the Contractor's consent shall not be required for the transfer or assignment of the Contract by the Owner in connection with the sale of the building to a new owner, or to satisfy the terms, conditions, or requirements of the Owner's mortgage or another lender. In the event of the sale of one or more properties, the new owner shall have the right to continue the

current contract, including any amendments, on a month-to-month basis for a duration not exceeding six (6) months without written consent by both parties.

1.33 FORCE MAJEURE

- A. Neither party shall be liable by reason of any failure or delay in the performance of its obligations due to strikes, lockouts, riots, fires, explosions, acts of God, war, governmental action, or any other cause which is beyond the reasonable control of such parties. The performance of such party shall be excused for such reasonable time as may be required to resume performance following cessation of such cause.

1.34 CONTRACTOR'S LICENSE

- A. If required by law, Contractor certifies that it is licensed in the state, municipality, and/or local jurisdiction where the property is located to perform the elevator maintenance services pursuant to this Agreement, and that the license will be maintained current and valid for the Initial Term and any renewal term of this Agreement.

1.35 WAIVER

- A. A waiver by either party of any term or condition of this Agreement in any instance shall not be deemed or construed as a waiver of such term or condition for the future, or of any subsequent breach thereof. All remedies and rights of the parties contained in this Agreement shall be cumulative.

1.36 ATTORNEYS' FEES

- A. In the event litigation be commenced by either party hereto against the other in connection with the enforcement of any provision of this Agreement, the losing party shall pay all court costs and shall pay to the prevailing party all expenses incurred by the prevailing party in litigation, including attorneys' fees in a reasonable amount to be determined by the court. The amount so allowed as attorneys' fees shall be taxed to the losing party as costs of the suit, unless prohibited by law.

1.37 LIMITATION OF LIABILITY

- A. It is expressly understood and agreed by the Parties that Owner, its parent, subsidiaries and/or affiliates shall not be liable or responsible in any way for any loss of or damage or injury to any equipment as referred to in this Agreement or other personal property belonging to Contractor or any personnel of Contractor while in any area of the building; nor shall Owner, its parent, subsidiaries and/or affiliates be liable for any injury suffered by any personnel of Contractor while on or in the Owner's property. Personnel of Contractor shall make all necessary arrangements for the safety and security of such equipment and other personal property at all times.

1.38 AGREEMENT DESIGN

- A. It is agreed that this Agreement and any attachment and/or exhibits are contractual in nature and voluntarily entered into by both Parties as their free act and deed, acting in their individual judgment without reliance upon any statement or representation of the other party. This Agreement, any attachments and exhibits constitute the entire understanding, oral or written, between the Parties, and supersedes any and all prior discussions and/or agreement between the Parties. The parties agree that any alteration to any exhibits, attachments, or addenda noted therein or herein, and attached hereto shall be null and void, unless made in writing by mutual agreement of Owner and Contractor. The Parties agree to execute whatever additional documents are deemed reasonably necessary to effectuate this transaction.
- B. Both parties have participated in the preparation of this Agreement and have been afforded the opportunity to have this Agreement reviewed by legal counsel and/or other consultants of their choice. It is agreed that the normal rule of construction against the drafter shall not apply to the provisions of this Agreement.

1.39 SEVERABILITY AND REFORMATION

- A. This Agreement is binding upon the Parties, their respective successors, assigns, and legal representatives. If a Court, having competent jurisdiction, determines that one or more of the provisions is invalid or unenforceable, the Court will have the right to modify same to the minimum extent necessary to make it valid and enforceable, with the rest of this Agreement remaining unaffected by such conclusion or reformation.

1.40 SURVIVABILITY

- A. The parties agree that it would cause an undetermined amount of damages to the other party if either fails to comply with any terms and conditions governing the handling of each other's confidential and proprietary information, or the representations, warranties and indemnifications agreed to under this Agreement and/or hereunder, all of which shall survive any early termination or expiration of this Agreement, and shall remain in full force and effect for the later of a period of one (1) year from the date of termination or expiration of this Agreement, or the date the information is returned to whoever disclosed such information, after the date of termination or expiration of this Agreement.

PART 2 - PRODUCTS AND SERVICES

2.1 SCHEDULED PREVENTATIVE MAINTENANCE LABOR

- A. At a minimum, the Contractor agrees to furnish a qualified mechanic, trained to provide service for routine preventative maintenance procedures (exclusive of callbacks, repair work, Periodic Test Requirements – Category 1, Category 5 and Periodic Test Requirements) the following specified minimum hours.

- B. The Contractor shall provide scheduled systematic examinations, adjustments, cleaning, and lubrication of all machinery, machinery spaces, hoistways, and pits. The Contractor shall include a minimum of one (1) hour per month per unit (two [2] hours monthly total) that is to be dedicated to routine preventive maintenance.

2.2 MAINTENANCE OF ELEVATORS EQUIPMENT COVERAGE

- A. At no additional cost to Owner, Contractor shall provide full comprehensive repair, replacement, adjustment, and related service coverage for all component systems, including spare or replacement parts, unless specifically excluded herein. Failure to provide a particular component, service, or other procedure does not limit Contractor's obligation or liability to provide the necessary work or service.
 - 1. Contractor shall perform complete maintenance of the elevators to ensure they may be operated safely in accordance with performance standards and other criteria specified in this Agreement twenty-four (24) hours per day, seven (7) days per week except for scheduled preventative maintenance and safety test procedures approved by Owner.
- B. Contractor shall furnish all materials, labor, supplies, parts, barricades, warning signs, semi-permanent structures, or other apparatus necessary or proper for and incidental to maintenance procedures.
- C. Contractor shall be responsible for clearing and paying for any violations and fines related to the Equipment.
- D. Contractor shall be responsible for keeping the exterior of the machinery and any other parts of the equipment free from rust.
- E. The following list of equipment is provided as a means to establish the full comprehensive intent of this Agreement. Coverage shall include all associated parts, apparatus and procedures whether specifically defined or not and shall include the necessary hoisting, rigging or other procedures required for execution of the repair, replacement, adjustment, and service of equipment covered under this Agreement.
 - 1. Automatic door systems, power-operated door systems complete:
 - a. Power operator and engagement linkages.
 - b. Car door top track, hangers, and hanger roller assemblies.
 - c. Car doors, eccentrics, stops, bumpers, and related operating mechanisms for multiple-speed or multiple-panel doors.
 - d. Car, bottom guides, retainers, fire stops, gibs, entrance sills and threshold plates, and protection guards.
 - e. Electrical safety switches and activation mechanisms, door protective and/or reversing devices, and power door operators.
 - f. Electromechanical safety interlock assemblies, related operating mechanisms, clutch, or other master system engaging devices, linkages, zoned locking devices, and self-closing devices.
 - 2. Car frame, platform and car safety devices complete:

- a. Crosshead, stiles, cab steadiers, tie rods, supports, and related structures.
 - b. Car guides, car rollers, shoes, stands, spindles, gibs, rollers, and tensioning devices.
 - c. Top exit access operating/safety hardware and electrical switches.
 - d. Car fans, blowers, and cab ventilation systems.
3. Controls, selectors, solid state power drives, encoding devices, transformers with related wiring, conduit, and circuitry complete:
- a. Relays, contactors, switches, capacitors, resistors, fuses, circuit breakers, overloads, power supplies, regulators, tach generators, arc shields, shunts, holders, and hardware.
 - b. Circuit boards, transmitters, transducers, transformers, rectifiers, transistors, solid state switching devices, insulators, timing devices, suppressors, and computer apparatus.
 - c. Filters, fans, blowers, control cabinet air conditioning, wiring, studs, terminal blocks, plug connectors, CRTs or other diagnostic devices, keyboards, and printers.
 - d. Cabinets, frames, isolation pads, isolation transformers, diagnostic tools, status indicators, solid state, and hard-wire circuitry.
 - e. Verify operation of firefighters' service monthly and log Emergency evacuation systems annually.
 - f. Verify operation of battery lowering and/or battery rescue devices semi-annually and replace batteries when required.
4. Hoistway and pit equipment:
- a. Guide rails, fishplates, brackets, inserts, and related hardware to include special mechanisms for mounting and alignment.
 - b. Corridor entrance top track and hanger rollers, toe guards, fascia, dust covers, sills, stops, bumpers, eccentrics, retainers, and bottom guides.
 - c. Electrical wiring and conduit, electrical traveling cables, electrical limits, slow-downs, activating cams, switches, vanes, inductors, tapes, readers, leveling and encoding systems complete with all related hardware and wiring.
 - d. Car buffers, stands, strikes, blocking, extension devices, mounting hardware, and appurtenances.
 - e. Pit safety switches, cable tensioning devices, access ladders, light switches, lighting assemblies, bulbs, and guards.
 - f. Hoistway signage.
5. Operating and signal fixtures with electrical wiring:
- a. Car operating panels, push buttons, stop switches, audible signals, engraved signage, keyed or other control switches, visual signals, jewels, and indicators with electrical wiring.
 - b. Car position indicators, riding lanterns, signal annunciators, visual and audible signals complete.
 - c. Corridor push button stations, hall lanterns, hall position indicators, keyed switches, access controls, electrical wiring, and traveling cables complete.

- d. Emergency lighting systems, emergency communication devices, ventilation equipment, and signal systems complete, including batteries.
 - e. Corridor and lobby fixtures with remote controls and operational monitoring devices, starter panels, emergency power selectors, telltale panels, location indicators, security controls, and monitors.
- 6. Hydraulic systems' components, including but not limited to, tanks, valves, pump, cylinder head, above ground piping, hoses, fittings, gauges, seals, O-Rings, filters, screens, packings, belts, recovery devices overflow devices, battery lowering devices or other emergency operating and signal systems, above grade cylinder and plunger assemblies complete, mufflers, rupture valves, scavenger pump systems, heaters and shut-off valves.
 - 7. Inspect all lighting associated with the vertical transportation systems, including, but not limited to pit lights, equipment room lights, shaftway lights, floor indication lights, car and hall station push button lights, interior and exterior direction lights, arrow lights, signal lantern lights, underfloor lights, cab, entrance and roof lights. Relamp as needed.
 - 8. Component exclusions. The following vertical transportation system components are excluded for normal wear and tear repairs or replacements:
 - a. Car enclosures (including removable panels, suspended ceilings, lighting fixtures (lamps are included), light diffusers, floor coverings, entrance thresholds, trim, and car panel doors). Hoistway enclosures, entrance frames, and door panels.
 - b. Below grade hydraulic cylinders and buried piping.
 - 9. Machine room power disconnect switches together with fuses, power wiring located before the means of primary disconnect, power fuses or circuit breakers located in the primary means of disconnect, elevator machine room general lighting and ventilation. Cab, pit and shaftway lighting fixtures and wiring (lamps are included). Support structures for machine beams or other apparatus normally provided by others and not subject to preventative maintenance procedures by the Elevator Contractor, machine/control room or other equipment access doors with associated locks, closers, and labeling.

NOTE: Any items not specifically excluded will be covered under this Agreement.

2.3 CLEANING

- A. The Contractor shall, during the course of all examinations, remove and discard immediately all accumulated dirt and debris from the car top(s) and pit area(s). Prior to each annual anniversary date of this Agreement, Contractor shall thoroughly clean down the entire hoistway of all accumulated dirt, grease, dust, and debris each year.

2.4 PAINTING

- A. The Contractor shall keep the exterior of the machinery and any other parts of the equipment subject to rust properly painted, identified, and presentable at all times. Motor windings and controller coils shall be periodically treated with proper insulating

compound per OEM recommendations or otherwise as needed. The machine room floor will be painted when both parties determine that the floor is in poor condition. The machine room floor shall be painted annually, when required, with a good quality deck enamel.

2.5 INSPECTIONS / TESTS

- A. The Contractor shall conduct safety, efficiency, and maintained conditions surveys, inspections, and tests as follows:
1. Semi-annual quality control evaluations by a qualified supervisor to ensure and confirm the services and procedures as specified herein are properly executed relative to maintenance and performance standards for the systems serviced.
 2. Mandated inspections and testing in accordance with the latest ASME A17.1 standards and inspections and tests as required by the AHJ. Testing is to include annual step index/loaded gap testing. Annual step indexing/loaded gap testing shall be performed even where the AHJ does not require such testing. Inspections and tests shall be included in the total fee. Testing shall be performed at the frequency dictated by A17.1 Appendix N.
 3. When witnessing is required, the contractor is responsible for coordinating and confirming an inspection date a minimum of thirty (30) days prior to the expiration of the category (CAT) test with the appropriate AHJ and third-party vendors or as outlined by the AHJ.
 4. Payment of all relevant fees per the AHJ shall be by the Owner.
 5. As required, the Contractor shall correct noted deficiencies in addition to preparation and filing of appropriate Affirmation of Correction(s) within the stipulated timeframe as required by the AHJ. Applicable fees associated with this filing shall be covered under the terms of the Agreement.
 6. Where required work necessary to resolve aforementioned deficiencies is not covered under the terms of this Agreement, Contractor shall submit proposals in a timely fashion in an effort to meet applicable correction deadlines within five (5) business days on critical items otherwise, within fourteen (14) business days in an effort to meet applicable correction deadlines. Proposals shall indicate the material and labor costs in addition to anticipated time of completion from approval of proposal(s) by Owner.
 7. Provide independent testing of Fire Emergency Operating Systems tests in accordance with local law requirements and ASME A17.1 standards. Contractor shall notify Owner thirty (30) days prior to the scheduled inspection(s) in order to coordinate Fire Emergency Operating Systems contractor(s). The Owner retains the right to have these tests performed on a not-to-interfere basis at any hour of the day and any day of the week; and the cost for overtime work shall be limited to the premium labor portion for work performed on an overtime basis.
 8. Contractor shall conduct tests and maintain records of ASME Code-required safety tests, fireman's service tests, and telephone/intercom tests on site.
 9. Contractor shall maintain monthly oil consumption records on site in accordance with the ASME A17.1 Safety Code and as required by the AHJ.
- B. The Contractor shall conduct testing procedures in accordance with ASME A17.1 standards at intervals specified and indicated in ASME A17.2, Appendix N and local Code requirements in place at commencement of Contract, complete and execute all

Governing Authority filing procedures including payment of all associated fees or other charges where mandated by local authorities, and forward confirmation of all authority required filings to the Owner within ten (10) working days of the date the test procedure was completed. Any fines incurred for failure to complete required testing, complete testing per mandated schedules, or for filing irregularities will be paid by the Contractor.

1. Annual Hydraulic Elevator Safety Test
 - a. Contractor shall perform an Annual Hydraulic Elevator Safety Test conforming to the requirements contained in ASME A17.1 Category 1, Inspection and Test Requirements on all Hydraulic Elevators covered by this Contract, and as required by the AHJ.
2. Five-Year Hydraulic Safety Test
 - a. Contractor shall perform a Five-Year Safety Test conforming to the requirements contained in ASME A17.1 Category 5, Inspection and Test Requirements on all Hydraulic Elevators covered by this Contract.
- C. The contractor shall pay any additional permit fees for Overtime Testing unless required by the Owner. The contractor shall submit to the Owner official confirmation of receipt from the Department of Public Safety, or local AHJ of all required paperwork and fees. Permit fees are to be included in the maintenance fee.
- D. The Contractor shall be responsible for the payment of any fines or retesting fees and all applicable labor should an inspection failure be as a result of any component or system covered under this Maintenance Agreement. Should an inspection failure be the result of both a component or system covered under this Contract and a related building system that is the responsibility of the Owner, the cost of re-inspection shall be proportionally split between the Contractor and Owner.
- E. The Contractor shall be responsible for the payment of any and all fees for Owner Fire Emergency Operating Systems and/or Emergency Power System contractor(s), including the third-party qualified and certified agency fees, should the Contractor fail to perform the inspection on the scheduled date and/or provide forty-eight (48) hour notice of cancellation.
 1. The Contractor shall file for and obtain any abatement necessary should any violation noted by an inspector be found to be cited in error with the applicable Code.
 2. It shall be the Contractor's responsibility to contact the Owner to establish mutually convenient dates for the performance of the inspections and tests. Where possible, these inspections and tests shall be scheduled so as to coincide with the Contractor's regular maintenance inspections on a "not to interfere" basis.
 3. Any deficiencies discovered as a result of the inspections and testing, whether witnessed by an Owner or not, shall be characterized as follows:
 - a. Condition I - "Immediate"
 - b. Condition II - "Priority"
 - c. Condition III - "Routine"

- 1) Condition I - "Immediate" shall be utilized for life safety or other immediate deficiencies that adversely affect normal, safe operations and mandate removal of the unit from service at the time of testing. Upon the occurrence of the aforementioned, the Contractor shall notify the Owner verbally and provide a written confirmation prior to 10:00 a.m. on the next regular business day. Work required to correct such deficiencies not covered under this Agreement shall be proposed immediately and, upon approval and completion, notification given to the Owner and AHJ to witness the re-inspection procedure.
- 2) Condition II - "Priority" shall be utilized for those deficiencies which could become life-threatening or further impair the safe operation of vertical transportation systems. Condition II "Priority" deficiency classifications shall be applied to units and/or conditions that will create critical service interruptions. Required repairs, replacements, and adjustments not covered under this Agreement shall be proposed for corrective actions and re-inspection within forty-eight (48) hours of recording the deficiency. The Owner will approve the extra work proposals and coordinate this mandated work based on the severity of the reported condition and building operations. Proposals shall indicate the material and labor costs in addition to anticipated time of completion from approval of proposal(s) by Owner.
- 3) Condition III - "Routine" shall be utilized for deficiencies that may be addressed as soon as possible. Such conditions and/or deficiencies shall not be considered as safety infractions or conditions that will otherwise cause unscheduled removal from service of units or create conditions that will hamper regular building operations. The Contractor shall issue itemized proposals for recommended extra work procedures not covered under this Agreement shall within two (2) weeks of recording the deficiency. Proposals shall indicate the material and labor costs in addition to anticipated time of completion from approval of proposal(s) by Owner.

2.6 CALLBACK SERVICE (24 HOURS, 7 DAYS PER WEEK)

- A. Provide callback service, which consists of promptly dispatching qualified employees in response to requests from the Owner, by telephone or otherwise, for emergency adjustment or minor repairs on any day of the week, at any hour, day or night. If repairs cannot be made immediately, the mechanic shall notify the Owner as to the reason why and provide supplemental information regarding the restoration of services.
 1. Callback service in response to passenger entrapments shall be provided within one-half (½) hour during regular working hours and within one (1) hour during overtime periods.
 2. Callback services for out-of-service units shall be provided within one (1) hour during regular working hours and within two (2) hours between 6:00 a.m. and 8:00 a.m. and 4:30 p.m. and 6:30 p.m. Monday through Friday, except holidays.
 3. Calls placed before 3:30 p.m. are not considered overtime. Callback services for non-essential system malfunctions that do not constitute an operational or other safety condition shall be provided during normal working hours of regular working days within four (4) hours of the request for service.

**2.7 OWNER'S RIGHT TO MONITOR CONTRACTOR SERVICE AND
PERSONNEL**

- A. In addition to the Contractor's management and supervision of services specified herein, the Owner shall retain the right to monitor the actions of the Contractor and services rendered.
- B. The Owner may employ direct labor for management supervision or indirect outside consultants, inspectors, engineers, or other qualified personnel to monitor the maintenance services provided by the Contractor, with the understanding that such actions do not limit the Contractor's responsibilities for management of services or supervision of personnel. Contractor shall assist with these equipment reviews.
- C. When conditions warrant, in the opinion of the Owner, the Contractor shall provide the necessary labor and/or materials, at no additional cost, to assist the Owner to evaluate the services rendered, work performed, and equipment conditions.
- D. There shall be no extra charge to the Owner for normal coordination of services, scheduling procedures, reporting requirements, or other service management and supervision mandated under the terms of this Contract to include assistance labor as specified above when assigned personnel are removed from normal duties without replacement by additional personnel for such assistance to the Owner.
- E. In the event the Contractor changes assigned management or supervisory personnel, the Owner shall retain the right to interview and evaluate all new personnel assigned for direct or indirect management and supervision of this Contract work.
- F. In the event the Contractor union affiliated personnel fail to perform their duties satisfactory to the Owner or display an attitude that is not conducive to good relationships or proper servicing of the elevator systems, the Owner may request a position reassignment based on submission of substantial evidence that such Contractor employee is not serving the best interests of the building and/or the Contractor in performing services specified herein. The Contractor shall honor said request within twenty-four (24) hours of notification and provide labor satisfactory to the Owner.
- G. The Owner reserves the right to purchase related vertical transportation system services, attachments, or other appurtenances not covered under the terms of this Contract from other than the Maintenance Contractor. The Contractor shall cooperate and assist the Owner in coordination of such projects or acts to ensure safe and adequate vertical transportation is provided. When conditions warrant, in the opinion of the Owner, the Contractor shall provide technical assistance to the Owner upon request.

