

CONTRACT FOR CONSTRUCTION

This Contract is by and between.

OWNER

The City of San Mateo
330 West 20th Street
San Mateo, California 94403

CONTRACTOR

On Point Construction
322 Lang Road
Burlingame, CA 94010

Owner and Contractor hereby agree as follows:

ARTICLE 1 - THE WORK

1.01 Work

- A. Work includes all labor, materials, equipment, services, and documentation necessary to construct the Project defined herein. The Work may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.
- B. The Contractor shall complete all Work as specified or indicated in the Contract Documents. The Project is generally described as follows:
 - 1. **2nd and El Camino Garage and Central Garage Elevator Modernization, and all necessary labor, materials, equipment, and appurtenances necessary to complete the work as called for in the Contract Documents.**
 - 2. The Site of the Work includes property, easements, and designated work areas described in greater detail in the Contract Documents but generally located at **95 S. El Camino Real and 315 S. Ellsworth Avenue, San Mateo, California.**

ARTICLE 2 - DEFINITIONS AND TERMINOLOGY

2.01 Defined Terms

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
 - 1. Architect: N/A
 - 2. Constituent of Concern—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. ("CERCLA"); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5501 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. ("RCRA"); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or

imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.

3. Engineer: Bureau Veritas-National Elevator Inspection Services
4. Hazardous Environmental Condition— The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
5. Resident Project Representative - The authorized representative of Owner assigned to assist Owner at the Site. As used herein, the term Resident Project Representative or “RPR” includes any assistants or field staff of Resident Project Representative. The RPR for this project is:
 - a. **Scott Ritter, Consolidated CM, Inc.**

2.02 Terminology

- A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. Intent of Certain Terms or Adjectives:
 1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Owner, Engineer, or Architect. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of any provision of the Contract Documents.
- C. Day:
 1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. Defective:
 1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or

- c. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion.
- E. Furnish, Install, Perform, Provide:
 - 1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 - 2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 - 3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 - 4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words "furnish," "install," "perform," or "provide," then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

2.03 Contract Documents Defined

- A. The Contract Documents consist of the following documents:
 - 1. This Contract.
 - 2. Notice to Bidders.
 - 3. Instructions to Bidders.
 - 4. Contractor's Bid.
 - 5. Performance bond.
 - 6. Payment bond.
 - 7. Addenda.
 - 8. Exhibits to this Contract (enumerated as follows):
 - a. **Exhibit A – Scope of Work**
 - b. **Exhibit B – Insurance Requirements for Construction Contracts.**
 - c. **Exhibit C - Specifications**
 - 9. The following which may be delivered or issued on or after the Effective Date of the Contract:
 - a. Work Change Directives.
 - b. Change Orders.

- c. Field Orders.

ARTICLE 3 - CONTRACT DOCUMENTS

3.01 Intent of Contract Documents

- A. It is the intent of the Contract Documents to describe a functionally complete project. The Contract Documents do not indicate or describe all the Work required to complete the Project. Additional details required for the correct installation of selected products are to be provided by the Contractor and coordinated with the Owner and RPR. This Contract supersedes prior negotiations, representations, and agreements, whether written or oral. The Contract Documents are complementary; what is required by one part of the Contract Documents is as binding as if required by other parts of the Contract Documents.
- B. During the performance of the Work and until final payment, Contractor and Owner shall submit all matters in question concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents to the RPR. RPR will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.
- C. RPR will render a written clarification, interpretation, or decision on the issue submitted, or initiate a modification to the Contract Documents.
- D. Contractor, and its subcontractors and suppliers, shall not have or acquire any title to or ownership rights to any of the Specifications, or other documents (including copies or electronic media editions) prepared by RPR or its consultants.

3.02 Reporting and Resolving Discrepancies

- A. Reporting Discrepancies:
 - 1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents.
 - 2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.
- B. Resolving Discrepancies:
1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
 - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).
 2. When a conflict exists between specifications or between specifications and details, the more stringent of the two shall prevail. When a conflict exists between two specifications, the more stringent of the two shall prevail.
 3. In the event of a conflict that cannot be resolved by interpreting the Contract Documents as a single, integrated document and giving effect to each provision therein, the Contract Document higher in precedence shall control and supersede the Contract Documents lower in precedence in accordance with the following listing arranged from the highest to the lowest in precedence:
 - a. Change Order.
 - b. Addenda.
 - c. Contract.
 - d. Technical Specifications included as an Exhibit to this Contract.
 - e. Owner Standard Specifications.
 - f. The provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document).
 - g. The provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).
 - h. Notice to Bidder.
 - i. Instruction to Bidder.

ARTICLE 4 - CONTRACT TIMES

4.01 Contract Times

- A. The Work will be substantially completed on or before March 1, 2024 and completed and ready for final payment on or before June 30, 2025.

4.02 Liquidated Damages

- A. Contractor and Owner recognize that time is of the essence in the performance of the Contract, and that Owner will incur damages if Contractor does not complete the Work according to the requirements of Paragraph 4.01. Because such damages for delay would be difficult and costly to determine and the parties agree that **\$500** per day is a reasonable approximation of the Owner's damages, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty) Contractor shall pay Owner **\$500** for each day that expires after the Contract Time for substantial completion.

4.03 Delays in Contractor's Progress

- A. If Owner, RPR, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Times and Contract Price. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor or their subcontractors or suppliers.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times.
- D. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor or Contractor's subcontractors or suppliers.

4.04 Progress Schedules

- A. Contractor shall develop a progress schedule and submit to the RPR for review and comment before starting Work on the Site. The Contractor shall modify the schedule in accordance with the comments provided by the RPR.
- B. The Contractor shall update and submit the progress schedule to the RPR each month. The Owner may withhold payment if the Contractor fails to submit the schedule.

ARTICLE 5 - CONTRACT PRICE

5.01 Payment

- A. Owner shall pay Contractor in accordance with the Contract Documents, the lump sum amount of **Eight Hundred Thirty Thousand dollars (\$830,000.00)** for all Work.
- B. For any additional Work authorized by Owner, Owner shall pay Contractor in an amount equal to the total of all extended prices for actual Work completed. The extended price is determined by multiplying the unit price in the **National Joint Powers Alliance - Book 3: Task**

Catalog times the actual quantity of that Work item completed. Actual quantities installed will be determined by the RPR.

ARTICLE 6 - BONDS AND INSURANCE

6.01 Bonds

- A. Before starting Work, Contractor shall furnish a performance bond and a payment bond from surety companies that are duly licensed or authorized to issue bonds in the required amounts in the jurisdiction in which the Project is located. Each bond shall be in an amount equal to the Contract Price, as security for the faithful performance and payment of all of Contractor's obligations under the Contract. These bonds shall remain in effect until the completion of the correction period specified in Paragraph 7.12 but, in any case, not less than one year after the date when final payment becomes due.
- B. Performance by Sureties. In the event of any termination, Owner shall immediately give written notice to Contractor and Contractor's sureties, and the sureties shall have the right to take over and perform the Contract, provided, however, that if the sureties, within five days after giving them notice of said termination, do not give Owner written notice of their intention to take over the performance thereof within five days after notice, Owner may take over the work and prosecute the same to completion, by contract or by any other method it may deem advisable, for the account, and at the expense of Contractor, and the sureties shall be liable to Owner for any excess cost or damages occasioned Owner thereby; and, in such event, Owner may, without liability for so doing, take possession of, and utilize in completing the work, such materials, appliances, plant and other property belonging to Contractor as may be on the site of the work and necessary therefore

6.02 Insurance

- A. The Contractor shall procure and maintain the insurance specified in the Exhibit B of this Contract for the greater of (1) the duration of the contract plus a period of **five (5)** years after completion of the Project or (2) the duration shown in Exhibit B.

ARTICLE 7 - CONTRACTOR'S RESPONSIBILITIES

7.01 Supervision and Superintendence

- A. Contractor shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, safety, and procedures of construction.
- B. Contractor shall assign a competent resident superintendent who is to be present at all times during the execution of the Work. This resident superintendent shall not be replaced without written notice to and approval by the Owner and RPR except under extraordinary circumstances.
- C. Contractor shall at all times maintain good discipline and order at the Site.
- D. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, Monday through Friday.

7.02 Other Work at the Site

- A. In addition to and apart from the Work of the Contractor, other work may occur at or adjacent to the Site. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.

7.03 Services, Materials, and Equipment

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work shall be new, of good quality and shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable supplier, except as otherwise may be provided in the Contract Documents.

7.04 Subcontractors and Suppliers

- A. Contractor may retain subcontractors and suppliers for the performance of parts of the Work acceptable to Owner, provided that no work may be performed by a subcontractor who is debarred pursuant to Labor Code Sections 1777.1 or 1777.7.

7.05 Quality Management

- A. Contractor is fully responsible for the managing quality to ensure Work is completed in accordance with the Contract Documents.

7.06 Licenses, Fees and Permits

- A. Contractor shall pay all license fees and royalties and assume all costs incident to performing the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others.
- B. Contractor shall obtain and pay for all construction permits and licenses unless otherwise provided in the Contract Documents.

7.07 Laws and Regulations; Taxes

- A. Contractor shall give all notices required by and shall comply with all local, state, and federal Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor RPR shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and RPR, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages if Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations.
- C. Contractor shall pay all applicable sales, consumer, use, and other similar taxes Contractor is required to pay in accordance with Laws and Regulations.

- D. In accordance with Public Contract Code Section 7103.5, the contractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time the awarding body tenders final payment to the contractor, without further acknowledgment by the parties.
- E. Contractor shall give notice of hazardous materials and certain changed conditions in jobs involving trenching more than four feet deep.
- F. In accordance with Labor Code Section 1773.2, contractor will make travel and subsistence payments as required by statute.
- G. In accordance with Labor Code Section 1771, contractor must pay prevailing wages. The prevailing wage scale as determined by the Director of Industrial Relations of the State of California, in force on the day the bid was announced, will be the minimum paid to all craftsmen and laborers working on this project. Contractor shall also require any subcontractors who work or provide any services related to the project to pay all persons performing labor or rendering service under said subcontract or other arrangement at least the general prevailing rate of wages, determined as set forth herein for the respective crafts and employments, including such wages for holiday and overtime work. A copy of the correct determination will be posted at the job site. It is understood that it is the responsibility of Contractor to determine the correct scale. Copies of the prevailing wage rates are on file at the City Clerk's office; however, errors or defects in the materials in the City Clerk's office will not excuse a bidder's failure to comply with the actual scale then in force. In accordance with Labor Code Section 1775, the statutory provisions for failure to pay prevailing wages will be enforced.
- H. In accordance with Labor Code Section 1776, contractor must comply with the statutory requirements relating to certified copies of payroll records.
- I. In accordance with Labor Code Section 1777.5, contractor must comply with the statutory requirements relating to the employment of apprentices.
- J. In accordance with Labor Code Section 1810, eight hours labor constitutes a legal day's work. Contractor shall not require more than eight hours' labor in a day and 40 hours in a calendar week from any person employed by Contractor in the performance of such work unless such excess work is compensated for at not less than one and one-half times the basic rate of pay. Contractor shall forfeit as a penalty to Owner the sum of \$25.00 for each laborer, workman, or mechanic employed in the execution of this contract by Contractor, or by any subcontractor, for each calendar day during which such laborer, workman, or mechanic is required or permitted to labor more than eight hours in any calendar day and 40 hours in any one calendar week in violation of the provisions of Section 1810 and 1816, inclusive, of the Labor Code of the State of California.
- K. In accordance with Labor Code Section 1813, the statutory provisions for penalties for failure to comply with wage and hour laws will be enforced.
- L. In accordance with Labor Code Section 1860, the contractor must secure the payment of workers' compensation to its employees.