2.8 CONFIDENTIALITY

- A. The Owner may provide information to enable Contractor to render services hereunder, or Contractor may learn information about property or develop such information from Owner. Contractor agrees:

1. To treat, and to obligate Contractor's employees, subcontractors, and suppliers to treat as confidential all such information, whether or not identified by Owner as confidential.
2. Not to disclose and such information or make available any reports, recommendations and/or conclusions which Contractor may make on behalf of Owner to any person, firm or corporation or use the same in any manner, whatsoever, without first obtaining Owner's written approval, except to the extent necessary in connection with performing services or when required by law.
3. Contractor shall not, in the course of performance of this Agreement, or thereafter, use or permit the use of Owner's name or the name of any affiliate of Owner, or the name, address or any picture or likeness of or reference to the property in any advertising, promotional or other materials prepared by or on behalf of Contractor without the prior written approval of Owner.

2.9 SECURITY

- A. Contractor and Contractor's personnel shall comply with all security regulations and requirements of Owner and Owner's tenants.
- B. Contractor and Contractor's personnel shall submit to security background checks as required.

2.10 OBSOLESCENCE

- A. For the purpose of this contractual contingency, Component Obsolescence shall be defined as the inability to purchase and/or otherwise repair, rebuild or refurbish parts of the system no longer produced by the original equipment manufacturer or a third-party after-market supplier in the same form, fit and/or function. Claims of component obsolescence shall not be allowed when replacement parts, components or assemblies of equivalent design and functionality are available in the market.
- B. In the event of Component Obsolescence as defined in paragraph A above, the condition shall be reported to the Owner with the following information:
 1. Alternative equipment or component parts renewal options for restoration of the system due to obsolescence.
 2. Procurement and installation time for restoration of system service.
 3. Any local law or safety Code requirements that will be triggered by the alternative equipment or component renewal (i.e., including filing, tests, and approvals).
 4. Certification by the manufacturer of the replacement parts that the parts meet or exceed the original equipment design intent, including, but not limited to, durability, reliability, maintainability, longevity, and safety.
- C. Payment for obsolescence work shall be based on the extra cost to the contractor only.
 1. Labor cost over and above the time necessary for standard equipment and component renewal or repair procedures.

- a. Contractual hourly rate schedule as provided under Exhibit A shall be used to compute the extraordinary labor charge, if applicable.
 - b. Thirty percent (30%) of the actual material cost deemed obsolete (with no mark-up) will be paid to the contractor by the Owner.
 - c. If the part can be custom-made, in the same form, fit, and function, the Owner will pay up to forty percent (40%) of the cost of that part. The Owner shall not be responsible for labor costs associated with this repair or fabrication.
 - d. At the request of the owner, proper documentation shall be provided from the supplier indicating the part(s) and/or component(s) are obsolete and the actual cost of the new part(s)/component(s) from the supplier.
 - e. At the Owners option, a lump sum extra cost price may be employed in lieu of time and material as indicated above.
2. Subsequent to the Owner authorization to proceed with an alternative obsolescence repair and approval of the relative extra cost, if any, the contractor shall immediately perform such work and restore operating services.
- D. The Owner shall retain the right to competitively bid obsolescence repairs and replacements; and such work as performed by another qualified contractor shall not diminish or otherwise alter the coverage provided under this agreement subject to the following:
1. The maintenance Contractor has the right to inspect work performed by others; and, when conditions warrant, reject obsolescence procedures that increase their contractual liability. The maintenance contractor shall provide written notification of acceptance or rejection.
 2. Should the Contractor reject an obsolescence repair made by others, the Owner may have a qualified third-party professional engineer evaluate the work and render a decision regarding the acceptability of the prevailing conditions, or the Owner may terminate the maintenance Contract and award the maintenance work to another contractor at the Owner's sole discretion.

NOTE: No other claim for obsolescence of any kind will be considered by the Customer during the course of this Agreement.

2.11 SCHEDULED SERVICE PROCEDURES

- A. Maintenance requirements, in addition to scheduled and emergency repairs, renewals, and testing, shall include but are not limited to:
1. Examination of wire ropes and/or coated steel belts to maintain proper tensioning and legal bottom clearances on a monthly basis for shortening and adjusting ropes as required and performance of all re-shackling procedures per ASME A17.1 and/or ASME A17.6 standards and local laws in conjunction with maintenance of related slack cable devices, machine limits or other safety equipment.
 2. Examination, repair, and replacement of all electrical wiring, traveling cables, conduits, connections, and related apparatus extending from the main line power supply switch in the machine/control room or other power supplies in hoistways.

3. Maintenance of pit, hoistway, and machine/control room lighting to include re-lamping, wiring, and switch controls.
4. Mandated inspections and relative labor requirements for third party examinations and/or test procedures as approved by the Owner.

B. Monthly Firemen's Recall Service

1. Monthly Firemen's Recall Service Tests following the ASME Code A17.1/A17.2 requirements shall be performed monthly and test logs kept current and stored in an accessible location in the elevator machine/control room/space, and per the requirements of the Local AHJ.

PART 3 - EXECUTION AND SUPPLEMENTAL REQUIREMENTS

3.1 PERFORMANCE TIMES, LEVELING, AND CONTRACT SPEED

- A. The control system shall be maintained to provide smooth acceleration and retardation. Contractor must maintain elevators in accordance with the OEM's design performance specifications (including floor-to-floor times, door timing, rated speed, group supervisory system, etc.). The door close pressure must never exceed thirty (30) footpounds. The following performance schedule shall be adhered to:
1. Contract Speed: The contract speed shall be provided for up direction travel with full-capacity load in the elevator car. The speed in either direction under any loading condition shall not vary more than 10% (ten percent) of the contract speed on hydraulic equipment.
 2. In accordance with the ASME A17.1 Code, the elevators shall be maintained and adjusted to safely lower, stop, and hold the car with a load of 125% of the rated capacity.
 3. Leveling Accuracy: The elevator shall be adjusted to provide accurate leveling within 1/4 inch $\pm$ of the floor level without releveling, regardless of load.
 4. Door Operating Times:

DOOR TYPE	OPENING	CLOSE
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Two-Speed, Side Opening	2.4 sec.	4.6 sec.
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Single-Speed, Center Opening	1.6 sec.	2.4 sec.
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- Door dwell time for hall calls: 5.0 sec without Advance lantern signals
- Door dwell time for car calls: 3.0 seconds
- Reduced non-interference dwell time: 1.0 – 1.5 seconds.

5. Floor to Floor Time (Flight Time):
Passenger Elevator: 13.25 sec.
Service Elevator: 16.75 sec.

- B. Maintain the following ride quality requirements for the elevators:

1. Noise levels inside the car shall not exceed the following:

- a. Car at rest with doors closed and fan off - 40 dba.
- b. Car at rest with doors closed, fan running - 55 dba.
- c. Car running at high speed, fan off - 50 dba.
- d. Door in operation - 60 dba.

3.2 PARTS INVENTORY AND WIRING DIAGRAMS

- A. The Contractor shall maintain an inventory of spare parts at the site of the work for scheduled preventive maintenance procedures and common callback service repairs. Such parts shall include but are not limited to contacts, coils, solid-state boards, relays, resistors, timing devices, computer devices, interlock safety switch and linkage parts, bottom guides, door closers, fuses, bulbs, car guides, and an assortment of hardware.
- B. The Contractor shall maintain and continually update wiring diagrams and control schematics to ensure “as built” documents remain on site and the property of the Owner per the Maintenance Agreement.

3.3 MATERIALS AND WORKMANSHIP

- A. All materials and parts are to be new and of the best quality available. Installation of such materials shall be accomplished in a neat, workmanlike manner. In case the Contractor should receive written notification from the Owner stating the presence of inferior, improper, or unsound materials or workmanship, the Contractor shall, within twenty-four (24) hours, proceed to remove such work or materials and make good all other work or materials damaged thereby. If the Owner permits said work or materials to remain, the Owner shall be allowed the difference in value or shall, at its election, have the right to have said work or materials repaired or replaced as well as the damage caused thereby, at the expense of the Contractor, at any time during the Contract term; and neither payments made to the Contractor, nor any other acts of the Owner shall be construed as evidence of acceptance and waiver.

3.4 EQUAL OPPORTUNITY

- A. The Contractor shall maintain policies of employment as follows:
 - 1. The Contractor and all Subcontractors shall not discriminate against any employee or applicant for employment because of actual or perceived race, creed, color, religion, national origin, ancestry, alienage or citizenship status, age, disability or handicap, sex marital status, familial status, veteran status, sexual orientation, arrest record or any other characteristic protected by applicable federal, state and local laws. The Contractor shall take affirmative action to insure that applicants are employed, and that employees are treated during employment without regard to their actual or perceived race, creed, color, religion, national origin, ancestry, alienage or citizenship status, age, disability or handicap, sex marital status, familial status, veteran status, sexual orientation, arrest record or any other characteristic protected by applicable federal, state and local laws. Such action

shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of non-discrimination.

2. The Contractor and all Subcontractors shall, in all solicitations or advertisements for employees placed by them or on their behalf, state that all qualified applicants will receive consideration for employment without regard to actual or perceived race, creed, color, religion, national origin, ancestry, alienage or citizenship status, age, disability or handicap, sex marital status, familial status, veteran status, sexual orientation, arrest record or any other characteristic protected by applicable federal, state, and local laws.

B. EEO EMPLOYMENT PRACTICES AND COMPLIANCE

1. The parties hereto agree to voluntarily comply with the basic tenants of the Equal Employment Opportunity Requirements of Executive Order 11246, as amended by Executive Order 11375, Title VII of the Civil Rights Restoration Act of 1964, as amended, applicable state Fair Employment Practices Acts, and any other federal or state laws pertaining to equal employment opportunity, and that they will not discriminate against any employee or applicant for employment on the basis of actual or perceived race, creed, color, religion, national origin, ancestry, alienage or citizenship status, age, disability or handicap, sex marital status, familial status, veteran status, sexual orientation, arrest record or any other characteristic protected by applicable federal, state and local laws in matters pertaining to recruitment, hiring, training, upgrading, transfer, compensation or termination. In addition, Contractor agrees to indemnify and hold harmless Owner, its parent, affiliates, employees, agents, representatives, and any of its or their officers, directors, employees, agents, successors, or assigns, harmless from all loss, cost or expense, including reasonable attorneys' fees for any violation by Contractor, its employees, agents, representatives, or assigns of the rules and regulations set forth and enforced by the Immigration and Naturalization Services pursuant to the Immigration and Nationality Act, as well as the Illegal Immigration Reform and Immigrant Responsibility Act which obligation to indemnify shall survive the expiration or termination of this Agreement.
2. Contractor agrees to maintain comprehensive records of all services performed under this Agreement. These records will be available for inspection by Owner at any time during regular business hours and upon forty-eight (48) hours written notice.

3.5 PROTECTION OF WORK AND PROPERTY

- A. The Contractor shall continuously maintain adequate protection of all their work from damage and shall protect the Owner's property from injury or loss arising out of this contract. The Contractor shall make good any such damages, injury, or loss, except such as may be directly caused by agents or employees of the Owner. The Contractor shall provide all barricades required to protect open hoistways or shafts per OSHA regulations. Such protection shall include any necessary guards or other barricades for employee protection during and after the maintenance procedure.

3.6 REPRESENTATION

- A. Contractor represents that it will (i) perform elevator maintenance services under this Agreement in accordance with acceptable industry professional and ethical standards, (ii) not proceed with performance of various aspects of the Services, unless pre-authorized ("Pre-approved Services") by the Owner at the property, (iii) conduct any handling of Owner Confidential Information in accordance with acceptable industry professional and ethical standards, (iv) not represent to any third party that it has authority to sign, endorse or represent a contractual relationship with or in Owner name, or enter into any agreement on behalf of Owner in connection herewith (unless expressly pre-authorized in writing by Owner), (v) safeguard the physical security of Owner Confidential Information if it has access to or possession of such information, (vi) ensure that only "Authorized Representatives" of this Agreement, will have access to any of Owner Confidential Information while rendering the Services, and that it will not be copied, or disseminated to anyone other than the Owner, and (vii) ensure that all of its employees, representatives, agents or assigns will not solicit any of Owner employees for any purpose. The Parties agree that any alteration to any of the Addenda, Riders, or Exhibits hereto shall be null and void, unless made in writing by mutual consent of the Parties. The obligations of Contractor set forth herein shall remain in full force and effect for the later of a period of one (1) year from the date of termination or expiration of this Agreement, or the date the Confidential Information is returned to whomever disclosed such information, after the date of termination or expiration of this Agreement.

3.7 VIOLATIONS

- A. In the event that a summons or notification of violation or other process is issued to Owner by or on behalf of a governmental authority or its agents having jurisdiction over the building for violation of any law, Code, ordinance, rule or regulation pertaining to the maintenance, repair or replacements of the Owner's vertical transportation system and/or its component parts or conditions pertaining thereto, which are the responsibility of the contractor to maintain, repair or replace under the Contract, the contractor agrees to indemnify and hold Owner, its officers, agents, servants and employees harmless from and against Owner, and contractor agrees that it will, at its own cost and expense, answer such process and defend Owner before any administrative tribunal or court having jurisdiction over the matter and shall comply with and pay any judgment, award or fines imposed, and contractor shall timely correct and cure any violation condition and certify correction/cure of such condition(s) to the adjudicating body and/or issuing governmental authority, as may be required, and shall timely prepare and file the necessary certification, affidavit and supporting proof necessary to obtain removal, correction, discharge, or dismissal of the violation on the agent records.

3.8 CHANGES IN SCOPE

- A. The Owner may at any time, by written order, make changes within the general scope of this Contract in the work and service to be performed. If any such cases cause an increase or decrease in the Contractor's cost of, or the time required for, the performance of this Agreement, an equitable adjustment shall be made, and the Contract modified in writing accordingly. If the Owner and Contractor fail to agree upon the

adjustment to be made, the Owner reserves the right to solicit bids from other vendors for the performance of the additional work.

- B. When the Owner removes one or more elevators named in this Contract from service in order to perform work on such elevators that are outside the scope of this Contract, the monthly payments due the Contractor and the minimum maintenance hours required to be provided by the Contractor will be reduced accordingly. The Contractor shall be notified, in writing, by letter or Contract change order, at least three (3) full working days in advance of the elevator(s) being removed from, or returned to, service. If the elevator(s) is to be removed from service for thirty (30) consecutive calendar days or less, the Owner may negotiate an equitable adjustment with the Contractor and make the necessary adjustments on the monthly invoice authorizing payment. If the elevator(s) is to be removed from service for more than 30 consecutive calendar days, the Owner may issue a modification to the Contract and negotiate an equitable adjustment in the Contract price in accordance with this Section. The period for reducing payments will begin on the effective date specified in the notice and will continue through the day before the elevator(s) is returned to covered service.

Gensler
003.8017.012

May 07, 2026
Issue for Pricing & Permit

**GJT Level 2 Amenities and Elevator
Modernization**
Grand Junction, Colorado

In witness whereof, the parties hereto have executed this Agreement on the day and year written below.

CONTRACTOR:

SIGNATURE:

BY:

TITLE:

Owner: Grand Junction Regional Airport

SIGNATURE:

BY:

TITLE:

DATE: This day of 20

WITNESS

☐ Exhibit A is attached and made a part of this Agreement.

☐ Exhibit B is attached and made a part of this Agreement.

EXHIBIT A

SCHEDULE OF INITIAL BASE HOURLY RATES FOR CONTRACTOR'S PERSONNEL

VDA No. 81454	Contractors Hourly Base Cost including Fringe Benefits	Straight Time Rate Hourly Selling Price	*1.5 Premium Time Rate	*1.5 Hourly Selling Price	**1.7 Premium Time Rate	**1.7 Rate Hourly Selling Price	***2.0 Double Time Premium Time Rate	***2.0 Double Time Rate Hourly Selling Price
Maintenance Mechanic								
Apprentice								
Modernization Mechanic								
Team								
Foreman / Adjuster								
Other (Specify)								

*Hours and Days of the Week that the Rate applies:

**Hours and Days of the Week that the Rate applies:

***Hours and Days of the Week that the Rate applies:

EXHIBIT B

CONTRACTOR'S SCHEDULE OF UNIT PRICES

TYPE OF UNIT	BUILDING ELEVATOR (DESIGNATION)	MONTHLY PM HOUR(S) PER UNIT	(1) MONTHLY MAINTENANCE CHARGE EACH	(2) NUMBER OF UNITS	TOTAL MONTHLY PRICE (1) x (2)	TOTAL ANNUAL PRICE (1) x (2) x 12 MONTHS
Hydraulic	Passenger No. 1			1		
Hydraulic	Service No. 2			1		
TOTAL MONTHLY MINIMUM PM HOURS						
TOTAL MONTHLY PRICE FOR TWO (2) UNITS					\$	
TOTAL FIRST YEAR ANNUAL PRICE FOR TWO (2) UNITS						\$

END OF SECTION 14 01 20

142400 – HYDRAULIC ELEVATORS
142423 – HYDRAULIC PASSENGER ELEVATOR
142443 – HYDRAULIC SERVICE ELEVATOR

PART 1 - GENERAL

1.1 SUMMARY AND DEFINITIONS

A. Related Documents

1. Division 010000 - Supplementary General Conditions
2. 140120 - Elevator Maintenance - Full Coverage Contract / Specifications
3. Request for Proposal

B. Intent

1. This section includes:
 - a. One (1) Hydraulic Passenger Elevator – State No. CP08-003546
 - b. One (1) Hydraulic Service Elevator – State No. CP08-003547
2. The following outlines the scope of work covered in this Section:
 - a. Comprehensive Modernization of one (1) passenger elevator and one (1) service elevator.
3. Related equipment shall be designed, constructed, installed and adjusted to produce the highest results with respect to smooth, quiet, convenient and efficient operation, durability, economy of maintenance, and the highest standard of safety.
4. It is not the intent of these specifications to detail the construction and design of all parts of the equipment, but it is expected that the type, materials, design, quality of work and construction of each part shall be adequate for the service required, durable, properly coordinated with all other parts, and in accordance with the best commercial standards applicable and of the highest commercial efficiency possible.
5. Minimum requirements for design, materials, etc., are for certain parts of the equipment. Equivalent requirements approved by the Owner shall apply to such parts as are of special design, construction or material and to which the specified requirements are not directly applicable. These minimum requirements as a whole shall be considered as establishing proportionate general minimum standards for all parts of the equipment.
6. The Owner may permit variations from the requirement of these specifications to permit use of the Contractor's standard equipment, provided such standard equipment is in every way adequate for the intended use and meets the full intent of these specifications. All such variations proposed by the manufacturer shall be called to the attention of the Owner and shall only be made if approved in writing prior to the award of the contract.

7. General requirements for design, materials and construction are intended primarily to apply to the parts of the equipment specifically mentioned. Parts may be of the standard design, materials and construction provided that, in the opinion of the Owner, such standards are in accordance with the best commercial practice and are fully adequate for the purpose of use. All such variations shall be made only on the Owner's written approval.
8. All equipment and component parts installed, supplied or provided under this contract shall be manufactured and distributed by a company servicing the vertical transportation industry.
 - a. Apparatus shall conform to the design and construction standards referenced herein, and shall be rated the best commercial grade suitable for this application.
 - b. Manufacturers of the apparatus shall provide technical support and parts replacements for their equipment and component systems for a minimum of twenty (20) years, and issue such guarantee of support to the purchaser with written certification naming the final Owner of their product(s) to ensure the apparatus or systems remain maintainable regardless of who may be selected for future service.
9. It is understood that the entire system shall be designed, fabricated, modified and/or upgraded in full compliance with applicable local laws and Code standards. The absence of a particular item or requirement shall not relieve the Contractor of the full and sole responsibility for such equipment, features and/or procedures.
10. With the exception of only those items specifically identified as being performed by others, the Specifications are intended to include all engineering, material, labor, testing, and inspections needed to achieve work specified by the Contract Documents. Inasmuch as it is understood that any incidental work necessary to complete the project is also covered by the Specifications, bidders are cautioned to familiarize themselves with the existing job site conditions. Additional charges for material or labor shall not be permitted subsequent to execution of the Contract.
11. Bidders must report discrepancies or ambiguities occurring in the Specifications to the Owner for resolution prior to the bidding deadline, otherwise the Specifications shall be deemed acceptable in their existing form.