- M. In accordance with Labor Code Section 6705, the contractor must submit a detailed plan of the shoring and bracing for trenches five feet deep or more for contracts in excess of \$25,000.
- N. In accordance with Labor Code Sections 1725.5 and 1771.1, all contractors and subcontractors must be registered with the Department of Industrial Relations. In accordance with Labor Code Section 1771.4, the contractor must post job site notices as required by regulation and this project will be subject to compliance monitoring and enforcement by the Department of Industrial Relations.

7.08 Record Documents

- A. Contractor shall maintain one printed record copy of all Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved shop drawings in a safe place at the Site. Contractor shall annotate them to show changes made during construction. Contractor shall deliver these record documents to RPR upon completion of the Work.

7.09 Safety and Protection

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work.
- B. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. All persons on the Site or who may be affected by the Work;
 - 2. All the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. Other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and underground facilities not designated for removal, relocation, or replacement in the course of construction.
- C. All damage, injury, or loss to any property caused, directly or indirectly, in whole or in part, by Contractor, or anyone for whose acts the Contractor may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Contract Documents or to the acts or omissions of Owner or RPR and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor).
- D. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.
- E. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor shall act to prevent threatened damage, injury, or loss. Contractor shall give RPR prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If RPR determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

7.10 Shop Drawings, Samples, and Other Submittals

- A. Contractor shall review and coordinate the shop drawing and samples with the requirements of the Work and the Contract Documents and shall verify all related field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information.
- B. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that submittal, and that Contractor approves the submittal.
- C. With each submittal, Contractor shall give RPR specific written notice, in a communication separate from the submittal, of any variations that the shop drawing or sample may have from the requirements of the Contract Documents.
- D. RPR will provide timely review of shop drawings and samples.
- E. RPR's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs.
- F. RPR's review and approval of a separate item does not indicate approval of the assembly in which the item functions.
- G. Contractor shall make corrections required by RPR and shall return the required number of corrected copies of shop drawings and submit, as required, new samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by RPR on previous submittals.
- H. Shop drawings are not Contract Documents.

7.11 Warranties and Guarantees

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. RPR and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.

7.12 Correction Period

- A. If within one year after the date of substantial completion, any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly and without cost to Owner, correct such defective Work.

7.13 Indemnification

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and RPR, and the officials, employees, and agents, of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of RPR, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work. Contractor will defend Owner, its elected and appointed officials, employees, and agents against any such claims. However, this provision does not apply to claims, loss,

liability, damage, or expense arising from the active negligence, sole negligence or willful misconduct of the Owner.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.01 Owner's Responsibilities

- A. Except as otherwise provided in the Contract Documents, Owner shall issue all communications to Contractor through RPR.
- B. Owner shall make payments to Contractor as provided in this Contract.
- C. Owner shall provide Site and easements required to construct the Project.
- D. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, unless stated elsewhere in the Contract Documents, Owner shall have sole authority and responsibility for such coordination.
- E. The Owner shall be responsible for performing inspections and tests required by applicable codes.
- F. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- G. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
- H. Owner shall furnish copies of any applicable Owner safety programs to Contractor.
- I. In accordance with Public Contract Code Section 9201, Owner shall give contractor timely notification of the receipt of any third-party claims relating to the contract.

ARTICLE 9 - RPR'S STATUS DURING CONSTRUCTION

9.01 RPR's Status

- A. RPR will be Owner's representative during construction. The duties and responsibilities and the limitations of authority of RPR as Owner's representative during construction are set forth in this Contract.
- B. Neither RPR's authority or responsibility under this Article 9 or under any other provision of the Contract, nor any decision made by RPR in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by RPR, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by RPR to Contractor, any subcontractor, any supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
- C. RPR will make visits to the Site at intervals appropriate to the various stages of construction. RPR will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work.

- D. RPR has the authority to reject Work if Contractor fails to perform Work in accordance with the Contract Documents.
- E. RPR will render decisions regarding the requirements of the Contract Documents and judge the acceptability of the Work.
- F. RPR will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. RPR will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

ARTICLE 10 - CHANGES IN THE WORK

10.01 Authority to Change the Work

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work.

10.02 Change Orders

- A. Owner and Contractor shall execute appropriate Change Orders covering:
 - 1. Changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 - 2. Changes in the Work which are: (a) ordered by Owner or (b) agreed to by the parties or (c) resulting from the RPR's decision, subject to the need for RPR's recommendation if the change in the Work involves the design (as set forth in the Specifications, or otherwise), or other engineering or technical matters; and
 - 3. Changes in the Contract Price or Contract Times or other changes which embody the substance of any final binding results under Article 12.
- B. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 11 - DIFFERING SUBSURFACE OR PHYSICAL CONDITIONS

11.01 Differing Conditions Process

- A. If Contractor believes that any subsurface or physical condition including but not limited to utilities or other underground facilities that are uncovered or revealed at the Site either differs materially from that shown or indicated in the Contract Documents or is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in Work of the character provided for in the Contract Documents then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency), notify Owner and RPR in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with

respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. After receipt of written notice, RPR will promptly:
 - 1. Review the subsurface or physical condition in question;
 - 2. Determine necessity for Owner obtaining additional exploration or tests with respect to the condition;
 - 3. Determine whether the condition falls within the differing site condition as stated herein;
 - 4. Obtain any pertinent cost or schedule information from Contractor;
 - 5. Prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Specifications; and
 - 6. Advise Owner in writing of RPR's findings, conclusions, and recommendations.
- C. After receipt of RPR's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Specifications will be made, and adopting or rejecting RPR's written findings, conclusions, and recommendations, in whole or in part.

ARTICLE 12 - CLAIMS AND DISPUTE RESOLUTION

12.01 Claims Process

- A. The party submitting a claim shall deliver it directly to the other party to the Contract and the RPR promptly (but in no event later than 10 days) after the start of the event giving rise thereto.
- B. The party receiving a claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the claim through the exchange of information and direct negotiations. All actions taken on a claim shall be stated in writing and submitted to the other party.
- C. If efforts to resolve a claim are not successful, the party receiving the claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the claim within 45 days, the claim is deemed denied.
- D. If the dispute is not resolved to the satisfaction of the parties, Owner or Contractor shall give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction unless the Owner and Contractor both agree to an alternative dispute resolution process.