C. Termination of Existing Agreements

1. By submitting a bid, the existing maintenance provider agrees that any service contracts in effect shall be terminated by the Owner should the project be awarded to another vendor upon thirty (30) day written notice to the Contractor by the Owner.
 - a. The contracts shall be terminated with no penalty to the Owner or Contractor.
 - b. Owner will be responsible for money owed the Contractor for services provided and work performed up until the date of cancellation.

D. Abbreviations and Symbols

1. The following abbreviations, Associations, Institutions, and Societies may appear in the Project Manual or Contract Documents:

ADA	Americans with Disabilities Act
AHJ	Authority Having Jurisdiction
AIA	American Institute of Architects

ANSI	American National Standards Institute
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWS	American Welding Society
EPA	Environmental Protection Agency
IBC	International Building Code
IEEE	Institute of Electrical and Electronics Engineers
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Agency
OSHA	Occupational Safety and Health Act

E. Codes and Ordinances / Regulatory Agencies

1. Work specified by the Contract Documents shall be performed in compliance with applicable Federal, State, and Municipal Codes and ordinances in effect at the time of Contract execution. Regulations of the Authority Having Jurisdiction shall be fulfilled by the Contractor and Subcontractors. The entire installation, when completed, shall conform with all applicable regulations set forth in the latest editions of:
 - a. Local and/or State laws applicable for logistical area of project work.
 - b. Building Code applicable to the AHJ.
 - c. Elevator Code applicable to the AHJ.
 - d. Safety Code for Elevators and Escalators, ASME A17.1 and all supplements as modified and adopted by the AHJ.
 - e. Guide for Inspection of Elevators, Escalators, and Moving Walks, ASME A17.2.
 - f. Safety Code for Existing Elevators and Escalators, ASME A17.3, as modified and adopted by the AHJ.
 - g. Guide for Emergency Evacuation of Passengers from Elevators, ASME A17.4.
 - h. National Electrical Code (ANSI/NFPA 70).
 - i. American with Disabilities Act - Accessibility Guidelines for Buildings and Facilities, A117.1 Accessibility as may be applicable to the AHJ.
 - j. ASME A17.5/CSA-B44.1 - Elevator and Escalator Electrical Equipment.
 - k. ECC (Energy Conservation Code) as may be applicable to the AHJ.
2. The Elevator Contractor is responsible for setting up a meeting with the AHJ to review existing conditions where foreign equipment exists within machine rooms and hoistways.
3. The Elevator Contractor shall advise the Owner's Representative of pending Code changes that could be applicable to this project and provide quotations for compliance with related costs.

F. Definitions

1. Defective Work: Operation or control system failure, including excessive malfunctions; performances below specified ratings; excessive wear; unusual deterioration or aging of materials or finishes; unsafe conditions; need for excessive maintenance; abnormal noise or vibration; and similar unusual, unexpected, and unsatisfactory conditions.
2. Provide: Where used in this document, provide shall mean to install new device, apparatus, system, equipment or feature as specified in this document.
3. Definitions in ASME A17.1 as amended or modified by the AHJ apply to work of this Section.

1.2 PERMITS AND SUBMITTALS

A. Permits

1. Prior to commencing work specified by the Contract Documents, the Contractor shall, at its own expense, obtain all permits or variances as may be required by the AHJ and provide satisfactory evidence of having obtained said permits and variances to both the Owner's Representative and Consultant.
2. File necessary drawings for approval of all Authorities Having Jurisdiction.

B. Submittals

1. Prior to beginning the work, the Contractor shall submit and have approved copies of layout drawings, shop drawings and standard cuts. These items shall include:
 - a. A plan view of the machine rooms.
 - b. Hydraulic power unit, controller, door equipment, signal fixtures, door panels, car guides, travel cable, and cab enclosures/ interiors.
 - c. All specified additional accessories.
2. The Consultant and the Owner's Representative shall pass on the submittals with reasonable promptness and the Contractor shall be responsible to ensure that there will be no delay in their work or that of any other trade involved.
3. Approved filing and submittal requirements must be completed before equipment and related materials are ordered.
4. Copies of Department of Buildings' permits and/or governing authority's documents will be posted at the job site with copies issued to the Owner's Agent, Owner's Representative and Consultant.
5. Samples of wood, metal, plastic, paint or other architectural finish material applicable to this project shall be submitted for approval by the Owner's designee.
6. It shall be understood that approval of the drawings and cuts by Owner's designee, Architect and/or Consultant shall be for general arrangement only and does not include measurements which are the Contractor's responsibility or approval of variations from the contract documents required by the AHJ.
7. The Contractor shall prepare a record log and maintain all submittals, shop drawings, catalog cuts and samples.

C. Measurements and Drawings

1. Drawings or measurements included with the bidding material shall be for the convenience of the bidders only and full responsibility for detailed dimensions lies with the Contractor.
2. In the execution of the work on the job, the Contractor shall verify all dimensions with the actual conditions.
3. Where the work of the Elevator Contractor is to join other trades, the shop drawings shall show the actual dimensions and the method of joining the work of the various trades.

D. Substitutions

1. Requests for substitutions will be considered under the following time limitations and situations:

- a. Not less than ten (10) calendar days before bids are due.
 - b. Work or equipment specified becomes unavailable through unforeseen events such as strikes, loss of manufacturer's plant through fire, flood or bankruptcy.
2. Requested substitutions will be reviewed and adjudged. Failure of the Owner to raise objection shall not constitute a waiver of any of the requirements of the Contract Documents.
3. Request for substitutions shall include complete data with drawings and samples as required, including the following:
 - a. Quality Comparison - Proposed substitution versus the specified product.
 - b. Changes required in other work because of the substitution.
 - c. Effect on the construction schedule.
 - d. Cost Data - Resulting from the proposed substitution versus the specified product. The Contractor shall certify that the cost data presented is complete and includes all related costs under this Contract.
 - e. Safety Comparison – Proposed substitution shall provide equivalent or greater safety, with certification data provided where relevant.
4. When proposing a substitution, the Contractor represents that:
 - a. They have investigated the proposed substitution and have determined that it is equal to or better than the product specified.
 - b. They will guarantee the substitution in the same manner as the product specified.
 - c. They will coordinate and make other changes as required in the work as a result of the substitution.
 - d. They waive all claims for additional costs as a result of the substitution, with the exception of those identified above under "cost data".
5. The Owner will be sole judge of the acceptability of the proposed substitution.
6. The Owner and Consultant will have authority to approve or reject substitutions or to change the specified standards of quality. However, neither this authority to act under this provision nor any decision made in good faith, either to exercise or not to exercise this authority, shall give rise to any duty or responsibility of the Owner to the Contractor, any Subcontractor, any Sub-Subcontractor, any of their agents or employees or any other persons performing the work or offering to perform the work.

E. Changes in Scope and Extra Work

1. The Owner may at any time make changes in the specifications, plans and drawings, omit work, and require additional work to be performed by the Contractor.
 - a. Each such addition or deletion to the Contract shall require the Owner and the Contractor to negotiate a mutually acceptable adjustment in the contract price, and, for the Contractor to issue a change order describing the nature of the change and the amount of price adjustment.
 - b. The Contractor shall make no additions, changes, alterations, or omissions or perform extra work except on written authorization of the Owner.
 - c. Each change order shall be executed by the Contractor, Owner, and the Consultant.

F. Keys

1. Upon the initial acceptance of work specified by the Contract Documents on each unit, the Contractor shall deliver to the Owner, four (4) keys for each general key-operated device that is provided under these specifications in accordance with ASME A17.1, Part 8 standards as may be adopted and modified by the AHJ.
2. All other keying of access or operation of equipment shall be provided in accordance with ASME A17.1 Part 8 as may be adopted and modified by the AHJ.

G. Diagnostic Tools

1. Prior to seeking final acceptance of the project, the Contractor shall deliver to the Owner any specialized tools required to perform diagnostic evaluations, adjustments, and/or programming changes on any microprocessor-based control equipment installed by the Contractor. All such tools shall become the property of the Owner.
 - a. Owner's diagnostic tools shall be configured to perform all levels of diagnostics, systems adjustment and software program changes which are available to the Contractor.
 - b. Owner's diagnostic tools that require periodic re-calibration and/or re-initiation shall be performed by the Contractor at no additional cost to the Owner for a period equal to the term of the maintenance agreement from the date of final acceptance of the project.
 - c. The Contractor shall provide a temporary replacement, at no additional cost to the Owner, during those intervals in which the Owner might find it necessary to surrender a diagnostic tool for re-calibration, re-initiation or repair.
2. Contractor shall deliver to the Owner printed instructions, access Codes, passwords or other proprietary information necessary to interface with the microprocessor-control equipment.

H. Service Support Requirements / Spare Parts

1. Printed Circuit Boards, Software Programs and Spare Parts
 - a. Prior to seeking final acceptance of the project as specified by the Contract Documents, the Contractor shall deliver to the Owner a spare replacement for each printed circuit board that is needed to fully operate any one (1) of the following:
 - 1) Elevator and the group dispatch/supervisory controller where applicable:
 - a) Circuit boards shall be exact duplicates of those in use and shall be provided with "as installed" software programs.
 - b) Circuit boards shall be "run in" on the job site to demonstrate its ability to function in a normal manner.
 - c) All spare printed circuit boards shall become property of the Owner.
2. Software / Firmware Updates
 - a. During the life of the equipment and subject to the term of the maintenance agreement, where revisions to firmware and/or software are issued by the control manufacturer or manufacturer of solid state and microprocessor-based subsystems subsequent to the beneficial use of the equipment, updates shall be provided so that

the installation and spare circuit boards are current with respect to software and firmware versions.

I. Wiring Diagrams, Operating Manuals and Maintenance Data

1. Deliver to the Owner, two (2) identical volumes of printed information organized into neatly bound manuals prior to seeking final acceptance of the project.
2. The manuals shall also be submitted in electronic format on non-volatile media, incorporating raw 'CAD' and/or Acrobat 'PDF' file formats. Electronic manuals shall be properly indexed, bookmarked, and searchable.
3. Manuals, as well as electronic copies, shall contain the following:
 - a. Step-by-step adjusting, programming and troubleshooting procedures that pertain to the solid-state microprocessor-control and motor drive equipment.
 - b. Passwords or identification Codes required to gain access to each software program in order to perform diagnostics or program changes.
 - c. A composite listing of the individual settings chosen for variable software parameters stored in the software programs of both the motion and dispatch controllers.
 - d. Method of control and operation.
4. Provide two (2) sets of "AS INSTALLED" straight-line wiring diagrams in both hard and electronic format in accordance with the following requirements:
 - a. Displaying name and symbol of each relay, switch or other electrical component utilized including identification of each wiring terminal.
 - b. Electrical circuits depicted shall include all those which are hard wired in both the machine room and hoistway.
 - c. Supplemental wiring changes performed in the field shall be incorporated into the diagrams in order to accurately replicate the completed installation.
5. Furnish two (2) sets of bound instructions and recommendations for maintenance, with special reference to lubrication and lubricants along with the full Maintenance Control Program as required Part 8 of ASME A17.1.
6. Manuals or photographs showing controller replacement parts with part numbers listed.

J. Demonstration

1. Prior to seeking final acceptance of the project, the Contractor shall conduct a two (2) or four (4) hour program on-site with building personnel selected by the Owner.
2. The focus of the session shall include:
 - a. Instructions on proper safety procedures and who to contact for the purpose of assisting passengers that may become entrapped inside an elevator car.
 - b. Explain each control feature and its correct sequence of operation.
3. Control features covered shall include but not be limited to:
 - a. Independent Service Operation
 - b. Emergency Fire Recall Operation - Phase I
 - c. Emergency In-car Operation - Phase II

- d. Emergency Power Operation
- e. Emergency Communications Equipment
- f. Security Operating Features

K. Patents

- 1. Patent licenses which may be required to perform work specified by the Contract Documents shall be obtained by the Contractor at its own expense.
- 2. The Contractor agrees to defend and save harmless the Owner, Consultant and agents, servants, and employees thereof from any liability resulting from the manufacture or use of any patented invention, process or article of appliance in performing work specified in the Contract Documents.

L. Advertising

- 1. Advertising privileges shall be retained by the Owner.
- 2. It shall be the responsibility of the Contractor to keep the job site free of posters, signs, and/or decorations.
- 3. Contractor's logo shall not appear on faceplates or entrance sills without the approval of the Owner.

1.3 QUALITY ASSURANCE

A. Materials and Quality of Work

- 1. All materials are to be new and of the best quality of the kind specified.
- 2. Installation of such materials shall be accomplished in a neat manner and be of the highest quality.
 - a. Should the Contractor receive written notification from the Owner stating the presence of inferior, improper, or unsound materials or quality of installation, the Contractor shall, within twenty-four (24) hours, remove such work or materials and make good all other work or materials damaged.
 - b. Should the Owner permit said work or materials to remain, the Owner shall be allowed the difference in value or shall, at its election, have the right to have said work or materials repaired or replaced as well as the damage caused thereby, at the expense of the Contractor, at any time within one (1) year after the completion of the work; and neither payment made to the Contractor, nor any other acts of the Owner shall be construed as evidence of acceptance and waiver.

B. Energy Conservation Code

- 1. The Contractor shall comply with the requirements set forth in the Energy Conservation Code as may be applicable to the AHJ.
- 2. Except for equipment or systems under the purview of other disciplines, elevator and escalator equipment provided by the Contractor requiring compliance shall include, but not be limited to:
 - a. Energy efficiencies of car interior lighting and ventilation

- b. Automatic operation of car interior lighting and ventilation through the individual car controller

C. Materials, Painting and Finishes

1. Two (2) coats of rust inhibiting machinery enamel shall be applied to exposed ferrous metal surfaces in the pit that do not have a galvanized, anodized, baked enamel, or special architectural finishes.
2. Two (2) coats of rust inhibiting enamel paint to the machinery located within the machine room and secondary level (where applicable) as well as to the machine room and pit floors.
3. Architectural metal surfaces of bronze or similar non-ferrous materials which are specified to be refinished, re clad and/or provided new, shall be sufficiently clear coated so as to resist tarnishing during normal usage for a period of not less than twelve (12) months after final acceptance by the Owner.
4. Identify all equipment including buffers, crosshead, safety plank, machine, controller, drive, governor, disconnect switch, etc., by four (4) inches high numerals which shall contrast with the background to which it is applied. The identification shall be either decalcomania or stencil type.
5. Paint or provide decal-type floor designation not less than six (6) inches high on hoistway doors (hoistway side), fascias and/or walls as required by Code at intervals not exceeding 7 feet-0 inches. The color of paint used shall contrast with the color of the surface to which it is applied.

D. Accessibility Requirements

1. Locate the alarm button and telephone button at thirty-five (35) inches, and floor and control buttons not more than forty-eight (48) inches above the finished floor. The alarm button shall illuminate when pressed for visual acknowledgement to user.
2. Provide raised markings in the panel to the left of the car call and other control buttons. Letters and numbers shall be a minimum of 5/8 inch and raised .03 inch and shall be white on a black background.
3. Hall pushbutton shall be located within the reach ranges defined by ADA and IBC. Hall pushbuttons shall be furnished with white, full-face LED illumination.
4. The centerline of new hall pushbutton shall be forty-two (42) inches above the finished floor.
5. The hall arrival lanterns or cab direction lantern provided shall sound once for the “up” direction and twice for the “down” direction. Design and locate fixtures per Federal standards.
6. Provide floor designations at each entrance on both sides of jamb at a height of sixty (60) inches above the floor to the baseline of the floor designation.
 - a. Use cast metal plates and polished numbers secured with tamper-proof hardware.
 - b. Designations shall be two (2) inches high, raised .03 inch white characters on a black background as selected by Owner. Locate Braille below floor designation.
7. Provide an audible signal within the elevator to tell passenger that the car is stopping or passing a floor served by the elevator.
8. Provide signal control timing for passenger entry/exit transitions per Federal and/or Local standards.
9. Ensure sill-to-sill running clearances do not exceed 1-1/4 inches at all landings served.

10. Provide visual call acknowledgment signal for car emergency intercommunication device.
11. Provide emergency communication device with provisions for the deaf, hard of hearing and speech impaired.

E. Qualifications

1. The work shall be performed by a company specialized in the business of manufacturing, installing and servicing conveying systems of the type and character required by these specifications with a minimum of ten (10) years of experience.
2. Prior written acceptance is required for manufacturers other than those listed, before quoting this project. Requests for acceptance will not be considered unless they are submitted before bid date and are accompanied by the following information:
 - a. List of five (5) similar installations having exact equipment being proposed for this project arranged to show name of project, system description and date of completed installation. The list shall include the names, position and resumes of the construction team and field supervisor of the installations.
 - b. Complete literature, performance and technical data describing the proposed equipment. Include the names, position and resumes of the proposed construction team and field supervisor.
 - c. List of ten (10) service accounts by building name, building manager or owner, including phone numbers.
 - d. Location of closest service office from which conveying system will be maintained.
 - e. Location of closest parts inventory for this installation.
 - f. List of the names, positions and resumes of the construction teams and field supervisor for the installation.

1.4 DELIVERY / STORAGE / HANDLING / COORDINATION

A. Delivery and Storage of Material and Tools

1. Delivery, Storage and Handling:
 - a. Deliver materials to the site ready for use in the accepted manufacturer's original and unopened containers and packaging, bearing labels as to type of material, brand name and manufacturer's name. Delivered materials shall be identical to accepted samples.
 - b. Store materials under cover in a dry and clean location, off the ground.
 - c. Remove delivered materials which are damaged or otherwise not suitable for installation from the job site and replace with acceptable materials.
2. The Owner shall bear no responsibility for the materials, equipment or tools of the Contractor and shall not be liable for any loss thereof or damage thereto.
3. The Contractor shall confine storage of materials on the job site to the limits and locations designated by the Owner and shall not unnecessarily encumber the premises or overload any portion with materials to a greater extent than the structural design load of the Facility.

B. Work with Other Trades / Coordination

1. Coordinate installation of sleeves, block outs, equipment with integral anchors, and other items that are embedded in concrete or masonry for the applicable equipment. Furnish templates, sleeves, equipment with integral anchors, and installation instructions and deliver to Project site in time for installation.
2. Coordinate sequence of installation with other work to avoid delaying the Work.
3. Coordinate locations and dimensions of other work relating to the equipment scheduled for installation including pit ladders, sumps, and floor drains in pits; entrance subsills; machine beams; electrical service, electrical outlets, lights, and switches in pits and machine rooms, secondary levels, overhead sheave rooms and hoistways as it relates to the specific equipment.

C. Removal of Rubbish and Existing Equipment

1. On a scheduled basis, the Contractor shall remove all rubbish generated in performing work specified in the Contract Documents from the job site.
2. Any component of the existing elevator plant that is not reused under the scope of work specified in the Contract Documents shall become property of the Contractor and, as such, shall be removed from the premises at the Contractor's sole expense.
3. The Contractor agrees to dispose of the aforementioned equipment and rubbish in accordance with any and all applicable Federal, State, and municipal environmental regulations, and further accepts all liability that may result from handling and/or disposing of said material.

D. Protection of Work and Property

1. The Contractor shall continuously maintain adequate protection of all their work from damage and shall protect the Owner's property from injury or loss arising out of this contract.
2. The Contractor shall make good any such damages, injury or loss, except such as may be directly caused by agents or employees of the Owner.
3. The Contractor shall provide all barricades required to protect open hoistways or shafts per OSHA regulations. Such protection shall include any necessary guards or other barricades for employee protections during and after the modernization procedure.

1.5 RELATED WORK

A. Work by Elevator Contractor Included in the Base Bid

1. The following requirements shall be applicable based on prevailing conditions at the site of work and/or mandated modifications for Code compliance.
 - a. Provide remote/auxiliary disconnects where new (either by the Elevator Contractor or by others) or existing disconnect switches are not in line-of-sight of the controller.
 - b. Installation of new electrical conduit and power feeders between the load side of existing and new main line disconnect switches and new elevator control equipment.
 - c. Provide the following signage, plates, and tags:

- 1) Provide access doors to each electrical control room, machinery space with signs that read "ELEVATOR MACHINE ROOM". Letters shall be not less than two (2) inches high.
- 2) Provide all required manufacturer data plates and installation-specific tags and signs of the types and styles containing information as required by applicable Codes and Standards as adopted and/or modified by the AHJ.