12.02 Mediation

Should any dispute arise out of this Contract, any party may request that it be submitted to mediation. The parties shall meet in mediation within 30 days of a request. The mediator shall be agreed to by the mediating parties; in the absence of an agreement, the parties shall each submit one name from mediators listed by the American Arbitration Association, the California State Board of Mediation and Conciliation, or other agreed-upon service. The mediator shall be

selected by a blind draw. The cost of mediation shall be borne equally by the parties. Neither party shall be deemed the prevailing party. No party shall be permitted to file a legal action without first meeting in mediation and making a good faith attempt to reach a mediated settlement. The mediation process, once commenced by a meeting with the mediator, shall last until agreement is reached by the parties but not more than 60 days, unless the maximum time is extended by the parties.

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION OF DEFECTIVE WORK

13.01 Tests and Inspections

- A. Owner and RPR will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access.
- B. Contractor shall give RPR timely notice of readiness of the Work for all required inspections and tests and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- C. If any Work that is to be inspected, tested, or approved is covered by Contractor without written concurrence of RPR, Contractor shall, if requested by RPR, uncover such Work for observation. Such uncovering shall be at Contractor's expense.

13.02 Defective Work

- A. Contractor shall ensure that the Work is not defective.
- B. RPR has the authority to determine whether Work is defective, and to reject defective Work.
- C. Prompt notice of all defective Work of which Owner or RPR has actual knowledge will be given to Contractor.
- D. The Contractor shall promptly correct all such defective Work.
- E. When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. If the Work is defective or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated.

ARTICLE 14 - PAYMENTS TO CONTRACTOR

14.01 Progress Payments

- A. The Contractor shall prepare a schedule of values that will serve as the basis for progress payments. The schedule of values will be in a form of application for payment acceptable to RPR. The unit price breakdown submitted with the bid will be used for unit price work. Break lump sum items into units that will allow for measurement of Work in progress.

14.02 Applications for Payments:

- A. Contractor shall submit an application for payment in a form acceptable to the RPR, no more frequently than monthly, to RPR. Applications for payment will be prepared and signed by

Contractor. Contractor shall provide supporting documentation required by the Contract Documents. Payment will be paid for Work completed as of the date of the application for payment.

- B. Beginning with the second application for payment, each application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior applications for payment.

14.03 Retainage

- A. The Owner shall retain 5% of each progress payment until the Work is substantially complete.

14.04 Review of Applications

- A. Within 10 days after receipt of each application for payment, the RPR will either indicate in writing a recommendation for payment and present the application for payment to Owner or return the application for payment to Contractor indicating in writing RPR's reasons for refusing to recommend payment. The Contractor will make the necessary corrections and resubmit the application for payment.
- B. RPR will recommend reductions in payment (set-offs) which, in the opinion of the RPR, are necessary to protect Owner from loss because the Work is defective and requires correction or replacement.
- C. The Owner is entitled to impose set-offs against payment based on any claims that have been made against Owner on account of Contractor's conduct in the performance of the Work, incurred costs, losses, or damages on account of Contractor's conduct in the performance of the Work, or liquidated damages that have accrued as a result of Contractor's failure to complete the Work.

14.05 Contractor's Warranty of Title

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

14.06 Substantial Completion

- A. The Contractor shall notify Owner and RPR in writing that the Work is substantially complete and request the RPR issue a certificate of substantial completion when Contractor considers the Work ready for its intended use. Contractor shall at the same time submit to Owner and RPR an initial draft of punch list items to be completed or corrected before final payment.
- B. RPR will make an inspection of the Work with the Owner and Contractor to determine the status of completion. If RPR does not consider the Work substantially complete, RPR will notify Contractor and Owner in writing giving the reasons therefor.
- C. If RPR considers the Work substantially complete or upon resolution of all reasons for non-issuance of a certificate identified in 14.06.B, RPR will deliver to Owner a certificate of substantial completion which shall fix the date of substantial completion and include a punch list of items to be completed or corrected before final payment.

14.07 Final Inspection

- A. Upon written notice from Contractor that the entire Work is complete, RPR will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.08 Final Payment

- A. Contractor may make application for final payment after Contractor has satisfactorily completed all Work defined in the Contract, including providing all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents and other documents.
- B. The final application for payment shall be accompanied (except as previously delivered) by:
 - 1. All documentation called for in the Contract Documents;
 - 2. Consent of the surety to final payment;
 - 3. Satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any liens or other title defects, or will so pass upon final payment;
 - 4. A list of all disputes that Contractor believes are unsettled; and
 - 5. Complete and legally effective releases or waivers (satisfactory to Owner) of all lien rights arising out of the Work, and of liens filed in connection with the Work.
- C. The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the RPR's written recommendation of final payment.

14.09 Waiver of Claims

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 Owner May Suspend Work

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 60 consecutive days by written notice to Contractor and RPR. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension.

15.02 Owner May Terminate for Cause

- A. Contractor's failure to perform the Work in accordance with the Contract Documents or other failure to comply with a material term of the Contract Documents will constitute a default by Contractor and justify termination for cause.

- B. If Contractor defaults in its obligations, then after giving Contractor and any surety ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:
 - 1. Declare Contractor to be in default, and give Contractor and any surety notice that the Contract is terminated; and
 - 2. Enforce the rights available to Owner under any applicable performance bond.
- C. Owner may not proceed with termination of the Contract under Paragraph 15.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- D. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- E. In the case of a termination for cause, if the cost to complete the Work, including related claims, costs, losses, and damages, exceeds the unpaid contract balance, Contractor shall pay the difference to Owner.