B. Work by Others Outside of Division 14

1. The following requirements shall be applicable based on prevailing conditions at the site of work and/or mandated modifications for Code compliance.
 - a. Installation of new main line power feed with related disconnect switch designed and located per local law requirements.
 - b. Installation of auxiliary power feed with related distribution panel(s) and disconnect(s) designed and located per local law requirements.
 - 1) Voltage shall be 110 VAC with one 15 Amp circuit breaker or fuse for lighting of each individual elevator car enclosure.
 - 2) Circuit breakers and/or fused disconnects shall be lockable in the "OFF" position in accordance with applicable Code.
 - c. The top surface of any setback or projection in the hoistway that measures 4 inches or more in width shall be beveled at an angle of not less than 75 degrees from horizontal, constructed from prime painted 14 gauge cold-rolled steel and installed so as to conform with ASME A17.1 Elevator Safety Code as modified by, and/or in addition to Codes and standards accepted by the AHJ.
 - d. Installation of new permanent dual lamp LED lighting fixtures with protective guards and 110-volt duplex GFCI receptacles inside the machine room. Illumination shall be no less than 30 foot-candles at floor level. A light control switch shall be provided immediately adjacent to the machine room entrance door strike jamb. Provide necessary receptacles as required by Elevator Contractor to supply power to auxiliary elevator equipment and/or remotely located monitors.
 - e. Provide each elevator pit with a 110-volt GFCI duplex receptacle and a permanent dual lamp LED lighting fixture equipped with protective guard. Illumination shall be no less than 10 foot-candles at pit floor level. A light control switch shall be provided and so positioned as to be readily accessible from the pit entrance door or ladder. Electrical equipment within 4 feet-0 inches of the pit floor shall be NEMA 4 rated if sprinklers are present.
 - f. Installation of hoistway and machine room smoke relief provisions in accordance with local laws.
 - g. Provide each machine room and pit with a self-closing, self-locking access door. Locking means shall be spring-type arranged to permit the doors to be opened from the inside without a key.
 - h. Provide a smoke detector system meeting the requirements of A17.1 and/or the Local Governing Authority.
 - i. Installation of fire emergency control interface provisions for automatic recall of the elevators through operation of the fire detection system. Provisions shall be made for alternate designated fire recall landing with connection contingent on Codes recognized by the local governing authority. The interfacing contacts shall be wired to an electrical junction box located inside each elevator machine room

for connection to the elevator control systems by the Elevator Contractor. Each wire shall be clearly labeled with its control function. Coordinate the type of interface required for the specific elevator control apparatus with the Elevator Contractor.

- j. Where sprinkler fire protective systems are provided inside any elevator hoistway, machine room or associated machinery space, provisions shall be made for the disconnecting of the main line power supply from the affected elevator prior to activation. This means of disconnect shall be manually reset in accordance with Code.
- k. Installation of emergency power control interface provisions to signal the elevator control apparatus of a transfer from normal (utility) power to the building emergency (generator) power supply. Also, provide additional control interface to give advanced notification to the elevator control apparatus that the power source will transfer from emergency (generator) power to normal (utility) power. Interfacing contacts shall be wired to an electrical junction box located inside each machine room for connection to the elevator control equipment by the Elevator Contractor. Coordinate the type of interface required for the specific elevator control apparatus with the Elevator Contractor.
 - 1) On the line side of each main line disconnect switch, provide some means to absorb power that may be regenerated by the elevator hoist motor during emergency power operation.
 - 2) Normal Power/Emergency Power Control Signals consisting of two (2) dry contacts provided by others to function as follows:
 - a) One (1) dry contact normally open to make when Normal Power is available. (Logic state of dry contact is to be confirmed by the Manufacturer of the Elevator Control Equipment).
 - b) One (1) dry contact normally open to make when emergency power is available. (Logic state of dry contact is to be confirmed by the Manufacturer of the Elevator Control Equipment).
- l. Installation of HVAC provisions inside the machine room so as to maintain ambient temperature and humidity levels that are within the range specified by the microprocessor-control equipment manufacturers.
- m. Provide a class "ABC" fire extinguisher in electrical machinery and control spaces. Locate the extinguisher in close proximity to the access door.
- n. Provide necessary telephone wiring with connection to local telephone service for remote elevator monitoring and/or two-way voice emergency communications systems.
 - 1) Terminate the telephone wiring in junction boxes or standard phone jack terminals in the machine room.
 - 2) Coordinate the quantity and termination method of individual phone connections with the Elevator Contractor.
 - 3) Identify each phone line for connection by the Elevator Contractor to the appropriate elevator device(s).
 - 4) Telephone wiring, where required by applicable Codes, shall be installed in conduit.

- o. Sumps in pits where provided shall be covered. The cover shall be level with the pit floor so as not to produce a tripping hazard.
- p. Cutting and patching walls of hoistways, if required.
- q. Opening in hoistway walls or pit walls for hydraulic piping. Provide fire caulking at wall penetrations.
- r. Waterproof pits.
- s. Provide Ethernet connection terminals in elevator machine rooms and location of elevator monitoring system.

1.6 WARRANTY / MAINTENANCE SERVICES

A. Contract Close-Out, Guarantee and Warranties

- 1. The Contractor agrees to certify that work performed in accordance with the Contract Documents shall remain free of defects in materials and quality of work for a period of one (1) year after final acceptance of the completed project, or acceptance thereof by beneficial use on a unit by unit basis, whichever occurs first.
- 2. The sole duty of the Contractor under this warranty is to correct any non-conformance or defect and all damages caused by such defect without any additional cost to the Owner and within fifteen (15) days of notification.
- 3. The express warranty contained herein is in lieu of all other warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose.
- 4. In the event the Contractor fails to fulfill its obligations defined herein, the Owner shall have the express right to perform the Contractor's obligations and to charge the Contractor the cost of such performance or deduct an equal amount from any monies due the Contractor.

B. Maintenance Coverage

- 1. The following maintenance coverage apply:
 - a. Interim Maintenance
 - 1) Provide full protective maintenance services and equipment coverage from award of contract prior to the commencement of work, and during the work implementation procedure, until final acceptance of the finished project.
 - 2) Interim full comprehensive maintenance services shall be provided in accordance with Section 14 01 20, Owner's Form of Agreement issued with the modernization documents for subsequent services.
 - 3) Costs related to interim maintenance shall be indicated on the bid form provided with a deduction for units out of service for upgrading.
 - b. Guarantee Maintenance
 - 1) Provide full comprehensive preventative maintenance services for a period of twelve (12) months after the final completion and acceptance of the project.
 - 2) Guarantee maintenance and related services shall be provided in accordance with Section 14 01 20, Owner's Form of Agreement issued with the modernization documents for subsequent services.

- 3) Costs related to guarantee maintenance shall be indicated on the bid form in the space provided.

c. Long-Term Maintenance

- 1) Long-term full comprehensive maintenance and related services shall be provided in accordance with Section 14 01 20, Owner's Form of Agreement issued with the modernization documents for subsequent services.
- 2) Costs related to long-term maintenance shall be indicated on the bid form in the space provided.

1.7 ALTERNATES

A. Alternates

1. Alternate No. 1: Provide new Jack Assembly, Jack Hole and Casing (New/Replacement) and new car buffers.
2. Alternate No. 2 Tariffs: Bids that include tariffs within the base price or as a non-specific blanket fee will be returned to bidders for further detail. Any tariffs known at the time of agreement must be identified as separate "Add Alternate" line item, clearly indicating the cost associated with each.
3. Value Engineering Alternate
 - a. It is understood that the base specification reflects minimum standards. The above Value Engineering Alternate allows individual contractors to suggest special performance criteria which may be of interest to the Owner and may reflect a degree of quality above the requirements of the base specification.
 - b. Voluntary alternate prices may be acceptable as a deviation from, not a substitution for, the basis of bid work of this bid package.
4. In order to submit a voluntary alternate, must be provided at the time of the bid.
 - a. A complete bid reflecting the requirements of the base specification.
 - b. All alternates must be accompanied with pertinent data, technical documentation and reference/installation for review.
 - c. Along with the pricing for voluntary alternates submit the maintenance prices for each.

PART 2 - PRODUCTS

2.1 GENERAL DESCRIPTION

A. One (1) Passenger Hydraulic Elevator – State No. CP08-003546

- | | | |
|----|-----------------|---|
| 1. | Quantity | One (1) Hydraulic elevator with standard in-ground jack unit. |
| 2. | Type | Passenger |
| 3. | Capacity (lbs.) | 3000 |

4.	Speed (fpm)	125
5.	Travel in Feet	Field Verify
6.	Number of Landings	Three (3)
7.	Number of Openings	Four (4)
8.	Front Opening	All – Levels 1 - 3
9.	Rear Opening	Level 1R
10.	Operation	Simplex selective collective
11.	Control	AC for hydraulics
12.	Fireman's Control	Phase I and II
13.	Number of Pushbutton Risers	Two (2)
14.	Guide Rails	Retain existing, provide rail backing as required
15.	Buffers	Retain existing spring
16.	Cab	As further specified.
17.	Entrance Size	42 inches wide x 84 inches high
18.	Door Operation	Single speed center opening
19.	Machine Type	New – Hydraulic pump
20.	Pump Location	Retain existing location
21.	Power Supply	480 – 3 – 60 – Field Verify

B. One (1) Service Elevator No. CP-08-003547

1.	Quantity	One (1) Hydraulic elevator with standard in-ground jack unit.
2.	Type	Service
3.	Capacity (lbs.)	3000
4.	Speed (fpm)	125
5.	Travel in Feet	Field Verify
6.	Number of Landings	Three (3)
7.	Number of Openings	Three (3)
8.	Front Opening	All – Levels 1-3
9.	Rear Opening	None
10.	Operation	Simplex selective collective
11.	Control	AC for hydraulics
12.	Fireman's Control	Phase I and II
13.	Number of Pushbutton Risers	One (1)
14.	Guide Rails	Retain existing, provide rail backing as required
15.	Buffers	Retain existing spring
16.	Cab	As further specified.
17.	Entrance Size	48 inches wide x 84 inches high
18.	Door Operation	Two speed side opening
19.	Machine Type	New – Hydraulic pump
20.	Pump Location	May need to be relocated within space
21.	Power Supply	480 – 3 – 60 – Field Verify

2.2 MANUFACTURERS

A. Pre-Approved Equipment Manufacturers

1. The following manufacturers' equipment and materials have been pre-approved for use on this project. Other equipment not specifically mentioned shall be considered for approval on an individual basis.
 - a. Controller - Motion Control Engineering, ALPHA Elevator Controls, Smartrise, Virgina Controls.
 - b. Tracks, Hangers, Interlocks and Door Operators - G.A.L., ECI.
 - c. Fixtures - G.A.L., Adams, EPCO, C.E. Electronics, Innovation, MAD.
 - d. Door Protective Device - Janus, Adams, G.A.L., T.L. Jones, Tri-Tronics.
 - e. Cabs and Entrances/Entrance Door Panels - Accurate Elevator Door Corp, A&D Entrances, CEC Elevator Cab, EDI/ECI, Elite Elevator Cab, H&B Elevators, National Cab & Door, Tyler, Velis, Gunderlin, Peelle, Premier, Prestige, Regency, Columbia Elevator Products, United Cabs.
 - f. Pump Units – Winter and Bain, EECO, OEM equipment.
 - g. Electrical Traveling Cables - Draka, James Monroe.
 - h. Hydraulic Systems/Components - Canton, ECS Corporation, Elevator Equipment Corporation, Mongrain Vertical Transport (MVT), MEI, Schumacher.
 - i. Guide Shoes/Rollers – ELSCO.
 - j. Intercommunications/Telephones - Webb Electronics, K-Tec, Ring, Wurtec, Janus, approved equal.
2. Original Equipment Manufacturers may substitute their own branded equipment subject to the following:
 - a. All requirements of the specifications are met regarding performance, appearance, serviceability and support.
 - b. A full stock of all regular and critical replacement parts required for this project are maintained at a facility within fifty (50) miles of the project site.
 - 1) Any parts not stocked at the above referenced facility shall be identified with the location of the nearest source and shall be available for next-day delivery upon demand.
 - c. All parts and software shall be made available for purchase to a qualified elevator maintenance firm with one (1) business day delivery without direct Owner involvement.
 - 1) Provide details of parts supply facility and a list of current parts pricing for all major components required for the installation.
 - d. All specialized tools, equipment, software, and passwords, required to maintain, repair, adjust the operation, and perform Code mandated inspections are provided to the Owner as part of the base installation.
 - 1) Updates to these items shall be available via the parts supply facility referenced above.
 - e. Technical support of the product(s) shall be available to the Owner's elevator service provider.

2.3 CONTROL FEATURES / OPERATION

A. Simplex Selective Collective Operation

1. Provide simplex selective collective operation from a riser of hall pushbutton stations.
2. The registration of one or more car calls shall dispatch the car to the selected floors.
 - a. The car shall also respond to registered hall calls in the same direction of travel.
 - b. Car and hall calls shall be canceled when answered.
3. Stops in response to calls that are registered in either the car or hall pushbutton stations shall occur in the natural order of progression in which the floors are encountered, depending on the direction of car travel, and irrespective of the order in which calls are registered.
4. When the car has responded to the highest or lowest call, and calls are registered for the opposite direction, the car shall reverse direction automatically and respond to those registered calls.
5. When the car arrives at its last stop and reverses direction of travel, all previously registered car calls shall be automatically cancelled.
6. When the car arrives at a landing where both up and down hall calls are registered, it will answer the call in the direction of travel.
 - a. After a pre-determined delay, if no car call is registered, the car shall respond to calls registered for the opposite direction. Car doors shall close immediately, re-open and respond to the call for the opposite direction.
 - b. Hall lantern operation shall always correspond to direction of service.
7. When an empty car reverses direction at a landing with no hall calls, the doors shall not open and the hall lantern shall not operate.
8. If the car has no car calls registered and arrives at a floor where both up and down hall calls have been registered, the car shall respond to the hall call corresponding to the last direction of car travel. If, after making its stop, a car call is not registered and no other hall calls exist ahead of the car corresponding to its original direction of travel, the doors shall close and immediately reopen in response to the hall call for the opposite direction.
9. The car shall maintain its original direction at each stop until the doors are fully closed to permit a passenger to register a car call before the car reverses its direction of travel.

B. Independent Service Operation

1. The car operating station shall be equipped with a key-operated switch labeled "IND SER".
2. Locate the switch in the locked service compartment.
3. When placed in the "on" position the following shall occur:
 - a. Existing hall call registrations shall extinguish and hall buttons shall remain inoperative as an indication to passengers that there is no elevator service.
4. During Independent Service Operation, the elevator doors shall remain open at any landing until the door close or a car call pushbutton is pressed and maintained until the doors are fully closed.

5. If more than one (1) car call is registered, all registered car calls shall extinguish when the elevator stops in response to the first call.
6. Fire Emergency Recall shall automatically override Independent Service Operation and engage Phase I - Fire Emergency Recall Operation following a period of approximately forty-five (45) seconds.

C. Inspection Service Operation

1. Provide a key operated switch in the locked service panel that, when turned to the 'ON' position, shall cause the elevator to be removed from service and placed in Inspection Service Operation.
2. The car shall move at a speed not to exceed 150 feet per minute (0.75 meters per second) as per Code with both the hall and car door panels in the closed and locked position.
3. The Inspection Service switch shall be keyed differently than other typical keys used in the operation of the elevator. Keying shall be in accordance with Security Group Classifications as required by applicable Code.
4. The top of the elevator car shall be equipped with a control for limited operation of the car during repairs, maintenance and inspection conducted in the hoistway. The transfer of control to the top of car operating device shall cause that device to be the sole means of control for the elevator.
 - a. Visual and audible indication shall be provided on the top of the car when Firefighters' Emergency Operation is initiated.
5. Power door operating equipment shall be rendered inoperative while the car is being operated in the Inspection Service mode with the exception of power closing of the door. The control system shall maintain closing power on the door while the elevator is moving under Inspection Service Operation.
6. The in-car Inspection Service switch shall be rendered ineffective when the top of car inspection control is activated.
7. Machine Room Inspection Operation and Inspection Operation with open door circuits shall be provided in accordance with A17.1 Safety Code, as modified and adopted, where required or allowed by the AHJ.

D. Hoistway Access Operation

1. Provisions shall be made to allow access to the hoistway through the use of hoistway access switches.
2. Operating the access switch shall permit the car to move at a speed not to exceed 150 feet per minute (0.75 meters per second) as per Code with the hall and car doors in the open position to obtain access to the top of the car or climb-in pit.
3. The car shall automatically stop motion when the car top is level with the hoistway door sill for access to top of car.
4. The access key switch(es) shall be keyed differently than other typical keys used in the operation of the elevator. Keying shall be in accordance with Security Group Classifications as required by applicable Code.
5. Access operation shall be disabled when top of car inspection operation is in effect.

E. Firefighters' Emergency Operation

1. Firefighters Service Operation and devices shall meet applicable Code requirements of the AHJ.
 2. Contractor shall be responsible for compliance in all aspects of Firefighters Service including, but not limited to the mode of operation, initiation of operation, operating control and signaling devices as well as fixture engraving including operating instructions applicable to and where required by the AHJ.
- F. Emergency Power Operation / Duplicate Existing - New Sequential Control – Passenger Elevator
1. Existing provisions shall be duplicated and upgraded for automatic sequential operation.
 2. Provisions shall be included in the new elevator control system whereby, immediately after transferring to the building emergency power system, all affected elevators shall automatically return the fire recall designated landing in progressive numerical sequence at normal operating speed.
 - a. Car and corridor calls shall become inoperative and all previously registered calls shall be canceled.
 - b. As each car arrives at the designated landing, it shall park out of service with its door in the open position.
 3. An illuminated signal marked “ELEVATOR EMERGENCY POWER” shall be provided in the elevator lobby at the designated landing to indicate that the normal power supply has failed and the emergency power is in effect.
 4. In the event an elevator fails to respond to a recall command within forty-five (45) seconds under Emergency Power Operation, that car shall be bypassed and the next car in the sequence shall be recalled.
 5. Upon completion of the recall process, one or more elevators shall be automatically selected to run on the emergency power source (duty car(s)).
 6. Interlock all elevators to allow to operate the maximum number of elevators at a time.
 7. An emergency power control panel shall be provided where indicated by the Owner containing an indicator light per elevator that becomes illuminated whenever a transfer to emergency power takes place.
 - a. Provide a key-operated override switch and a manual selector switch with a position indicator for each elevator.
 - b. Activating the key-operated override switch while on emergency power shall cancel the automatic recall sequence and allow positioning of the manual selector switch to select a car for operation.
 - c. Means shall be provided on or adjacent to the control panel to indicate that the elevator is at the designated level with the doors in the open position.
- G. CCTV Provisions
1. CCTV Camera Surveillance of Elevators
 - a. A camera shall be installed above the elevator cab in a flush mounted housing, to provide for camera surveillance of all elevators.
 2. Submittals

- a. Submit product specifications, fabrication shop drawings, and wiring diagrams of the following:
 - 1) CCTV camera installation.
 - 2) Traveling Cables.
 - 3) Hoistway wiring.
3. Traveling Cable
 - a. The card reader interface traveling cable and hoistway wiring shall be one (1), twelve (12) conductor 20 gauge stranded, low voltage cable with an overall braided shield and drain wire.
 - b. The CCTV camera interface traveling cable shall be two (2), RG-59U stranded center conductor coax cables and one (1), two (2) conductor 20 gauge stranded, low voltage cable with an overall braided shield and drain wire.
 - c. All security interface traveling cables shall be located in the elevator control traveling cable and shall be isolated from other traveling cables or hoistway wiring used to carry high voltage alternating current circuits.
4. CCTV Camera Installation
 - a. The CCTV camera shall be provided by the security contractor and installed by the Elevator Contractor.
 - 1) The security contractor shall provide supervision, wiring details and installation diagrams to the Elevator Contractor.
 - b. The exact CCTV camera locations shall be specified by the Architect.
5. Traveling Cable Installation
 - a. Traveling cables for card reader interface shall extend from the elevator / security interface terminal cabinet in the elevator machine room to behind the elevator return panel.
 - b. Terminate the cables including the drain wire to dual screw barrier terminal strips in the interface cabinet and provide six (6) feet of excess cable behind the elevator return panel.
 - c. The Elevator Contractor shall be responsible for connecting the cable behind the return panel to the card reader under the direct supervision of the security contractor.
 - d. Traveling cables for the CCTV camera shall extend from the elevator / security interface terminal cabinet in the elevator machine room to the top of the elevator cab. Provide an excess loop of ten (10) feet of cable at each end.
6. Conduit, Power and Wiring
 - a. Provide all conduit, power and wiring required for the installation of the terminal cabinet, traveling cables and interfacing to the elevator control system.
 - b. Provide one (1) 120V duplex unswitched outlet dedicated to security on top of each elevator equipped with CCTV camera.

- c. The security contractor shall provide all wiring from the interface terminal cabinet to the security system.

H. Low Oil Protection and Protective Device

1. Provide low oil protection operation and appropriate device(s) that will discontinue operation of the hydraulic elevator pump when:
 - a. The elevator stalls due to a low oil condition.
 - b. Fails to reach the landing in the up direction.
2. Provide an additional protective device that shall automatically return the elevator to the bottom landing, open the door and shut down the system.
3. The protective device shall be an integral part of the control system.

I. Hydraulic Auto Lowering – Service Elevator

1. Provide automatic battery powered lowering feature for the hydraulic elevator.
 - a. In the case of normal power outage, the elevator shall be automatically lowered to the Main Lobby level.
 - b. The door shall open automatically to discharge passengers.
 - c. The elevator shall remain parked with its door closed and door open button operative until normal power is restored.
2. The control panel shall be located in the machine room or be an integral part of the control system.
 - a. It shall include necessary batteries, solid-state controls, charger, monitor lights and a test button.
 - b. It shall be fed by a 120 volt, 20 Ampere branch circuit from the emergency power source, provided under another section of these specifications.
3. Provide necessary circuitry within the controller to determine the difference between an “intentional” loss of power and an “actual” loss of power in order to prevent operation of the auto lowering unit when the main line disconnect has been opened for elevator servicing.
4. Provide necessary terminals for connection to an auxiliary switch in main line disconnect provided by others.

J. Door Operation

1. Car and hoistway doors shall be arranged to operate in unison without excessive noise or slamming in either direction of travel.
 - a. Door opening speeds of 2.0 feet per second shall be provided in conjunction with closing speeds of 1.0 foot per second in accordance with governing Code.
 - b. Door operation shall be arranged to commence as the car enters its final leveling approach to a landing. In no case shall the door opening cycle conclude before the car comes to a complete stop at floor level.

2. Where the hoistway door and the car door are mechanically coupled, the kinetic energy of the closing door system shall be based upon the sum of the hoistway and the car door weights, as well as all parts rigidly connected thereto, including the rotational inertia effects of the door operator and the connecting transmission to the door panels.
3. The force necessary to prevent closing of the car and hoistway door from rest shall not exceed thirty (30) lbf. This force shall be measured on the leading edge of the door with the door at any point between one-third and two-thirds of its travel.
4. Door open and door close time shall be measured between the moment car door operation in either direction begins and the instant at which that cycle is completed.
5. When responding to either a car or corridor call, the amount of time that the elevator door remains stationary in the open position shall be adjustable up to sixty (60) seconds.
 - a. Door open dwell time for a corridor call shall be separate of that for a car call, and in both cases, dwell time shall be canceled whenever the car door protection device is momentarily interrupted by passenger transfers, followed by a reduced door open dwell time of approximately one (1) second (adjustable) after the door protection device is cleared of obstructions.
6. The operation of the door protective device by interruption of one or more infrared light beams (dual or multi-beam non-contact) during the close cycle shall cause the immediate reversing of the doors to the full open position.
7. The door closing cycle shall be arranged so that, in the event the door protective devices become continually obstructed after the normal door open dwell time has expired, and following a time interval of approximately thirty (30) seconds (adjustable), a warning tone shall sound and the door closing cycle shall commence at reduced speed and torque per applicable Code requirements.
8. Each car operating station shall be provided with a “door open” and “door close” pushbutton.
 - a. Pressure on the “door open” button shall cause doors in the full open position to remain so and doors engaged in the close cycle to reverse direction and assume the full open position so long as pressure remains applied to the button.
 - b. The “door open” buttons shall also control the open cycle during Phase II - Emergency In-car Operation.
 - c. The “door close” pushbutton shall function on Independent Service, Attendant Service and Phase II - Emergency In-car Operation as well as during normal automatic operations.
9. Service Elevator car operating station shall be provided with a “door hold” pushbutton.
 - a. Pressure on the “door hold” button shall cause doors in the full open position to remain in the open position and doors operating in the close cycle to reverse direction and travel to the full open position for an extended (adjustable) period of time to allow for loading and unloading.
 - b. The “door hold” feature shall be overridden when the elevator is on Fire Emergency Phase I and Phase II.
 - c. The “door hold” feature shall be canceled when the “door close” button is pressed.
10. Repeated attempts by the power door operator to open or close the door at any landing shall be monitored by the control system.

- a. In the event the door fails to cycle properly after a preset (adjustable) number of attempts, the car shall either travel to the next stop or remove itself from service, depending upon whether the malfunction is in the open or close cycle.
- 11. Each hoistway door shall be provided with an automatic self-closing mechanism arranged so that the door shall close and lock if the car should leave the landing while the hoistway door is unlocked.
- 12. Car doors shall be arranged to prevent their being manually opened from inside the car unless the elevator is positioned within a floor landing zone.

2.4 MACHINE ROOM EQUIPMENT

A. Controller Equipment

- 1. Provide a microprocessor-based elevator control system.
- 2. Digital logic shall calculate optimum acceleration, deceleration and velocity patterns for the car to follow during each run.
- 3. Closed-loop distance and velocity feedback shall monitor the actual performance of the elevator car with the desired speed profile.
- 4. System operating software shall be stored in non-volatile memory.
 - a. Elevator control relays, contactors, switches, capacitors, resistors, fuses, circuit breakers, overload relays, power supplies, circuit boards, static motor drive units, wiring terminal blocks and related components shall be totally enclosed inside a free-standing metal cabinet with hinged access doors.
 - b. The motor drive may be located in its own cabinet where the physical size of the drive prohibits installation within the elevator signal controller cabinet.
 - c. Solid-state pump motor starter shall be provided.
 - d. Mechanical ventilation or air conditioning of the cabinet shall be provided and shall be adequate to dispose of the full load heat losses without exceeding 40 degrees Celsius (104 degrees Fahrenheit) ambient temperature.
 - 1) Control equipment cabinets shall be provided with forced air ventilation to prevent overheating of the electrical components housed therein.
 - 2) Where integral air conditioners are employed, control equipment cabinets shall be "NEMA 12" rated with no ventilation fans or slots.
 - e. All electrical wiring inside the control equipment cabinet shall be performed in a neat manner with field wiring terminated at stud blocks provided inside the control cabinet.
 - f. Each wiring terminal shall be clearly identified according to the nomenclature used on the "as built" wiring diagrams. No more than two (2) field wires may be connected to any single terminal stud.
 - g. Spare wires shall be tagged according to their point of termination, bundled, and placed at the bottom of the control equipment cabinet.
 - h. Each electrical component within the cabinet shall be permanently identified with symbols, identical to those used on the "as-built" wiring diagrams.
 - i. A data plate that indicates the edition of the Code in effect at the time of installation and/or alteration shall be provided in accordance with applicable Code

and requirements of ASME A17.1 Code. The data plate shall be in plain view and securely attached on the mainline disconnect or on the controller.

- j. Control equipment shall comply with requirements of all applicable Sections of the ASME A17.1 Code as approved and adopted by the AHJ.
 - k. The manufacturer's standard on-board "LCD" display shall be incorporated on the main processor board and/or otherwise incorporated in the controller cabinet. The "LCD" shall be capable of providing alpha-numeric characters to view the operational status of the elevator and/or group functions depending on the application. The display shall provide the user with necessary information for troubleshooting and reprogramming of the basic system parameters.
 - 1) Where the "LCD" is not an integral part of the controller and troubleshooting / reprogramming requires the use of a separate tool, the tool shall be maintained in the machine room and accessible to service personnel. This tool, along with all technical documentation for the correct use of the tool, shall remain the property of the Owner.
 - 2) Password protection of critical programming features is required to prevent accidental changes to life-safety and other non-typical control settings.
 - 3) Where a separate dispatch or group control panel is provided, a separate "LCD" display shall be provided to view group functions.
5. In the event diagnostics and monitoring is accomplished via Field Service Tools, provide the required Field Service Tools with related control system appurtenances for diagnostic evaluations, system monitoring and field adjustments.
- a. Provide instructions for proper use of such diagnostic tools and/or equipment with all coding and other operational requirements.
 - b. Maintain and calibrate the diagnostic tools and update the associated instructions and other related documents under the service agreement.
 - 1) Should the agreement be cancelled for any reason by either party, maintenance and updating of diagnostic tools shall be provided to the Owner at the Contractor's cost without the need to purchase or lease additional diagnostic devices, special tools or instructions from the original equipment provider.
 - 2) The Owner may request field and technical instructions be provided by the original installation contractor or manufacturer for proper servicing by other qualified elevator company personnel.
 - 3) The established cost-plus profit, as previously specified, shall be applicable for the life of the system.
 - a) If the equipment for fault diagnosis is not completely self-contained within the controllers but requires a separate detachable device, that device shall be furnished to the Owner as part of this installation.
 - b) Such device shall be in possession of and become property of the Owner.
6. Microprocessor Documentation

- a. Provide and/or obtain complete information on systems' design, component parts, installation and/or modification procedures, adjusting procedures and associated computer conceptual logic circuitry and field connection.
- b. Provide microprocessor upgrading and/or modifications to programs that have been assigned to enhance the operation of the equipment for a period of ten (10) years after project approval.

B. Equipment Isolation

1. Provide effective sound isolation between pump unit and piping and building structure to reduce noise transmission to occupied spaces and elevators and elevator cabs.
2. Provide the following as a minimum:
 - a. Resiliently isolate the entire elevator pump unit unitized base from the elevator machine room floor slab by means of effective neoprene-in-shear isolators having a minimum static deflection of 3/8 inch. Utilize isolating bushings and washers.

C. Sound Reducing Protection

1. When operating in accordance with plans and specifications, the elevator equipment shall not generate noise levels in excess of NC-40 in occupied tenant spaces and shall be free of pure tones.
 - a. For the purpose of this specification, a pure tone shall be defined as a sound level in any one-third octave band which is greater than 5 dB above both adjacent one-third octave bands, in the range 45 to 11,200 Hz.
2. Provide the following treatments as a minimum.
 - a. Mount sound insulating panels, manufactured of reinforced 16 gauge steel panels with a one (1) inch thick 1-1/2 lbs. core of fiberglass affixed to interior, on all four (4) open sides of the power unit frame to isolate airborne noise from belt driven motor-pump assembly.
 - b. Install a minimum of two (2) sound isolating couplings in the oil line in the machine room between pump and jack.
 - 1) Each coupling shall consist of two (2) machined flanges separated by two (2) neoprene seals to absorb vibration and to positively prevent metal-to-metal contact in the oil line.
 - 2) Build coupling in such a manner that they will be absolutely blow-out proof.
 - c. Install an oil-hydraulic muffler in oil line near power unit.
 - 1) The mufflers contain pulsation absorbing material inserted in a blow-out proof housing.
 - 2) Rubber hose without blow-out proof features will not be acceptable.
 - d. Provide sound reducing vibration isolation elements at all support points of elevator controllers and pump units.

- 1) The elements shall be similar to double deflection neoprene-in-shear mounts, as manufactured by Mason Industries.
- 2) All bolts through isolation elements, where necessary, are to incorporate resilient washers and bushings.

- e. Locate the power unit at least one (1) inch from any walls.
- f. Use flexible conduit with ground wire for pump unit connections.

D. Hydraulic Power Unit / Motor

1. Provide a self-contained power unit which includes:
 - a. Structural steel outer base.
 - b. Tank support.
 - c. Oil tight drip pan.
 - d. Floating inner base to prevent metallic contact for mounting the motor pump assembly.
 - e. Sound isolation panels to enclose the unit and reduce airborne noise.
2. Provide a reinforced overhead oil reservoir with a tight fitting tank over the oil control unit which includes:
 - a. An oil fill strainer with air filter.
 - b. An oil level gauge assembly.
 - c. A self-cleaning strainer in the suction line.
3. The pump shall be for oil hydraulic elevator service with positive displacement screw type design for steady discharge with minimum vibration.
4. The drive shall be by multiple V-Belts and sheaves or directly driven by a submersible pump depending on the HP requirements of the system.
 - a. The use of submersible pumps having more than a 40 HP motor is unacceptable.
5. Pump drive motor control shall utilize solid state motor starter circuitry to provide reduced current starting and maximum protection of the motor.
6. The oil control unit shall be of the manufacturer's own design and shall include solid state motor starter technology or variable frequency motor control as well as relief, safety check valves and an electronic modulated oil control valve. The electronic valve shall:
 - a. Provide continuous short travel curve, independent of load and temperature.
 - b. Provide smooth acceleration and deceleration regardless of the load.
 - c. Maintain velocity control over a wide range of oil temperatures.
 - d. Allow the manual lowering of the elevator car in event of power failure and for use in servicing and adjusting the elevator mechanism.
 - e. Design the tank shut-off valve for isolating oil in the power unit tank to ensure each of servicing and adjusting the elevator mechanism without removing oil from the tank.
7. Manufacture the unit to operate under 700 psi working pressure.
8. When the oil reservoir thermostat registers 50 degrees Fahrenheit, the car shall "exercise" until the oil temperature reaches 75 degrees Fahrenheit.

E. Hydraulic Piping

1. Provide all necessary pipes and fittings to connect the power unit to the jack.
 - a. Use minimum Schedule 80 steel pipe.
 - b. Provide a shut off valve in the machine room for maintenance service.
2. Adequately support the full run of pipe with isolation type support.
3. Where flexible hose and fitting assemblies, and flexible couplings are used for hydraulic connections, flexible hose and fitting assemblies shall:
 - a. Not be installed within the hoistway, nor project into or through any wall.
 - b. Installation shall be accomplished without introducing twist in the hose, and shall conform with the minimum bending radius of SAE 100 R2 type, high pressure, steel wire reinforced, rubber covered hydraulic hose specified in SAE J517.
 - c. Have a bursting strength sufficient to withstand not less than ten (10) times the working pressure.
 - d. Be permanently marked indicating:
 - 1) Manufacturer of the hose and fittings.
 - 2) Type of hose and fitting.
 - 3) Minimum factory test pressure.
 - 4) Minimum bending radius of the hose.
 - 5) Date of installation.
 - 6) Inspection procedure.
 - 7) Name of elevator contractor.

F. Hydraulic Mainline Oil Strainer

1. Provide a mainline hydraulic oil strainer of the self-cleaning, compact type, equipped with a 40 mesh element and installed in the oil line.
2. Design the strainer for maximum system working pressure.

2.5 HOISTWAY EQUIPMENT

A. Guide Rails / Inserts / Brackets (Reuse and Refurbish)

1. Car guide rails, fishplates, rail brackets, backing support and related attachments shall be inspected to determine if unfavorable conditions exist that diminish the structural integrity of any component.
 - a. In the event substandard conditions are disclosed by means of this inspection, the Contractor shall immediately inform the Consultant as to the exact nature of said problems and then undertake whatever repairs and/or replacements the Consultant may deem appropriate to remedy the situation.
2. Each stack of guide rails shall be individually examined to determine if excessive compression has occurred from building settlement.

3. Each stack of guide rails shall be realigned so that total deviation from plumb in any direction does not exceed 1/8 inch over the entire length of the hoistway and that DBG measurements never vary more than .030 inch.
4. As required, car guide rails joints shall be individually filled, filed and sanded in order to eliminate minor variations in adjoining machined surfaces.

B. Roller Guides

1. Provide roller guide shoes with adjustable mounting base, rigidly bolted to the top and bottom of each side of the car and counterweight frame.
 - a. Roller guides shall consist of a set of sound reducing neoprene wheels in precision bearings held in contact with the three (3) finished rail surfaces by adjustable stabilizing springs.
 - b. The bearings shall be sealed or provided with grease fittings for lubrication.
 - c. Equip roller guides with adjustable stops to control postwise float.
 - d. Fit the top car roller guides with galvanized, painted or powder coated steel guards.
2. Approved applications and manufacturers:
 - a. ELSCO Model B for car roller guides.

C. Electrical Conduit / Wiring / Traveling Cable

1. Electrical wiring shall be provided.
 - a. All wiring shall be stranded copper conductors, manufactured in compliance with ANSI/ASTM B174-71 and UL 62 requirements, and polyvinyl chloride insulation complying with ETT requirements of UL 62 and Article 400 of the National Electric Code.
 - b. Electrical wiring provided for hoistway interlock shall be of a flame-retardant type, capable of withstanding temperatures of at least 392 degrees Fahrenheit. Conductors shall be Type SF or equivalent.
 - c. Each run of electrical conduit or duct shall contain no less than 10% spare wires and, in any case, no fewer than two (2) spare wires.
 - d. Crimp-on type wire terminals shall be used where possible.
2. Traveling cable shall be provided.
 - a. Each traveling cable shall be provided with a flame- and water-resistant polyvinyl chloride jacket.
 - b. Electrical wiring shall consist of stranded copper conductors, manufactured in compliance with ANSI/ASTM B174-71 and UL 62 requirements, and polyvinyl chloride insulation complying with ETT requirements of UL 62 and Article 400 of the National Electric Code.
 - c. Each traveling cable shall contain no less than ten percent (10%) spare wires.
 - d. Traveling cable exceeding 100 feet in length shall be provided with a steel wire rope support strand from which the cable shall be suspended.
 - e. Traveling cable must be contained within an approved electrical conduit to within 6 feet of the final suspension point in the hoistway.

- f. Each traveling cable shall be arranged to provide no fewer than six (6) individually shielded pairs of 20 gauge wire and arranged to contain no less than one (1) coaxial cable for CCTV remote monitoring.
 - g. Traveling cable conductors that terminate at a hoistway center box shall be connected to stud blocks provided for that purpose.
 - 1) Each wiring terminal shall be clearly identified by its nomenclature as shown on the “as built” wiring diagrams and solderless, crimp-on type wire terminals shall be used where possible.
 - h. The attachment of a traveling cable to the underside of the elevator car shall be performed so that a minimum loop diameter of 30x the cable diameter is provided.
 - i. Pre-hang the cables for at least twenty-four (24) hours with ends suitably weighted to eliminate twisting during operation.
 - 3. Rigidly supported EMT conduit, flexible metal conduit and galvanized steel trough shall be utilized throughout the hoistway.
 - a. Both EMT and flexible conduit shall be connected on either end by use of compression fittings and secured in place with metal clamps sized in accordance with the diameter of conduit utilized.
 - 1) Wire or plastic wire ty-raps shall not constitute an acceptable means of fastening.
 - b. The use of flexible metal conduit shall be limited to runs not greater than 3' in length.
 - c. All abandoned or unused electrical conduit shall be removed from the hoistway.
 - d. Existing conduit and wiring duct may be reused if suitable for the application.
 - 1) Reuse of existing conduit/duct shall be at the discretion of the Consultant.
- D. Normal and Final Terminal Stopping Devices
- 1. Provide normal terminal stopping devices to stop the car automatically from any speed obtained under normal operation within the top and bottom overtravel, independent of the operating devices, final terminal stopping device and the buffers.
 - 2. Provide final terminal stopping devices to stop the car automatically from the speed specified within the top clearance and bottom overtravel.
 - 3. The terminal stopping devices shall have rollers with rubber or other approved composition tread to provide silent operation when actuated by the cam fixed to the top of the car.
 - a. Terminal stopping devices that are not mechanically operated (i.e.: magnetic proximity) shall be provided by the manufacturer of the control equipment, intended for use as a terminal limit, and designed for reliable operation in the hoistway environment.
 - 4. Final terminal limits shall be pinned so as to prevent movement after final adjustment where required by the AHJ.

2.6 PIT EQUIPMENT

A. Car Buffer (Reuse)

1. Existing car buffers shall be reused.
 - a. Pit channels, related supports and fastenings shall be inspected for damage and to determine if the structural integrity of any component is diminished by the effects of rust or other unfavorable conditions.
 - 1) In the event defects are found, the Contractor shall immediately inform the Consultant and undertake whatever repair and/or replacement the Consultant may deem appropriate.
 - b. Surface rust shall be removed from all reused components.
2. Provide a permanent buffer marking plate which indicates the manufacturer's name, identification number, rated impact speed and stroke.