15.03 Owner May Terminate for Convenience

- A. Upon seven days written notice to Contractor, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for, without duplication of any items:
 - 1. Completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. Expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 - 3. Other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

ARTICLE 16 - CONTRACTOR'S REPRESENTATIONS

16.01 Contractor Representations

- A. Contractor makes the following representations when entering into this Contract:
 - 1. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.
 - 2. Contractor has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

3. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
4. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and specifications identified in the Contract Documents, with respect to the effect of such information, observations, and documents on:
 - a. The cost, progress, and performance of the Work;
 - b. The means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and
 - c. Contractor's safety precautions and programs.
5. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
6. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
7. Contractor has given RPR written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by RPR is acceptable to Contractor.
8. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
9. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that, without exception, all prices in the Contract are premised upon performing and furnishing the Work required by the Contract Documents.

ARTICLE 17 - MISCELLANEOUS

17.01 Cumulative Remedies

- A. The duties and obligations imposed by this Contract and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.02 Limitation of Damages

- A. Neither Owner, RPR, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

17.03 No Waiver

- A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

17.04 Survival of Obligations

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 Contractor's Certifications

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract.

17.06 Controlling Law and Venue

- A. This Contract is to be governed by the law of the state of California and, in the event of litigation, venue will be in the County of San Mateo.

17.07 Notices

- A. All notices shall be in writing, and delivered in person, or transmitted by certified mail, postage prepaid. Notices required to be given to Owner or Contractor shall be addressed as appears in the signature block at the end of this Contract.

17.08 No Partnership or Agency

- A. Nothing in this Contract nor in the contract documents shall be deemed to constitute a partnership in law between Owner and Contractor, or any subcontractor, to constitute either party as an agent of the other for any purpose; or to entitle either party to commit or bind the other in any manner unless expressly agreed upon in the contract documents.

17.09 Severability

- A. If any part or provision of the contract documents is determined by any court to be illegal, invalid, or unenforceable, in whole or in part, the contract documents shall continue to be valid as to its other provisions and the remainder of the affected provision, unless it can be concluded from the circumstances that, in the absence of the provisions found to be null and void, the parties would not have entered into the contract documents. The parties shall use all reasonable efforts to replace any and all provisions or parts found to be null and void with provisions that are valid under the applicable law and come closest to their original intention.

17.10 Waiver

- A. None of the following shall operate as a waiver of any provision of the contract documents, or of any power herein reserved by the Owner, or any right to damages herein provided: 1) inspection by the Owner or its authorized agents or representatives; 2) any order or certificate for payment, or any payment for, or acceptance of the whole or any part of the work by the Owner; 3) an extension of time; or 4) any position taken by the Owner or its authorized agents or representatives.

17.11 Warranty

- A. Contractor warrants and guarantees that the materials and equipment provided shall be at least of the quality specified and new unless otherwise required or permitted by the contract documents and, if no quality is specified, then the materials and equipment shall be of commercial grade, suitable for heavy public use in facilities of similar size and complexity,, that the work performed hereunder will be free from defects, and that the work will conform to the requirements of the contract documents.

IN WITNESS WHEREOF, Owner and Contractor have signed this Contract.

This Contract will be effective on _____ (which is the Effective Date of the Contract).

OWNER: City of San Mateo

CONTRACTOR: On Point Construction

By: Brad B. Underwood

By: Emmanuel Koutantos

Title: Public Works Director

Title: President

By:

Title:

Address for giving notices:

330 West 20th Avenue

322 Lang Road

San Mateo, CA 94403

Burlingame, CA 94010

License No.: 949627

(where applicable)

APPROVED AS TO FORM

Linh Nguyen, Asst. City Attorney

EXHIBIT A
SCOPE OF WORK

Elevator Scope

Elevator scope of work is described in the technical specifications section 14250 of the contract documents.

General Contracting Scope

Related general construction in support of this elevator modernization project is:

- 1) All work in technical specifications section 14250 in support of the elevator contractor.
- 2) Fencing for laydown area. City has designated 10 parking spaces at the lowest level of each parking structure for contractor laydown. This area must be fenced off and gated to provide security for contractor parking and elevator materials during the course of the project. Approximately 140 LF of chain link fence, floor to ceiling, will be needed to secure each area.
- 3) Paint exterior of elevator doors and frames at each landing. Color to be approved by Owner.
- 4) At 2nd/El Camino Garage: Remove and replace existing diamond plate expansion joint cover plates at each landing with flat diamond plate or a lower profile threshold of no more than ½ inch high with tapered approaches. Attach new threshold to structure. Please note the following:
 - a. Parking garage slabs are post tensioned, post tensioned cables must be located and avoided, prior to drilling into the slab.
 - b. Expansion joints are approximately 4 feet in front of the elevator doors on each floor.

EXHIBIT B
INSURANCE REQUIREMENTS FOR CONSTRUCTION CONTRACTS

ARTICLE 1 - MINIMUM SCOPE AND LIMIT OF INSURANCE

- 1.01 Contractor shall procure and maintain for the duration of the contract, *and for five (5) years thereafter*, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees, or subcontractors.
- 1.02 Coverage shall be at least as broad as:
- A. **Commercial General Liability (CGL):** Insurance Services Office (ISO) Form CG 00 01 covering CGL on an “occurrence” basis, including products and completed operations, property damage, bodily injury and personal & advertising injury with limits no less than **\$5,000,000** per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be twice the required occurrence limit.
 - B. **Automobile Liability:** Insurance Services Office Form CA 0001 covering Code 1 (any auto), with limits no less than **\$5,000,000** per accident for bodily injury and property damage.
 - C. **Workers’ Compensation** insurance as required by the State of California, with Statutory Limits, and Employers’ Liability insurance with a limit of no less than \$1,000,000 per accident for bodily injury or disease.
 - D. **Builder’s Risk** (Course of Construction) insurance utilizing an “All Risk” (Special Perils) coverage form, with limits equal to the completed value of the project and no coinsurance penalty provisions.
 - E. **Surety Bonds** as described below.
 - F. **Professional Liability** (if Design/Build), with limits no less than \$2,000,000 per occurrence or claim, and \$2,000,000 policy aggregate.
 - G. **Contractors’ Pollution Legal Liability** and/or Asbestos Legal Liability and/or Errors and Omissions (if project involves environmental hazards) with limits no less than \$1,000,000 per occurrence or claim, and \$2,000,000 policy aggregate.
- 1.03 If the contractor maintains broader coverage and/or higher limits than the minimums shown above, the City requires and shall be entitled to the broader coverage and/or the higher limits maintained by the contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the City.
- 1.04 Self-Insured Retentions. Self-insured retentions must be declared to and approved by the City. At the option of the City, either: the contractor shall cause the insurer shall to reduce or eliminate such self-insured retentions as respects the City, its officers, officials, employees, and volunteers; or the Contractor shall provide a financial guarantee satisfactory to the City guaranteeing payment of losses and related investigations, claim administration, and defense expenses. The policy language shall

provide, or be endorsed to provide, that the self-insured retention may be satisfied by either the named insured or City.