B. Car Buffer – Alternate No. 1

1. Provide buffer with necessary blocking and horizontal steel braces under the car and counterweight.
2. Provide spring type buffers
3. Provide a permanent buffer marking plate which indicates the manufacturer's name, identification number, rated impact speed and stroke.
4. Support buffers from the pit floor level with all required blocking and bracing steel members.

C. Jack Unit (Reuse and Refurbish)

1. The existing jack shall be reused.
2. The jack shall undergo the following work:
 - a. Check plunger for smooth surface and eliminate burrs where necessary.
 - b. Verify plunger sections are securely attached with minimum seam.
 - c. Check stop-ring for proper fit.
 - d. Renew internal babbitt-lined, guide bearing, packing or seals where necessary.
 - e. Clean drip ring around cylinder top to provide adequate drainage.
 - f. Check mounting hardware and welds where applicable.
 - g. Check secure attachment of head.
 - h. Remove rust and apply rust inhibiting paint.
3. Perform static load test of the jack unit to determine if there are any failures of the cylinder wall.
4. Where double-walled cylinders are not provided, and where prevailing conditions allow, install a plunger gripper to prevent freefall of the elevator in the event of a catastrophic failure of the hydraulic jack.

D. Jack Assembly, Jack Hole and Casing (New/Replacement) – Alternate No. 1

1. Existing hydraulic cylinder, piston and pit channels shall be removed.
 - a. Contractor shall be responsible for drilling of the jack hole and removal of resultant debris should the existing jack hole collapse.
2. The jack hole shall be fitted with a schedule 40 waterproof PVC casing.
3. The jack assembly shall be of sufficient size to lift the gross load at the rated speed to the height specified and shall be factory tested to ensure adequate strength and freedom from leakage.
 - a. No brittle material, such as grey cast iron, shall be used in the jack construction.
4. The base components of this assembly shall be a cylinder, cylinder head and plunger.
5. Installation shall be plumb and at the exact center of the car guide rail DBG.
6. Channel iron pit structure shall be provided as a means of support and attachment.
7. The hydraulic cylinder shall be constructed from heavy steel pipe meeting ASTM-A53, grade B standards with a forged seamless end cap, threaded inlet fitting and brackets for pit channel attachment.
 - a. Outside walls of the cylinder shall receive no less than three (3) applications of an approved corrosion inhibiting compound.
8. The cylinder head and flange shall be machined from carbon steel and designed to provide a collision point for the plunger stop ring.
 - a. The head shall be equipped with two (2) packing rings separated by a single lantern ring, an oil wiper ring, a bronze guide ring, and an air bleed port.
 - b. The flange shall be arc welded to the upper end of the cylinder to provide a means of attachment and mating surface for the head.
 - c. Immediately prior to seeking final acceptance of the completed project as specified herein, the Contractor shall renew both packing rings in the cylinder head.
9. The plunger shall be constructed from precision ground steel pipe meeting ASTM-A53, grade B standards.
 - a. In cases where multiple plunger sections are necessary, threaded coupling with neoprene O-ring seals shall be provided.
 - b. The upper end of the plunger shall be fitted with an inset steel plate that is fillet welded to the inner walls of the plunger and then drilled and tapped for platen plate attachment.
 - c. A heavy steel stop ring shall be arc welded outside the plunger near the bottom end.
10. Contractor shall be responsible for extra costs necessary to overcome underground rocks, solid debris or water and complete satisfactory drilling of the jack hole.
11. Should the existing well hole and or casing diameter be inadequate for installation of new cylinder and PVC liner, Contractor shall drill a larger well hole of sufficient diameter to accommodate the new equipment.

E. Scavenger Pump

1. Provide a positive displacement, rotary type pump for the hydraulic elevator.
 - a. The pump shall have a 1/3 HP motor capable of pumping 100 feet vertically.
 - b. The pump shall be self-priming and self-lubricating.
 - c. The pump shall be equipped with a 100 mesh screen strainer.
 - d. The pump housing shall be constructed of brass with stainless steel internal parts, and shall have a 3.5-gallon reservoir.
2. Mount oil return pump off the pit floor and connect it to the jack unit and the oil tank with copper tubing.

F. Hydraulic Check Valve

1. A check valve shall be provided and installed so that it will hold the elevator with rated load at any point when the pump stops and the down valves are closed or the maintained pressure drops below the minimum operating pressure.

G. Overspeed (Rupture) Valve

1. An overspeed valve shall be provided and installed so that it will cause the flow of oil from the hydraulic jack through the pressure piping to cease when such flow exceeds a preset value relative to car speed in accordance with applicable Codes.

H. Pit Stop Switch

1. Each elevator pit shall be provided with a push/pull or toggle switch that is conspicuously designated "EMERGENCY STOP" and located so as to be readily accessible from the hoistway entrance on the lowest landing served at a height of approximately 18 inches above the floor.
 - a. This switch shall be arranged to prevent the application of power to the hoist motor and machine brake when placed in the "OFF" position.

2.7 HOISTWAY ENTRANCES

A. Hoistway Entrances (Reuse and Refurbish)

1. Hoistway entrance sills, sill supports, entrance frames, headers and header supports shall be reused and refurbished.
 - a. Hoistway entrances that have become distorted or bent shall be straightened, plumbed, reset to the proper width dimension and reinforced as necessary.
 - b. Provide 14-gauge steel fascia plates that extend at least the full width of the door and be secured at hanger support and sill with oval head machine screws.
 - 1) Reinforce fascia to allow not more than 1/2 inch of deflection.

- 2) Provide fascia plates where the clearance between the edge of the loading side of the platform and the inside face of the hoistway enclosure exceeds the Code allowed clearance.
- c. Provide 14-gauge steel toe guards that extend 12 inches below any sill not protected by fascia.
 - 1) The toe guards shall extend the full width of the door and shall return to the hoistway wall at a 15 degree angle and be firmly fastened.
- d. Remove oil, dirt and impurities on new and existing apparatus and give a factory coat of rust inhibitive paint to all exposed surfaces of struts, hanger supports, covers, fascia, toe guards, dust covers and other ferrous metal.

B. Slide Type Hoistway Door / New in Existing Frame – Service Elevator

1. Provide a new elevator hoistway entrance door reusing existing entrance frame.
2. Each new door shall be as follows:
 - a. Hollow metal construction.
 - b. 1-1/2-hour fire-rated test approved with required label.
 - c. Manufactured of cold rolled furniture steel.
 - d. Flush design both sides.
 - e. Rigidly reinforced.
 - f. Sound deadened.
3. Where conditions warrant, and where otherwise required by Code, equip all hoistway landing doors with one-piece full height non-vision wings of material and finish to match hall side of door panels.
4. Provide each door panel with two (2) removable laminated plastic composition guides, arranged to run in existing sill grooves with a minimum clearance.
 - a. The guide mounting shall permit their replacement without removing the door from the hangers.
 - b. A steel fire stop shall be enclosed in each guide.
5. In multi-speed door arrangements, provisions shall be made to interlock the individual panels so all panels close should the normal door panel relating means fail.
6. Provide a special key so that an authorized person can open any landing door when the car is elsewhere.
 - a. The key hole shall be not less than 3/8 inch in diameter and shall be fitted with a stainless steel or bronze ferrule to match related equipment.
7. Finish all door panels to match elevator entrances.
8. Where conditions require, provide necessary new masonry around existing entrance frames to maintain fire rating. Painting or other wall surface decorating will be by Others.

C. Slide Type Hoistway Entrance Door Panels (Reuse) – Passenger Elevator

1. Hoistway entrance door panels shall be reused and refurbished.
 - a. Provide each door panel with two (2) removable laminated plastic composition guides, arranged to run in existing sill grooves with a minimum clearance.
 - 1) The guide mounting shall permit their replacement without removing the door from the hangers.
 - 2) A steel wear indicator shall be enclosed in each guide.
 - b. Provide the meeting edge of center opening doors with necessary new continuous rubber astragal bumper strips.
 - 1) Astragal shall be relatively inconspicuous when the doors are closed.
 - 2) Provide rubber bumpers at the top and bottom of each section of door to stop them at their limit of travel in the opening direction.
2. Provide a special key so that an authorized person can open any landing door when the car is elsewhere.
 - a. The key hole shall be not less than 3/8 inch in diameter and shall be fitted with a stainless steel or bronze ferrule to match related equipment.
 - b. Where applicable, plug the abandoned hoistway door access hole in each door panel, secured from the hoistway side of the door, finished to match existing or as otherwise directed by the Owner/Architect.
3. Where conditions warrant, or where otherwise required by Code, equip all hoistway landing doors with one-piece full height non-vision wings of material and finish to match hall side of door panels.

D. Tracks / Hangers / Closers / Related Equipment

1. Formed or extruded steel landing door hanger tracks shall be provided.
2. Each landing door panel shall be suspended from a pair of door hanger assemblies that are compatible with the hanger tracks.
 - a. Hanger assemblies shall be directly mounted to the door panel using 3/8 inch diameter or better hardware.
 - b. Solid steel blocks shall be used where job-site conditions dictate the use of spacers between hanger assemblies and the landing door panel.
 - c. Hanger assemblies shall be adjusted or shimmed so that door panels are suspended in a plumb manner with no more than 3/8 inch vertical clearance to the cab entrance threshold.
 - d. Upthrust rollers shall be adjusted for minimal operating clearance against the bottom edge of the hanger track.
 - e. Means shall be provided to prevent hangers from jumping the track.
 - f. Blocks shall be provided to prevent rollers from overrunning the end of the track.
3. Each set of center opening landing doors shall be provided with a cable driven relating mechanism which is compatible for use with the door hanger assemblies.

- a. The relating mechanism shall be properly tensioned and adjusted to equalize the relationship between the door panels and the hoistway entrance.
4. Each set of multi-speed side slide landing doors shall be provided with a sill-mounted spring closing mechanism with necessary door panel relating hardware.
5. In multi-speed door arrangements, provisions shall be made to interlock the individual panels so all panels close should the normal door panel relating means fail.
6. Where applicable, each hoistway door interlock assembly shall be provided with an emergency release mechanism utilizing manufacturers' standard type access key at all landings served.
 - a. Drill each hoistway door to accommodate manufacturers standard lock release key and install escutcheon.
 - 1) Escutcheon shall be brushed stainless steel to match door panels where required.
 - 2) Aluminum shall be provided at all other typical floors.
7. Where multi-speed side slide door panels exist, provide a secondary interlocking device that will prevent separation of the panels should the sill closer or relating cable(s) fail.

E. Interlocks / Unlocking Devices

1. Each set of landing doors shall be provided with a complete electromechanical interlock assembly.
 - a. Each interlock assembly shall consist of:
 - 1) A switch housing with contacts.
 - 2) Lock keeper.
 - 3) Clutch engagement/release subassembly.
 - 4) Associated linkages.
 - b. Arrange the lock so that individual leading door panels (side slide or center opening) are locked when in the closed position.
2. Non-typical mounting arrangements for interlocks and/or related mechanisms must receive prior approval from the Consultant.
3. Each hoistway door interlock assembly shall be provided with an emergency release mechanism utilizing a drop-leaf type access key at all landings served.
 - a. Each hoistway door shall accommodate manufacturers standard lock release key with escutcheon.
 - 1) The key hole shall be fitted with a metal ferrule that matches the door finish.
 - 2) Drilling key holes in the field will not be accepted.

F. Hoistway Door Bottom Guides / Safety Retainers

1. The bottom of each side sliding type hoistway door panel shall be equipped with a minimum of two (2) guiding members.

- a. Metal mounting angles shall be secured to the integral panel frame structure; and when conditions warrant, additional external metal support plates or angles shall be installed to ensure the integrity of the panel frame is not compromised.
 - b. Guides shall be manufactured of low friction non-metal material with sufficient strength to withstand forces placed on door panels per ASME A17.1 Standards.
 - c. Each guide assembly shall incorporate a steel wear indicator and be so designed to permit sliding member replacements without removal of door panel(s) from top hanger devices.
 - d. Panels shall be hung with a maximum vertical clearance of 3/8 inch between top of sill and bottom of panel and the guide shall engage the sill groove by not less than 1/4 inch.
2. The bottom of each side sliding type hoistway door panel shall be equipped with a guiding member safety retainer to prevent displacement in the event of primary guide means failure.
 - a. A metal reinforcement (12 gauge stainless or galvanized steel) shall be installed between the two (2) primary guiding members (a.k.a. "Z" bracket).
 - b. The reinforcement shall be designed with a minimum length of 8 inches or the maximum possible length that will fit between the primary members and a minimum overall height of two and one-half (2.5) inches secured on the internal face of the door panel. (Hoistway side)
 - c. The retainer shall be set with the supplemental safety angle 3/8 inch into the corresponding sill groove; and be capable of preventing displacement of the panel no more than 3/4 inch with an applied force of 1125 lbf at right angles over an area 12 inches x 12 inches at the approximate center of the door panel.

2.8 CAR EQUIPMENT / FRAME

A. Car Frame (Reuse)

1. The existing car frame assembly shall be refurbished to as new condition and reused.
2. Individual car frame members, platform isolation framework, door operator support structure, related bracing and hardware shall be inspected for any indication of damage or distortion.
 - a. Where damage is detected, the Contractor shall immediately inform the Consultant and then undertake corrective action deemed appropriate by the Consultant to remedy the condition.
3. The car frame, door operator support and related bracing shall be modified or reconfigured as necessary in order to accommodate new cab enclosure and/or master door operating equipment specified herein.

B. Car Platform (Reuse) – Passenger Elevator

1. The existing platform shall be modified to accommodate the new apparatus specified herein.

- a. Where necessary, the underside of platform shall be refurbished and treated with fire-rated material.
- b. Top of platform shall be refurbished with a marine grade plywood set to receive new finished floor covering as selected by Owner/Architect.
- c. At Contractor's option or when conditions warrant, provide a totally new platform in lieu of repairs, modifications and upgraded specified above.

C. Car Platform – Service Elevator

1. Provide a new car platform to fit the existing frame.
2. The car platform shall consist of a steel frame with necessary steel stringers, all securely welded together.
3. The platform shall be so braced to the frame and reinforced so that no strain will be transmitted to the elevator car.
 - a. Provide platform with two (2) layers of 3/4 inch thick marine grade plywood.
 - b. Cover the underside of the car platform with sheet steel.
4. Recess the elevator platform to receive finished flooring as selected by the Owner / Architect.

D. Automatic Leveling / Releveling / Positioning Device

1. Equip the elevator with a floor leveling device which shall automatically bring the car to a stop within 1/4 inch of any floor for which a stop has been initiated regardless of load or direction of travel.
2. This device shall also provide for releveling which shall be arranged to automatically return the elevator to the floor in the event the elevator should move below or above floor level in excess of 1/4 inch.
3. This device shall be operative at all floors served and whether the hoistway or car door is open or closed provided there is no interruption of power to the elevator.
4. A positioning device shall be part of the controller microprocessor systems.
 - a. Position determination in the hoistway may be through fixed tape in the hoistway or by sensors fitted on each driving machine to encode and store car movement.
 - b. Design the mechanical features and electrical circuits to permit accurate control and rapid acceleration and retardation without discomfort.
5. Where there are consecutive floors/stops that are short stops, the system shall be capable of distinguishing between the two landing zones without error.
6. All equipment and logic required for leveling system to properly function with short stops shall be included.

E. Top-of-Car Inspection Operating Station

1. An inspection operating station shall be provided on top of the elevator car. Mount so usable while standing in an upright position.
2. This station shall be installed so that the controls are plainly visible and readily accessible from the hoistway entrance without stepping on the car.
3. When the station is operational, all operating devices in the car shall be inoperative.
4. Provide the following control devices and features:

- a. A push/pull or toggle switch designated “EMERGENCY STOP” shall be arranged so as to prevent the application of power to the hoist motor or machine brake when in the “off” position.
- b. A toggle switch designated “INSPECTION” and “NORMAL” to activate the top of car Inspection Service Operation.
- c. Pushbutton designated “Up”, “Down” and “Enable” to operate the elevator on Inspection Service (the “Enable” button shall be arranged to operate in conjunction with either the “Up” or “Down” button).
- d. An indicator light and warning buzzer that are subject to activation under Phase I - Fire Emergency Recall Operation.

F. Car Enclosure Work Light / Receptacle

1. The top of each car shall be provided with a permanent lighting fixture and 110 volt GFCI receptacle.
2. Light control switches shall be located for easy accessibility from the hoistway entrance.
3. Where sufficient overhead clearance exists, the car top lighting fixture shall be extended no less than 24 inches above the crosshead member of the car frame.
4. Light bulbs shall be guarded so as to prevent breakage or accidental contact.

G. Emergency Exits / Top

1. Ensure they operate as per Code and have proper electrical contacts and mechanical locks on the exterior of the cab enclosure.
2. The top of car emergency exit shall be so arranged that it can be opened from within the car by means of a keyed spring-return cylinder-type lock having not less than a five-pin or five-disk combination and opened from the top of the car without the use of a key.
3. No other key to the building shall unlock the emergency exit lock except access switch keys which may be keyed alike.
 - a. Keys shall be assigned in accordance with ASME A17.1 Group 1 Security requirements.

H. Master Door Power Operator System – VVVF/AC

1. Provide a heavy-duty master door operator on top of the elevator car enclosure for power opening and closing of the cab and hoistway entrance door panels.
2. The operator may be of the pivot/lever or belted linear drive type.
3. Operator shall utilize an alternating current motor, controlled by a variable voltage, variable frequency (VVVF) drive and a closed-loop control with programmable operating parameters.
 - a. System may incorporate an encoder feedback to monitor positions with a separate speed sensing device or an encoderless closed-loop VVVF-AC control to monitor motor parameters and vary power applied to compensate for load changes.
4. The type of system shall be designated as a high-speed operator, designed for door panel opening at an average speed of 2.0 feet per second and closing at approximately 1.0 foot per second.

- a. Reduce the closing speed as required to limit kinetic energy of closing doors to within values permitted by ASME A17.1 as may be adopted and/or modified by the AHJ.
5. The door shall operate smoothly without a slam or abrupt motion in both the opening and closing cycle directions.
 - a. Provide controls to automatically compensate for load changes such as:
 - 1) Wind conditions (stack effect).
 - 2) Use of different weight door panels on multiple landings.
 - 3) Other unique prevailing conditions that could cause variations in operational speeds.
 - b. Provide nudging to limit speed and torque in conjunction with door close signaling/closing and timing devices as permitted by ASME A17.1 as may be adopted and/or modified by the AHJ. Nudging shall be initiated by the signal control system and not from the door protective device.
6. In case of interruption or failure of electric power from any cause, the door operating mechanism shall be so designed that it shall permit emergency manual operation of both the car and corridor doors only when the elevator is located in the floor landing unlocking zone.
 - a. The hoistway door shall continue to be self-locking and self-closing during emergency operation.
 - b. The door operator and/or car door panel shall be equipped with safety switches and electrical controls to prevent operation of the elevator with the door in the open position as per ASME A17.1 Code Standards.
 - c. Provide zone-lock devices as required by ASME A17.1 as may be adopted and/or otherwise modified by the AHJ.
7. Construct all door operating levers of heavy steel or reinforced extruded aluminum members.
8. Belts shall be designed for long life and operate noise free.
9. All components shall be designed for stress and forces imposed on the related parts, linkages and fixed components during normal and emergency operation functions.
 - a. All pivot points, pulleys and motors shall have either ball or roller-type bearings, oilite bronze bushings or other non-metallic bushings of ample size.
10. Provide operating data / data tag permanently attached to the operator as required by applicable Code and standards.
- I. Car Door Hangers / Tracks / Gate Switch
 1. Provide sheave type two-point suspension hangers and track for each car door.
 - a. Sheaves shall be hardened steel, not less than 3-1/4 inches in diameter with sealed grease packed precision ball bearings.

- b. The upthrust shall be taken by a roller mounted on the hanger and arranged to ride on the underside of the track.
- 2. The track shall be of formed cold rolled steel or cold drawn steel and shall be rounded on the track surface to receive the hanger sheaves.
 - a. The track shall be removable and shall not be integral with the header.
- 3. Provide a gate switch that mounts directly to the car door track.
 - a. The gate switch shall prevent movement of the elevator until such time as it signals the control equipment that the car door has physically closed.