ARTICLE 2 - OTHER INSURANCE PROVISIONS

2.01 The insurance policies are to contain, or be endorsed to contain, the following provisions:

- A. **The City, its officers, officials, employees, and volunteers are to be covered as additional insureds** on the CGL policy with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts, or equipment furnished in connection with such work or operations and automobiles owned, leased, hired, or borrowed by or on behalf of the Contractor. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance (at least as broad as ISO Form CG 20 10, CG 11 85 or **both** CG 20 10, CG 20 26, CG 20 33, or CG 20 38; **and** CG 20 37 forms if later revisions used).
- B. For any claims related to this project, the **Contractor's insurance coverage shall be primary** insurance coverage at least as broad as ISO CG 20 01 04 13 as respects the City, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by the City, its officers, officials, employees, or volunteers shall be excess of the Contractor's insurance and shall not contribute with it.
- C. Each insurance policy required by this clause shall provide that coverage shall not be canceled, except with notice to the City.

2.02 Builder's Risk (Course of Construction) Insurance

- A. Contractor may submit evidence of Builder's Risk insurance in the form of Course of Construction coverage. Such coverage shall **name the City as a loss payee** as their interest may appear.
- B. If the project does not involve new or major reconstruction, at the option of the City, an Installation Floater may be acceptable. For such projects, a Property Installation Floater shall be obtained that provides for the improvement, remodel, modification, alteration, conversion or adjustment to existing buildings, structures, processes, machinery and equipment. The Property Installation Floater shall provide property damage coverage for any building, structure, machinery or equipment damaged, impaired, broken, or destroyed during the performance of the Work, including during transit, installation, and testing at the City's site.

2.03 Claims Made Policies

- A. If any coverage required is written on a claims-made coverage form:
 - 1. The retroactive date must be shown, and this date must be before the execution date of the contract or the beginning of contract work.
 - 2. Insurance must be maintained, and evidence of insurance must be provided, for at least five (5) years after completion of contract work.
 - 3. If coverage is cancelled or non-renewed, and not replaced with another claims-made policy form with a retroactive date prior to the contract effective, or start of work date, the Contractor must purchase extended reporting period coverage for a minimum of five (5) years after completion of contract work.

4. A copy of the claims reporting requirements must be submitted to the City for review.
5. If the services involve lead-based paint or asbestos identification/remediation, the Contractors Pollution Liability policy shall not contain lead-based paint or asbestos exclusions. If the services involve mold identification/remediation, the Contractors Pollution Liability policy shall not contain a mold exclusion, and the definition of Pollution shall include microbial matter, including mold.

2.04 Acceptability of Insurers

- A. Insurance is to be placed with insurers authorized to conduct business in the state with a current A.M. Best rating of no less than A: VII, unless otherwise acceptable to the City.

2.05 Waiver of Subrogation

- A. **Contractor hereby agrees to waive rights of subrogation which any insurer of Contractor may acquire** from Contractor by virtue of the payment of any loss. Contractor agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation. **The Workers' Compensation policy shall be endorsed with a waiver of subrogation** in favor of the City for all work performed by the Contractor, its employees, agents and subcontractors.

2.06 Verification of Coverage

- A. Contractor shall furnish the City with original Certificates of Insurance including all required amendatory endorsements (or copies of the applicable policy language effecting coverage required by this clause) and a copy of the Declarations and Endorsement Page of the CGL policy listing all policy endorsements to City before work begins. However, failure to obtain the required documents prior to the work beginning shall not waive the Contractor's obligation to provide them. The City reserves the right to require complete, certified copies of all required insurance policies, including endorsements, required by these specifications, at any time.

2.07 Subcontractors

- A. Contractor shall require and verify that all subcontractors maintain insurance meeting all requirements stated herein, and Contractor shall ensure that City is an additional insured on insurance required from subcontractors. For CGL coverage, subcontractors shall provide coverage with a form at least as broad as CG 20 38 04 13.

2.08 Surety Bonds.

- A. Contractor shall provide the following Surety Bonds:
 1. Performance Bond
 2. Payment Bond
 3. Maintenance Bond
- B. The Payment Bond and the Performance Bond shall be in a sum equal to the contract price. If the Performance Bond provides for a one-year warranty a separate Maintenance Bond is not necessary. If the warranty period specified in the contract is for longer than one year a Maintenance Bond equal to 10% of the contract price is required. Bonds shall be duly executed by a responsible corporate surety, authorized to issue such bonds in the State of California and secured through an authorized agent with an office in California.

2.09 Special Risks or Circumstances.

- A. City reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other circumstances.

EXHIBIT C
SPECIFICATIONS

City of San Mateo



Contract Book – Volume 2
**2nd and El Camino Garage
Elevator Modernization**
City Project No. 46F035

Technical Specifications

October 26, 2023

SECTION 14250 – ELEVATOR MODERNIZATION

PART 1 – GENERAL

1.1 WORK INCLUDED

- A. Improve one (1) hydraulic elevator at 2nd and El Camino Real Parking Garage, 95 S. El Camino Real, San Mateo, CA 94401.
- B. All engineering, equipment, labor, and permits required to satisfactorily complete elevator modernization required by Contract Documents.
- C. Applicable conditions of General, Special, and Supplemental Conditions and all sections listed in Contract Documents.
- D. Cartage and Hoisting: All required staging, hoisting and movement to, on and from the site including new equipment, reused equipment, or dismantling and removal of existing equipment.
- E. Provide new equipment unless equipment is specifically identified as “Retain,” or “Refurbish.”
- F. Removal and lawful disposal of any existing equipment not specifically being re-used in the elevator modernization.