J. Car Door Panel(s)

- 1. Provide no less than 1 inch thick, 14-gauge hollow metal flush construction panel(s), reinforced for power operation and insulated for sound deadening.
- 2. Paint the hoistway side of each panel black and face the cab side with 16-gauge sheet steel matching the existing returns or in selected material and finish as otherwise directed by Owner/Architect.
- 3. The panels shall have no binder angles and welds shall be continuous, ground smooth and invisible.
- 4. Drill and reinforce panels for installation of door operator hardware, door protective device, door gibs, etc.
 - a. Provide each door panel with two (2) removable laminated plastic composition guides, arranged to run in the sill grooves with minimum clearance.
 - b. The guide mounting shall permit their replacement without removing the door from the hangers.
- 5. Provide the meeting edge of center opening doors with necessary continuous rubber astragal bumper strips.
 - a. These strips shall be relatively inconspicuous when the doors are closed.

K. Door Reopening Device / "3D"

- 1. Provide a combination infrared curtain and 3D door protection system in compliance with ASME A17.1-2019.
- 2. The door shall be prevented from closing and will reopen when closing if any one of the curtain light rays is interrupted or should an object enter the 3D detection zone.
- 3. The door shall start to close when the protection system is free of any obstruction.
- 4. The infrared curtain and 3D zone protective system shall provide:
 - a. Protective curtain field not less than 71 inches above the sill.
 - b. 3D protective zone field not less than 61 inches above the sill.
 - c. Accurately positioned infrared lights to conform to the requirements of the applicable handicapped Code.
 - d. Modular design to permit on board test operation and replacement of all circuit boards without removing the complete unit.

- e. Self-contained, selectable 3D zone timeout feature to allow for closing at nudging speed with audible signal.
- f. Automatic turning-off of the 3D zone in the event of three (3) consecutive 3D triggers.
 - 1) Light curtain shall continue to operate after 3D system timeout.
- g. Selectable control of the 3D zone operation on an “always-on” or “as doors close” basis.
- h. Controls to shut down the elevator when the unit fails to operate properly.
- i. Provide audible and visual notification of pending door close.

2.9 FINISH / MATERIALS / SIGNAGE

A. Material, Finishes and Painting

1. General

- a. Cold-rolled Sheet Steel Sections: ASTM A366, commercial steel, Type B
- b. Rolled Steel Floor Plate: ASTM A786
- c. Steel Supports and Reinforcement: ASTM A36
- d. Aluminum-alloy Rolled Tread Plate: ASTM B632
- e. Aluminum Plate: ASTM B209
- f. Stainless Steel: ASTM A167 Type 302, 304 or 316
- g. Stainless Steel Bars and Shapes: ASTM A276
- h. Stainless Steel Tubes: ASTM A269
- i. Aluminum Extrusions: ASTM B221
- j. Nickel Silver Extrusions: ASTM B155
- k. Bronze Sheet: ASTM B36(36M) alloy UNS No. C2800 (Muntz Metal)
- l. Structural Tubing: ASTM A500
- m. Bolts, Nuts and Washers: ASTM A325 and A490
- n. Laminated / Safety Tempered Glass: ANSI Z97.1

2. Finishes

- a. Stainless Steel
 - 1) Satin Finish: No. 4 satin, long grain.
 - 2) Mirror Finish: No. 8 non-directional mirror polished.
- b. Sheet Steel:
 - 1) Shop Prime: Factory-applied baked on coat of mineral filler and primer.
 - 2) Finish Paint: Two (2) coats of low sheen baked enamel, color as selected by the Architect.
 - 3) Steel Equipment: Two (2) coats of manufacturer’s standard rust-inhibiting paint to exposed ferrous metal surfaces in both the hoistway and pit that do not have galvanized, anodized, baked enamel, or special architectural finishes.

3. Painting

- a. Apply two (2) coats of paint to the machine room and pit floors.
- b. Apply two (2) coats of clear lacquer to bronze or similar non-ferrous materials to prevent tarnishing during a period of not less than twelve (12) months after initial acceptance by the Owner or Agent.
- c. Identify all equipment including buffers, car apron, crosshead, safety plank, pump unit, controller, disconnect switch, etc., by 4 inches high numerals which shall contrast with the background to which it is applied. The identification shall be either decalcomania or stencil type.
- d. Paint or provide decal-type floor designation not less than 4 inches high on hoistway doors (hoistway side), fascia and/or walls as required by A17.1 as may be adopted and/or modified by the AHJ. The color of paint used shall contrast with the color of the surface to which it is applied.

B. Car Interior Finishes

1. Car interior finishes shall be as selected by Owner and/or Architect.
2. Contractor shall provide samples of finishes as required for approval prior to fabrication.
3. Refer to specifications for other design requirements where provided.
4. Special attention shall be given to flooring materials and suitability for intended duty.

C. Designation and Data Plates, Labeling and Signage.

1. Provide an elevator identification plate on or adjacent to each entrance frame where required by the AHJ.
 - a. The designation numeral shall be a minimum of 3 inches in height.
2. Provide floor designation cast plates at each elevator entrance, on both sides of the jamb at a height of 60 inches to the baseline of floor indication.
 - a. Floor number designations and Braille shall be 2 inches high, 0.03 inch raised and stud mounted. Braille shall be beneath the floor designation. Designations shall be white on a black background.
3. Provide raised designations and Braille markings to the left of the car call and control buttons of the car operating panel(s).
 - a. Designations shall be a minimum of 5/8 inch high, 0.03 inch raised and stud mounted.
4. Provide elevators with data and marking plates, labels, signages and refuge space markings complying with A17.1 Elevator Safety Code as may be adopted and/or otherwise modified by the AHJ.
5. Architect shall select the designation and data plates from manufacturer's or a third party's premium line of plates.

2.10 FIXTURES / SIGNAL EQUIPMENT

A. General - Design and Finish

1. The design and location of the hall and car operating and signaling fixtures shall comply with the ADAAG and local requirements of the AHJ.
2. The operating fixtures shall be selected from the manufacturer's or a third party's premium line of fixtures.
3. Custom designed operating and signaling fixtures shall be as shown on the drawings or as approved by the Owner / Architect.
4. The layout of the fixtures including all associated signage and engraving shall be as approved by the Owner / Architect.
5. Where no special design is shown on the drawings, the buttons shall be as follows:
 - a. Stainless steel raised type as selected by the Owner / Architect from the manufacturer's or a third party's premium line of pushbuttons.
 - b. The button shall have a collar with LED call registered light.
6. Where no special design is shown on the drawings, the faceplates shall be as follows:
 - a. Passenger Elevator
 - 1) All Floors: 1/8 inch thick stainless steel faceplate with No. 4 finish.
 - b. Service Elevator
 - 1) All Floors: 1/8 inch thick stainless steel with No. 4 finish.
7. Mount passenger elevator fixtures with tamperproof fasteners and service elevator fixtures with tamperproof screws. The screw/fastener and key switch cylinder finishes shall match faceplate finish.
8. Where key-operated switch and or key operated cylinder locks are furnished in conjunction with any component of the installation, four (4) keys for each individual switch or lock shall be furnished, stamped or permanently tagged to indicate function.
9. All caution signs, pictographs, Code mandated instructions and directives shall be engraved and filled with epoxy in Code required colors. Stick-on signs are not acceptable.

B. Main Car Operating Panel

1. Provide a main car operating pushbutton panel on the inside front return panel of the car.
2. Car operating panel shall be flush mounted with swing type, one-piece faceplate with heavy-duty concealed hinges.
 - a. Mount all key switches that are required to operate and maintain the elevators exposed on the car station except those specified within a locked service cabinet.
3. The pushbuttons shall become individually illuminated as they are pressed and shall extinguish as the calls are answered.
4. The operating panel shall include:
 - a. A call button for each floor served, located not more than 48 inches above the cab floor.

- b. “Door open” / “Door close” / (“Door Hold” for Service Elevator) buttons.
 - c. “Alarm” button, interfaced with emergency alarm. The alarm button shall illuminate when pressed. Locate 35 inches above the cab floor.
 - d. Self-dialing, hands-free emergency communication system actuation button with call acknowledging feature and ASME A17.1/ADA/IBC design provisions. Locate 35 inches above the cab floor.
 - e. Provisions for communication with deaf, hard of hearing and speech impaired.
 - f. Three (3) position firefighter key operated switch, call cancel button and illuminated visual/audible signal system with mandated signage engraved per ASME A 17.1 Standards as modified by the AHJ.
5. Locked Firemen’s Service cabinet, keyed in accordance with local Code, containing required devices and signals in accordance with ASME A17.1 Standards. Door shall be self-locking.
- a. Automatic opening of the locked cabinet door may be provided with signals initiated by the fire detection and alarm system where approved by the Authority Having Jurisdiction.
6. Provide a locked service cabinet with flush mounted door and containing the suitably identified key switches required to operate and maintain the elevator, including, but not limited to the features listed below. Incorporate permit window into door with unexposed mounting hardware. Post Inspection Certificate behind an opening in the service panel door that is fitted with a flush-mounted clear Plexiglass window without an exposed frame. Size door to accommodate window sized to display permit, properly justified.:
- a. Independent service switch
 - b. Light switch
 - c. Fan switch
 - d. G. F. C. I. duplex receptacle
 - e. Emergency light test button and indicator
 - f. Inspection Service Operation key switch
 - g. Keyed Stop Switch
 - h. Port for hand-held service tool where applicable
 - i. Dimmer for cab interior lighting
7. Car operating panel shall incorporate:
- a. An integral (no separate faceplate) digital L.E.D. floor position indicator.
 - b. Black-filled engraved unit I.D. number or other nomenclature, at the top of the car operating panel, as approved by Owner/Architect.
 - c. Provide engraving as follows:
 - 1) A “No Smoking” advisory.
 - 2) The rated passenger load capacity in pounds.
 - 3) 3/16 inch “push for alarm” engraving.
 - 4) 3/16 inch communication device usage instructions.
 - 5) Phase 2 cabinet door engraving

C. Auxiliary Car Operating Panel – Passenger Elevator Rear Opening

1. Provide an auxiliary car operating panel that contains the following:
 - a. Car call registration buttons
 - b. Door open and close buttons
 - c. Illuminated alarm button
2. Operating devices shall be of the same design, material, and finish as the main operating panel.
3. Design this station to duplicate the layout of the main operating panel.
4. Provide a digital position indicator, Elevator ID engraving to match the main car operating panel.

D. Car Position Indicator

1. The position of the car in the hoistway shall be indicated by the illumination of the position indicator numeral corresponding to the floor at which the car has stopped or is passing.
 - a. Provide 2 inches high, 10-segment LED type position indicator with direction arrows, integral with the car operating panel.
 - b. Provide Lexan cover lens with hidden support frame behind fixture plate to protect the indicator readout.
 - c. Provide audible floor passing signal per ADA standards where not provided by the elevator signal control.
 - d. Flush mount fixture with cover to match selected car front or car operating panel finish as directed by the Owner.

E. Car Direction Lantern

1. Provide a car riding lantern with visual and audible signal in the edge of the strike and/or return post.
2. The lens shall project a minimum of 1/4 inch and shall be of solid Plexiglas.
3. Use concealed fasteners for flush faceplate with hairline joint.
4. Car lantern shall indicate the direction of travel when doors are 3/4 open.
5. The unit shall sound once for the “up” direction and twice for the “down” direction.
 - a. Provide an electronic chime with adjustable sound volume.

F. Corridor Pushbutton Stations / Reuse Back Boxes

1. Pushbutton signal fixtures shall be provided on each landing.
2. Each signal fixture shall consist of:
 - a. A surface mounted faceplate.
 - b. Up and down illuminating pushbutton measuring 3/4 inch at their smallest dimension as selected by the Owner/Architect.
 - c. A recessed mounting box, electrical conduit and wiring.
3. Intermediate landings shall be provided with fixtures containing two (2) pushbutton while terminal landings shall be provided with fixtures containing a single pushbutton.

4. Include firefighter key switch in the main lobby level station or other designated recall landing.
5. Provide telephone line audible and visual monitoring provisions at the designated level.
6. Where existing fixtures are located greater than 48 inches above the floor:
 - a. The existing back boxes shall be retained and used to attach the oversized fixture faceplate to locate the new buttons within ADA reach range above the finished floor.
 - 1) The Contractor has the option of providing a single oversized back box in lieu of retaining existing for faceplate attachment.
 - b. Standardize the new centerline distance on all floors.
7. All cutting, patching, grouting and/or plastering of masonry walls resulting from the removal or installation of corridor fixtures shall be performed by the Contractor so as to maintain the fire rating of the hoistway.
 - a. Finished painting or decorating of wall surfaces shall be by Others.
8. All faceplates shall be engraved with fire logo/pictorial and "In Case of Fire Use Stairs" or similar verbiage meeting Code.

G. Hoistway Access Switch

1. Install a cylindrical type keyed switch at top terminal in order to permit the car to be moved at slow speed with the doors open to allow authorized persons to obtain access to the top of the car.
2. Where there is no separate pit access door, a similar switch shall be installed at the lowest landing in order to permit the car to be moved away from the landing with the doors open in order to gain access to the pit.
3. Locate the switch in the terminal floor entrance jambs without faceplate at a height of 72 inches above the finished floor.
4. This switch is to be of the continuous pressure spring-return type and shall be operated by a cylinder type lock having not less than a five (5) pin or five (5) disc combination with the key removable only in the "OFF" position.
 - a. The lock shall not be operable by any key which operates locks or devices used for other purposes in the building and shall be available to and used only by inspectors, maintenance men and repairmen in accordance with A17.1 applicable Security Group.
5. Existing provisions that meet the aforementioned criteria may be updated with keyed switches to match new apparatus provided for uniformity of systems within the building.

H. Emergency Power Panel: The panel shall have a 1/8 inch thick stainless steel faceplate. Provide engraving indicating Elevator ID, Elevator Group, Floors Served and disconnect location. The panel will be wall-mounted and contain:

1. Two (2) 2 inches high LCD car position and travel direction indicators
2. Two (2) position Phase 1 Fire Recall key switches with engraved instructions

3. Standby power selector switches and emergency power on indicator
4. "Car at the designated floor with its doors open" indicators
5. Seismic indicators
6. Master intercom system / Telephone
7. Elevator status indicators including seismic operation
8. The panel shall be located in the fire command center/emergency control room

Contractor shall be responsible for all wiring, conduit and network devices that may be necessary for a complete working installation.

2.11 CAR ENCLOSURES

A. Elevator Car Enclosure and the Five Percent (5%) Rule:

1. In accordance with A17.1, Section 8.7, as adopted and/or modified by the AHJ, entitled "Alterations", where a new or remodeled elevator car enclosure is included in the base scope of work, the Contractor shall, within thirty (30) days after execution of the contract, weigh the elevator, or one (1) elevator of each group of elevators included in the base scope of work, to determine the present deadweight of the platform/sling/cab assembly.
2. The Contractor shall, when necessary, weigh the interior materials of a single cab to better estimate the total existing weight of existing materials being removed as part of the alteration.
3. Measurements of actual cab weight shall be compared to the original deadweight of the car as stamped on the crosshead data tag.
4. Where no data tag exists, the Contractor shall make every effort to determine the original weight of the platform/sling/cab
5. The amount of weight that may be added to the car, so as to remain within the limits of the "5% Rule", shall be calculated based on the following:
 - a. $(\text{Original Deadweight} + \text{Capacity}) \times (0.05) = \text{Maximum Additional Weight Allowed}$
6. The Contractor shall document and notify the Owner and Consultant of the results of the measurements taken and what weight, if any, can be added or needs to be removed from the cab in order to maintain compliance with the five percent (5%) Rule.
7. The Contractor shall work diligently with the Owner and/or Owner's Representative and/or Architect as well as the manufacturer of the car enclosure to minimize additional weights of the new or remodeled car enclosure so as to maintain compliance with the 5% Rule.
8. Contractor shall be responsible for proper adjustment of the system, including the static balance of the platform/sling/car enclosure, upon completion of the car interior work.
9. Costs associated with this work shall be included in the base modernization price.
10. Provide a new data tag on the crosshead of the elevator indicating the new deadweight, and the date of the alteration.

B. Elevator Cab / General Design Requirements

1. The design, materials and finishes of the cab enclosures shall be as shown on the Architectural Drawings.

2. Materials:
 - a. Particleboard: Premium grade, AWI, Section 200, fire retardant treated, equal to Duraflake FR
 - b. Plastic Laminate: Comply with NEMA LD3, 0.05 inch thick, color, texture and finish as selected by the Architect
 - c. Trims: AWI Premium Grade quarter sawn as selected by the Architect.
3. Shell: Retain existing for passenger elevator.
4. Steel Shell – Service Elevator: 14-gauge furniture steel reinforced and designed to accept finished wall panels. Finish shell panels with one coat of rust inhibitive primer and two (2) coats of enamel paint in accordance with Section 09900. Apply 1/8 inch thick, rubberized sound deadening material to the hoistway side of the shell.
 - a. All panels shall have minimum radii. Apply sealant beads to panel joints before bolting together with lock washers.
5. Canopy: Retain existing for passenger elevator.
6. Canopy – Service Elevator: Canopy construction methods shall match the shell walls. Use 12-gauge furniture sheet steel and adequately support canopy to comply with the loading requirements of the Code.
 - a. Provide necessary cutouts for the installation of fan and top emergency exit. Arrange exit panel to swing up using a heavy-duty piano hinge.
 - b. The exit panel shall have dual locks, necessary stops and a handle.
 - c. When in the locked position, the panel shall be flush with the interior face of the canopy with hairline joints.
7. Base: Where finished base provided under another section of these specifications, recess and prepare the shell to accept the base.
 - a. Provide concealed vent slots above side and rear wall base for proper ventilation. Arrange and size vent slots for quiet operation without any whistling. Use 16 gauge baffles to protect the hoistway side of the vent slots.
 - b. The elevator cab shop drawings shall include elevator vent calculations and number, location and size of top and bottom vent holes.
8. Flooring - Passenger Elevator: Where finished flooring is provided under another section of these specifications, recess and prepare sub-flooring to accept the finished flooring.
9. Flooring - Service Elevator: Provide steel or aluminum diamond plate flooring in sections of not more than 24 inches x 48 inches. Install each section using flat head stainless steel screws.
10. Front Return Panels, Entrance Posts and Transom: Use 14-gauge furniture sheet steel with proper reinforcing to prevent oil canning.
 - a. Swing front return panels shall have required cutouts for the car call buttons, keyed switches, indicators, emergency light fixture, cabinets and the specified special control and signaling devices.
 - 1) Provide concealed full height stainless steel piano hinges of sufficient strength to support the panel, without sagging, in the open position.

- 2) The concealed locks shall secure the panel at two (2) points with linkage that shall be free of vibration and noise when in the locked position.
 - 3) When locked in the closed position, the front return panel shall be in true alignment with the transom and base.
 - 4) Lock release holes shall be not more than 1/4 inch diameter and be located at the return side jamb of the panel.
 - 5) Engrave the elevator identification number and capacity, no smoking sign, firefighter instructions, and other code mandated instructions and caution signs directly in the front return panel. Applied panels are unacceptable.
- b. Transom shall be 14 gauge, and be reinforced and constructed the same as the front return panels.
 - c. Provide channel post entrance jambs for the service elevator. Clad channels with 14-gauge sheet steel and through bolt channels to the floor and to the reinforced header section.
11. Cab Doors: Standard 1 inch thick, 14-gauge hollow metal flush construction, reinforced for power operation and insulated for sound deadening. Paint hatch side of doors black and face cab side with 16-gauge sheet steel in selected material and finish.
 - a. The door panels shall have no binder angles. All welds shall be continuous, ground smooth and invisible.
 - b. Drill and reinforce doors for installation of door operator hardware, door protective device, door gibs, etc.
12. Ceiling: Construction techniques for wall panels shall apply to ceiling panel construction. Locate top emergency exit inconspicuously. Construct and mount the exit panel to prevent light leakage around the perimeter of panel.
13. Ventilation: The ventilation system of the exhaust type shall be provided in each elevator.
 - a. The system shall include a blower driven by a direct connected motor and mounted on top of car with isolation to effectively prevent transmission of vibration to the car structure. The blower shall have not less than two (2) operating speeds. The ventilation system shall be sized to provide one (1) air change per minute at low speed and one and one-half (1.5) air changes per minute at high speed. The unit design and installation shall be such that the maximum noise level, when operating at high speed, shall not exceed 55 dBA approximately 3 feet above the car floor. A three (3)-position switch to control the blower shall be provided in the service panel.
14. Lighting: Arrange lighting fixtures and ceiling assembly to provide even illumination without hot spots and shadows.
 - a. Design and configure lighting system to facilitate maintenance of the fixtures.
 - b. The service elevator shall have not less than 40-foot candle illumination at 48 inches above the finished floor with the doors closed.
15. Handrails: All attachment hardware shall match the selected handrail and shall permit handrail removal from within the cab.