1.2 RELATED WORK BY CONTRACTOR

- A. Hoistway and Pit:
 - 1. Wall blockouts and fire rated closure for control and signal fixture boxes which penetrate walls.
 - 2. Cutting and patching walls and floors.
 - 3. Opening in hoistway wall or pit wall for hydraulic piping. Trench and back fill underground piping.
 - 4. Pit access stationary ladder for each elevator. Retractable ladder if provided shall include an electrical contact conforming to ASME A17.1, Rule 2.2.2.4.2.7.
 - 5. Protect car enclosure, hoistway entrance assemblies, and special metal finishes from damage.
 - 6. Paint pit floor. Floors to be painted deck gray. Floor paint to be high impact resistant epoxy based.
 - 7. Hole in pit floor, 3'-0" square, to facilitate installation of protective secondary containment casing by Elevator Contractor. Fill hole with concrete after jack installation. Seal pit with non-permeable epoxy.

B. Machine Room and Machinery Spaces:

1. Ventilation and heating. Maintain minimum temperature of 55° F, maximum 90° F. Maintain maximum 80% relative humidity, non-condensing.
2. Paint floor. Floors to be painted deck gray. Floor paint to be high impact resistant epoxy based.
3. Fire sprinkler removal or installation where required.
4. Coordinate secondary containment of pump unit oil reservoir with elevator contractor.

C. Electrical Service, Conductors and Devices:

1. Lighting and GFCI convenience outlets in pit, machine room, and overhead machinery spaces. Provide one additional non-GFCI convenience outlet in pit for sump pump and oil return pump.
2. Three-phase mainline copper power feeder with true earthen grounding to terminals of each elevator controller in the machine room with protected, lockable "open" disconnecting means with auxiliary contacts to allow Elevator Contractor to electronically interlock battery power lowering unit.
3. Provide lighting fixtures in machine room that are above existing controllers to provide 19 fc of illumination throughout the machine room.
4. Replace existing unguarded lighting in each pit with guarded fluorescent lighting to provide 10 fc of illumination throughout the pit. Lighting should be mounted lower than the current position so that the new extended 48" toe guard installed on the elevator cabs does not strike the new lighting. Install 4' dual bulb led light.
5. Install GFCI convenience outlets in pit and machine room.
6. Single-phase copper power feeder to each elevator controller for car lighting and exhaust blower with individual protected, lockable "open" disconnecting means located in machine room.
7. Emergency telephone line to designated elevator control panel in elevator machine room.
8. Fire alarm initiating devices in each elevator lobby for each group of elevators or single elevator and each machine room to initiate firefighters' return feature. Device at top of hoistway if sprinklered. Provide alarm initiating signal wiring from hoistway or machine room connection point to elevator controller terminals. Device in machine room and at top of hoistway to provide signal for general alarm and discrete signal for Phase II firefighters' operation.
9. Temporary power and illumination to install, test, and adjust elevator equipment.
10. Means to automatically disconnect power to affected elevator pump unit and controller prior to activation of machine room fire sprinkler system and/or hoistway fire sprinkler system. Manual shut-off means shall be located outside bounds of machine room.
11. When sprinklers are provided in the hoistway all electrical equipment located less than 4'-0" above the pit floor shall be identified for use in wet locations. Exception: seismic protection devices.
12. Single-phase power feeders to firefighters' control panel.
13. Single-phase power feeder to elevator intercom amplifier in the elevator machine room.

1.3 DEFINITIONS

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

1.4 QUALITY ASSURANCE

- A. Qualified and Approved Contractors: Alternate Contractors must receive approval of Purchaser and or Consultant at least 14 calendar days prior to bid date.
 - 1. Control Systems: OEM, Motion Control Engineering (MCE), Smartrise Engineering, Elevator Controls.
 - 2. Hydraulic Power Unit and Accessories: OEM, MEI, Canton.
 - 3. Door Operator Equipment: ECI VF2500, GAL MOVFR, OEM linear.
 - 4. Signal Fixtures: Innovation Industries, OEM.
- B. Warranty:
 - 1. Contractor shall warrant the equipment installed under the specifications against defect in material and quality of installation and correct any defects, unless due to unordinary wear and tear or improper use or care by Purchaser.
 - a. Defective is defined to include, but not limited to; operational system failures, car performance, unusual degradation of materials or finishes, unsafe conditions, the need for excessive maintenance, unusual wear, abnormal noise or vibration, and related unsatisfactory conditions.
 - b. Retained Equipment: All retained equipment and components shall be checked and cleaned or repaired to be suitable for reuse and covered under preventative maintenance by the Contractor. All retained equipment shall integrate with newly installed systems.
 - c. Modify or adjust equipment to meet performance requirements of Contract Documents.

1.5 APPLICABLE CODES

- A. Work specified by the Contract Documents shall be in compliance with applicable Federal, State, and municipal codes and ordinances in effect at the time of Contract execution. Requirements of the Authority Having Jurisdiction shall be completed by the Contractor and Subcontractors. The entire alteration, when completed shall Comply with most stringent applicable provisions

of following Codes, laws, and/or Authorities, including revisions and changes in effect:

1. Safety Code for Elevators and Escalators, ASME A17.1
2. Guide for Inspection of Elevators, Escalators, and Moving Walks, ASME A17.2
3. Elevator and Escalator Electrical Equipment, ASME A17.5
4. National Electrical Code, NFPA 70
5. Americans with Disabilities Act, ADA
6. Uniform Federal Accessibility Standard, UFAS
7. Local Fire Authority
8. Requirements of most stringent provision of local applicable building code within the governing jurisdiction.
9. Life Safety Code, NFPA 101.
10. California Accessibility Standards, Title 24 Chapter 11b.
11. California Code of Regulations Title 8 and California Building Code Title 24

B. Abbreviated symbols

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
IBC	International Building Code
IEEE	Institute of Electrical and Electronics Engineers
NEC	National Electric Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protections Agency
OSHA	Occupational Safety and Health Act

1.6 DOCUMENT AND SITE VERIFICATION

- A. Submission of a bid will be considered evidence that the bidder has made themselves fully aware of the Contract requirements, scope of work, building access, related work required by other trades, existing equipment, as well as any requirements of the local authority, manpower requirements and has made proper allowance for all contingencies.
- B. Any discrepancies, omissions or items requiring clarification found by bidders in the Contract Documents shall be submitted in writing directly to the Consultant for clarification. All bidders will be notified of clarifications in writing.