- a. Provide a minimum of 10-gauge plate at the hatch side of the shell, aligned with the handrail attachment points, to assure secure handrail mounting.
 - b. Design handrail attachment system to support the weight of a person (two hundred fifty [250] pounds) sitting on it without any deflection and damage to the handrail, cab panel and the shell.
16. Protective Pads and Pad Hooks: Provide pad hooks at locations as directed by the Architect. Protective pads shall cover the front return panels, and the side and rear walls. Provide cutouts in pads for access to the cab operating and signaling devices. Pads shall be fire-resistant canvas with two (2) layers of cotton batting padding.
- a. Identify each pad by elevator number and wall location.
17. Accessories: Construct elevator cab to accommodate the door operator, hangers, interlocks and all accessory equipment provided under other sections of these specifications, including firefighter phones, and CCTV.
18. All cab materials shall conform to the code prescribed flame spread rating and smoke development requirements.

C. Cab Fabrication and Installation

1. Maintain accurate relation of planes and angles with hairline fit of contacting panels and/or surfaces.
2. Any shadow gaps (reveals) between panels shall be consistent and uniform.
3. Unless otherwise specified or shown on the drawings, for work exposed to view use concealed fasteners.
4. Maximum exposed edge radius at corner bends shall be 1/16 inch. There shall be no visible grain difference at the bends.
5. Form the work to the required shapes and sizes with smooth and even curves, lines and angles. Provide necessary brackets, spacers and blocking material for assembly of the cab.
6. Interior cab surfaces shall be flat and free of bow or oil canning. The maximum overall deviation between the low and high points of 24 inches x 24 inches panel section shall not exceed 1/32 inch.
7. Make weights of connections and accessories adequate to safely sustain and withstand stresses to which they will be subjected.
8. All steel work except stainless steel and bronze materials shall be painted with an approved coat of primer and one (1) coat of baked enamel paint.
9. Cab Finish Warranty Enhancement
 - a. Contractor shall be responsible for engineering and installing interior cab finishes in a manner that will withstand all code mandated inspections and test procedures. Failure of finishes during testing shall be repaired by the contractor without expense to the owner. Any objections or qualifications to material selection or design shall be identified during the engineering of the cab interior drawings for review by the owner.

D. Passenger Elevator

1. Wall Panels: Stainless Steel No. 4 finish, full height.
2. Canopy: Paint canopy with a coat of primer and one coat of low sheen enamel paint.

3. Front Return Panels and Transoms: No. 4 Stainless steel transom and swing type front return panels.
4. Cab Doors: Stainless steel with No. 4 finish.
5. Ceiling: As selected by the Architect. Tinted/darker mirrored stainless steel ceiling panels with no lay-in grid.
6. Handrails: Both sides, 1.25 inches diameter round rail with flat ends and integral standoffs, finish Satin Stainless steel.
7. Lighting: Provide six (6) LED down lights. The light fixture shall have aluminum alzak reflector.
8. Base: Match wall panels, Stainless Steel No 4. Finish.

E. Service Elevator

1. Lower Wall Panels: 4 feet-0 inches high, 1/8 inch thick diamond tread aluminum wainscoting on all walls. Mount panels with countersunk stainless-steel screws. The wainscoting shall be demountable from within the car.
2. Upper Wall Panels: 16-gauge stainless steel applied to shell.
3. Provide oval vent slots 4 inches above the floor. Provide rectangular frames. Architect to select.
4. Canopy: Paint canopy with a coat of primer and one (1) coat of enamel paint.
5. Front Return Panels and Transom: Stainless steel with No. 4 finish.
6. Cab Doors: Stainless steel with No. 4 finish.
7. Ceiling: Six (6) section island type faced with No. 4 brushed stainless steel finish set in a perimeter stainless steel frame.
8. Lighting: Provide six (6) recessed LED lights with matching trims.
9. Flooring: Provide steel or aluminum diamond plate flooring in sections of not more than 24 inches x 48 inches. Install each section using flat head stainless steel screws.
10. Handrails: Double row of 1/2 inch x 4 inches stainless steel bars at 12 inches and 32 inches above floor on side and rear walls. Mount rails to cabs at 12 inches on centers and arrange them to be removable from within car. Suitably reinforce cab panel to provide for secure handrail mounting.
11. Reinforcement of Rear Cab Wall:
 - a. For service-duty passenger elevators, provide an angle bracket or similar means at the bottom of the rear wall where the wall meets the platform.
 - b. The reinforcement shall span the entire width of the rear wall and be adequately secured to prevent displacement should the wall be struck by materials being loaded into the elevator.
 - c. The method of attachment shall not interfere with interior wall finishes or car flooring.

F. Elevator Cab Enclosure Fan

1. Provide an exhaust type two (2)-speed fan unit with cover grill, mounting accessories and necessary cab enclosure modifications.
 - a. Fan unit shall include self-lubricating motor with housing rubber mounted for sound vibration isolation.
2. Provide a key switch in the elevator cab enclosure for control of fan unit.

3. Provide necessary wiring and approved conduit to properly connect fan unit with power source and control key switch.

2.12 EMERGENCY LIGHTING / COMMUNICATIONS / SIGNALING

A. Battery Back Up Emergency Lighting Fixture and Alarm

1. Provide a self-powered emergency light unit.
 - a. Arrange two (2) of the cab light fixtures to operate as the emergency light system.
 - b. Where cab lighting is utilized for emergency lighting, Contractor shall coordinate the battery back-up equipment so that it is compatible with the type of cab lighting specified by the Owner or Architect.
2. Provide a car-mounted battery unit including solid-state charger and testing means enclosed in common metal container.
 - a. The battery shall be rechargeable nickel cadmium with a ten (10) year minimum life expectancy. Mount the power pack on the top of the car.
 - b. Provide a 6 inches diameter alarm bell mounted directly to the battery/charger unit and connected to sound when any alarm pushbutton or stop switch in the car enclosure is operated.
 - c. The bell shall be configured to operate from power supplied by the building emergency power generator. The bell shall produce a sound output of between 80-90 dBa (measured from a distance of 10') mounted on top of the elevator car.
 - 1) Activation of this bell shall be controlled by the stop switch and alarm button in the car operating station.
 - 2) The alarm button shall illuminate when pressed.
3. Where required by Code for the specific application, the unit shall provide mechanical ventilation for at least one (1) hour.
4. The operation shall be completely automatic upon failure of normal power supply.
5. Unit shall be connected to normal power supply for car lights and arranged to be energized at all times so it automatically recharges battery after use.

B. Emergency Voice Communication / Telephone

1. A hands-free emergency voice communication system shall be furnished in each car mounted as an integral part of the car operating panel.
 - a. Necessary wires shall be included in the car traveling cable and shall consist of a minimum of one shielded pair of 20AWG conductors.
 - b. 120V power shall be provided to power the hands-free device.
2. The telephone shall be equipped with an auto-dialer and illuminating indicator which shall illuminate when a call has been placed and begin to flash when the call has been answered.

- a. Engraving shall be provided next to the indicator which says, "When lit help is on the way".
3. In addition to the standard "Alarm" button, a separate activation button shall be provided on the car operating panel to initiate the emergency telephone and place a call.
 - a. The telephone must not shut off if the activating button is pushed more than once.
 - b. The telephone shall transmit a pre-recorded location message only when requested by the operator and be provided with an adjustable call time which can be extended on demand by the operator.
 - c. Once two-way communication has been established, voice prompts shall be provided which instruct the operator on how to activate these functions as well as alerting the operator when a call is being attempted from another elevator in the building.
4. The system shall be compatible with ring down equipment and PBX switchboards.
5. The system shall be capable of serving as the audio output for an external voice annunciation system.
 - a. Conversation levels shall measure 60 dbA or higher and measure 10 dbA above ambient noise levels.
 - b. Each device shall be provided with a self-diagnostic capability in order to automatically alert building personnel should an operational problem be detected.
6. The phone shall be able to:
 - a. Receive incoming calls from any On-Site Rescue Station (when provided or required).
 - b. Receive incoming calls from other off-site locations via the public telephone system.
 - c. Acknowledge incoming calls and automatically establishing hands-free two way communications.
 - 1) If no On-Site Rescue Station is provided, each hands-free device shall have built in line consolidation which will allow up to six (6) elevators to be called individually from outside the building over a single telephone line and up to eighty (80) elevators if an On-Site Rescue Station is provided.
7. The emergency elevator communication system shall require a maximum of one (1) telephone line.
 - a. The system must provide line sharing capability to eliminate the need for a dedicated telephone line.
 - b. The line sharing function must ensure that the emergency telephones always receive dialing priority even if the line is in use and that the emergency telephones can be called into from an off-site location.
8. The system shall provide its own four-hour backup power supply in case of a loss of regular AC power.

9. The system must provide capability for building personnel to call into elevators and determine the charge state of any backup batteries provided for the emergency telephones.
10. Pushing the activation button in any of the elevator car stations will cause any on-site Rescue Station (where provided or required) or security telephone to ring.
 - a. If the on-site call is not picked up within thirty (30) seconds, the call will be automatically forwarded to a twenty-four (24) hour off-site monitoring service.
 - b. The arrangements and costs of the off-site monitoring and telephone line shall be by others.
11. All connections from the junction box to the telephone system shall be done by the Elevator Contractor where existing provisions can be reused.
12. New telephone lines, where required, shall be provided and interfaced by others.
13. Provide any required CAT5 or CAT6 wiring from machine rooms to LAN, Internet or Cellular modem.
14. All electrical work shall conform to Division 16 requirements.

C. Two-Way Elevator Visual Communication System

1. Contractor to provide a complete system in compliance with Section 2.27.1.1 of ASME A17.1-2019 and local amendments by the Authority Having Jurisdiction.
2. The system shall provide audio and visual communication means, with a digital display in the elevator cab and push-buttons for registering responses.
3. System shall also provide a means of observing the elevator cab interior, with full view of floor and displaying the video at the monitoring station.
4. Instructions for use shall be located adjacent to the means of activation (e.g. "PHONE" button). All instructions shall be engraved in accordance with the requirements for fixtures herein before specified. Language shall be submitted to owner for approval during the submittal phase.
5. Systems may utilize common cab components (such as Position Indicators or Door Open/Door Close buttons) where allowed by the AHJ and approved by the Owner.
6. Contractor shall include all wiring as required to provide a complete system. Where conduit runs are provided by others, contractor shall coordinate size and routing with the construction manager.
7. Monitoring stations shall be provided in each machine room, the lobby panel, and security desk. Provide a unit price alternate for additional stations.
8. System shall have ability for connection to an external line, in accordance with Code, for monitoring by a third-party provider. Coordinate with owner regarding location of outside line connection and provide adapters/converters as required to complete connection. Where subscription fees are required, they shall be included within the warranty period pricing and long-term maintenance pricing.
9. Approved Vendors: RATH® SmartView, MAD MosaicONE VMS, WURTEC Wur-Com or approved equal.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Inspection

1. Study the Contract Documents with regard to the work as specified and required so as to ensure its completeness.
2. Examine surface and conditions to which this work is to be attached or applied and notify the Owner in writing if conditions or surfaces are detrimental to the proper and expeditious installation of the work. Starting the work shall imply acceptance of the surfaces and conditions to perform the work as specified.
3. Verify, by measurements at the job site, dimensions affecting the work. Bring field dimensions which are at variance with those on the accepted shop drawings to the attention of the Owner. Obtain the decision regarding corrective measures before the start of fabrication of items affected.
4. Cooperate in the coordination and scheduling of the work of this section with the work of other sections so as not to delay job progress.

3.2 INSTALLATION / PROJECT PHASING

A. Installation

1. Modernize the elevators, using skilled personnel in strict accordance with the final accepted shop drawings and other submittals.
2. Comply with the Code, manufacturer's instructions and recommendations.
3. Coordinate work with the work of other building functions for proper time and sequence to avoid delays and to ensure right-of-way of system. Use lines and levels to ensure dimensional coordination of the work.
4. Accurately and rigidly secure supporting elements within the shaftways to the encountered construction within the tolerance established.
5. Provide and install motor, switch, control, safety and maintenance and operating devices in strict accordance with the submitted wiring diagrams and applicable Codes and regulations having jurisdiction.
6. Ensure sill-to-sill running clearances do not exceed 1 1/4 inches at all landings served.
7. Arrange door tracks and sheaves so that no metal-to-metal contact exists.
8. Reinforce hoistway fascias to allow not more than 1/2 inch of deflection.
9. Service Elevator - Install elevator cab enclosure on platform plumb and align cab entrance with hoistway entrances.
10. Service Elevator - Sound isolate cab enclosure from car structure. Allow no direct rigid connections between enclosure and car structure and between platform and car structure.
11. Isolate cab fan from canopy to minimize vibration and noise.
12. Remove oil, dirt and impurities and give a factory coat of rust inhibitive paint to all exposed surfaces of struts, hanger supports, covers, fascias, toe guards, dust covers and other ferrous metal.
13. Prehang traveling cables for at least twenty-four (24) hours with ends suitably weighted to eliminate twisting after installation.
14. Pack openings around oil line with fire resistant, sound isolating glass or mineral wool.
15. Provide isolation pad between platen head and car structure.
16. Alternate No. 1 – Set jack unit plumb in waterproof hole and bolt it to mounting channels in the pit.
17. Sound isolate pump units and controllers from building structure.
18. After installation, touch up in the field, surfaces of shop primed elements which have become scratched or damaged.

19. Lubricate operating parts of system as recommended by the manufacturer.

B. Project Phasing

1. Phase I - Final design development and contractors' preliminary work procedures to be completed within two (2) weeks from date of contract award.
 - a. Prevailing conditions review and layout.
 - b. Selection meeting for aesthetic design and finishes with Owners' designee.
 - c. Filing for required permits or other governing authorities work procedure requirements.
2. Phase II - Submittal approvals and confirmations shall be completed within six (6) weeks from date of contract award.
 - a. Selection confirmations.
 - b. Manufacturer's shop drawings applicable, i.e., fixtures, cab, machine room layouts, doors, etc.
 - c. Engineering data acknowledgment applicable, i.e., power, heat, structural loads.
 - d. Delivery dates for major component suppliers, i.e., controls, machinery, fixtures, cabs, etc.
 - e. Posting of permits or other governing agency authorizations to proceed.
 - f. Proposed work implementation schedule based on the aforementioned procedures/confirmations.
3. Phase III - Mobilization of Final Design Approvals
 - a. Revision confirmations. (Equipment, etc.)
 - b. Preliminary work procedures.
 - c. Schedule confirmations.
4. Phase IV – Implementation
 - a. Service Elevator No. 2
 - b. Passenger Elevator No. 1
5. Contractor shall provide a project schedule as part of the Bid based on the following:
 - a. Include three (3) days of simulated operation, with or without door operation, while not allowing passenger use.
 - b. Consultant punch list inspection report shall be performed after acceptance testing by the AHJ for each individual elevator.
 - c. Contractor shall complete all punch list items issued by both the AJH and the Consultant prior to turn-over for beneficial use by the Owner and removal of the next elevator for modernization.
6. Accelerated Schedule
 - a. Where extra costs for an accelerated schedule are incurred, it is mutually agreed and understood that such costs are intended as compensation for completion on or

by a mutually agreed date, and not simply for the premium-time/overtime hours worked by the Contractor.

- b. If the mutually agreed schedule is not achieved, the Contractor will not be entitled to full payment of the additional cost for the accelerated schedule. The additional charges will be diminished in direct proportion to the extent of failure to meet the mutually agreed schedule.

3.3 FIELD QUALITY CONTROL

A. Inspection and Testing

1. Upon completion of each work phase or individual elevator specified herein, the Contractor shall, at its own expense, arrange and assist with inspection and testing as may be required by the A.H.J. in order to secure a permit to operate.

B. Substantial Completion

1. The work shall be deemed "Substantially Complete" for an individual unit or group of units when, in the opinion of the Consultant, the unit is complete, such that there are no material and substantial variations from the Contract Documents, and the unit is fit for its intended purpose.
2. Governing authority testing shall be completed and approved in conjunction with inspection for operation of the unit; a certificate of operation or other required documentation issued; and remaining items mandated for final acceptance completion are limited to minor punch list work not incorporating any life safety deficiencies.
3. The issuance of a substantial completion notification shall not relieve the Contractor from its obligations hereunder to complete the work.
4. Final completion cannot be achieved until all deliverables, including but not limited to training, spare parts, manuals, and other documentation requirements, have been completed.

C. Contractor's Superintendent

1. The Contractor shall assign a competent project superintendent during the work progress and any necessary assistant, all satisfactory to the Owner. The superintendent shall represent the Contractor and all instructions given to him shall be as binding as if given to the Contractor.

3.4 PROTECTION / CLEANING

A. Protection and Cleaning

1. Adequately protect surfaces against accumulation of paint, mortar, mastic and disfiguration or discoloration and damage during shipment and installation.
2. Upon completion, remove protection from finished surfaces and thoroughly clean and polish surfaces with due regard to the type of material. Work shall be free from discoloration, scratches, dents and other surface defects.
3. The finished installation shall be free of defects.

4. Before final completion and acceptance, repair and/or replace defective work, to the satisfaction of the Owner, at no additional cost.
5. Remove tools, equipment and surplus materials from the site.

B. Barricades and Hoistway Screening

1. The Contractor shall provide barricades where necessary in order to maintain adequate protection of areas in which work specified by the Contract Documents is being performed, including open hoistway entrances. Fabrication and erection as all barricades shall be in compliance with applicable OSHA regulations.

3.5 DEMONSTRATION

A. Performance and Operating Requirements

1. Passenger elevator shall be adjusted to meet the following performance requirements:
 - a. Speed within ten percent (10%) of rated speed in the up direction under any loading condition.
 - b. Leveling: within $\pm 1/4$ inch as measured between the car entrance threshold and the landing sill on any given floor under any loading condition.
 - c. Typical Floor-to-Floor Time: (Recorded from the doors start to close on one floor until they are $3/4$ open at the next floor) under various loading conditions.

Passenger Elevator 13.25 seconds.

Service Elevator 16.75 seconds.

d. Door Operating Times

Door Type	Opening	Closing
Passenger:		
Single Speed, Center Opening	1.6 sec.	2.4 sec.
Service:		
Two-Speed, Side Opening	2.4 sec.	4.6 sec.

- e. Door dwell time for hall calls: 5.0 sec without Advance lantern signals.
- f. Door dwell time for car calls: 3.0 seconds.
- g. Reduced non-interference dwell time: 1.0 – 1.5 seconds.

2. Maintain the following ride quality requirements for the elevators:

- a. Noise levels inside the car shall not exceed the following:
 - 1) Car at rest with doors closed and fan off - 40 dba.
 - 2) Car at rest with doors closed, fan running - 55 dba.
 - 3) Car running at high speed, fan off - 50 dba.
 - 4) Door in operation - 60 dba.

B. Acceptance Testing

1. Comply with the requirements of Division 01.
2. The Contractor shall provide at least five (5) days prior written notice to the Owner and Consultant regarding the exact date on which work specified in the Contract Documents will reach completion on any single unit of vertical transportation equipment.
3. In addition to conducting whatever testing procedures may be required by local inspecting authorities in order to gain approval of the completed work, and before seeking approval of said work by the Owner, the Contractor shall perform certain other tests in the presence of the Consultant.
4. The Contractor shall provide test instruments, test weights, and qualified field labor as required to safely operate the unit under load conditions that vary from empty to full rated load and, in so doing, to successfully demonstrate compliance with applicable performance standards set forth in the project specifications with regard to:
 - a. Operation of safety devices.
 - b. Sustained high-speed velocity of the elevator in either direction of travel.
 - c. Floor-to-floor time between adjacent floors.
 - d. Floor leveling accuracy.
 - e. Door opening/closing and dwell times.
 - f. Ride quality inside the elevator car.
 - g. Communication system.
5. Upon completion of work specified in the Contract Documents on the last car in any group of elevators, and in conjunction with the aforementioned testing procedures, the Contractor shall carry out additional testing of group dispatch/supervisory control features in the presence of the Consultant.
6. The Contractor shall provide test instruments and qualified field labor as required to successfully demonstrate:
 - a. Firefighter and independent service operations.
 - b. Simulated and actual emergency power operation – Passenger Elevator.
 - c. Hydraulic Auto Lowering Operation – Service Elevator.
7. After hour tests of systems such as emergency generators, emergency power, fire service, and security systems shall be conducted at no extra cost to the Owner.

END OF SECTION 14 24 23 & 14 24 43