- C. Contractor shall be responsible for verifying all dimensions, data and site conditions.

1.7 SUBMITTALS

- A. Prior to beginning equipment fabrication, submit shop drawings and required material samples for review. Allow 15 days for response to initial submittal and include the following:
 - 1. Power Confirmation Information: Design for existing conditions.
 - 2. Fixture drawings.
- B. Acknowledge and/or respond to review comments within 10 calendar days of return. Incorporate required changes so that delivery and installation schedules are not affected.

- C. Approval of the drawings and cuts by Owner's designee 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.
- D. Submittal review shall not be construed as an indication that submittal is correct or suitable, or that the work represented by submittal complies with the Contract Documents.

1.8 PERMIT, TEST AND INSPECTION

- A. Obtain and pay for permit, license, and inspection fee necessary to complete installation.
- B. Perform test required by Governing Authority in accordance with procedure described in ASME A17.2 Guide for Inspection of Elevators, Escalators, and Moving Walks in the presence of Authorized Representative.
- C. Supply personnel and equipment for test and final review by Consultant.

1.9 MAINTENANCE

- A. Warranty Maintenance:
 - 1. Provide preventive maintenance and 24-hour emergency callback service for one year commencing on date of final acceptance by Purchaser. Final acceptance shall be in writing and after the final inspection is turned over by the AHJ. Monthly, examine, adjust, clean, and lubricate all equipment. Repair or replace defective parts using parts produced by the Contractor of installed equipment. Maintain elevator machine room, hoistway, and pit in clean condition.
 - 2. Use licensed and competent personnel, acceptable to Purchaser.
 - 3. The warranty maintenance period specified above shall be extended one (1) month for each three (3) month period in which equipment related failures average more than .25 per unit per month.
 - 4. Purchaser retains the option to delete cost of warranty maintenance from new equipment contract and remit twelve (12) equal installments directly to Contractor during period in which maintenance is being performed.
 - 5. The Elevator Contractor shall contact ownership approximately two months prior to the end of the contract term. The Owner will make a thorough maintenance inspection of all elevators covered under the contract. At the conclusion of this inspection, the Owners shall give the Contractor written notice of any deficiencies found. The contractor shall be responsible for correction of these deficiencies within thirty days after receipt of such notice.
- B. Interim Maintenance:
 - 1. Provide pro-active preventive maintenance service with 24-hour service on elevators described herein for a period from notice to proceed, verbal or written, until each unit is removed from building service for modernization. 24-hour service begins when the first car is removed from service in occupied buildings. In addition, furnish interim preventive

maintenance on completed units until the modernization of each group of elevators is complete and one-year warranty maintenance, defined in Item 1.02 below, is commenced. Cost of interim maintenance shall not be included as part of modernization quotation. Indicate costs on a per-unit basis for interim maintenance as requested on quotation form.

Costs for interim maintenance shall be paid by Purchaser separately and monthly based upon the number of units in service. Perform interim maintenance based upon terms and conditions of owners contract.

2. Use licensed and competent personnel, acceptable to Purchaser.
3. Provide interim maintenance in accordance with City of San Mateo contract

C. Preventive Maintenance

1. Use licensed and competent personnel, acceptable to Purchaser.
2. Maintenance shall include systematic examination, adjustment and lubrication of all equipment, including repair and replacement of electrical and mechanical parts of the system.
3. Adequate stock of spare parts for emergency callbacks shall be stored onsite.
4. Additional parts or equipment required for maintenance and repair of the system shall be available within 4 hours of the project site. Other items not normally stocked must be available within 24 hours for delivery. Overnight charges are the responsibility of the Contractor.
- .
5. Provide preventive maintenance in accordance with City of San Mateo contract.

PART 2 - PRODUCTS

2.1 SUMMARY

- A. Elevator 1
- B. Provide New, Alter, or Retain as required below.

State ID: elev. 1: 59503	R = Retain N = New A = Alter N/A = Not Applicable	
SPEED:	150 FPM	R
CAPACITY:	2500 lbs.	R
ENTRANCE SIZE:	42"x 84" SSSO	R
STOPS/LANDINGS	5	R

2ND AND EL CAMINO GARAGE
CENTRAL GARAGE
ELEVATOR MODERNIZATION
CITY PROJECT NUMBER 46F035

CONTROLS:	MCE 1000	N
ENCODER:	Digital	N
PUMP UNIT:	Submersible	N
HOISTWAY EQUIPMENT (BUFFERS AND PIT EQUIPMENT):		R/N
CAR SLING:		R
ROLLER GUIDES:		N
PLATFORM:		R
CAR DOOR OPERATOR:		N
CAR DOOR EQUIPMENT:		N
RAILS/SUPPORTS:		R
HOISTWAY DOOR EQUIPMENT:		N
HOISTWAY ENTRANCE FRAMES:		R
HOISTWAY DOOR PANELS:		R
HOISTWAY DOOR SILLS:		R
HOISTWAY WIRING TRAVELING CABLES:		N
HYDRAULIC CYLINDER		N
CAR OPERATING PANELS:		N
HALL PUSHBUTTONS:		N
HALL LANTERNS:		N/A
CAR POSITION INDICATORS:		N
CAB INTERIOR FINISHES:		N
MACHINE ROOM:		A
MACHINE ROOM LIGHTING:		N
MACHINE ROOM OUTLETS:		N
MACHINE ROOM ACCESS:		R
MACHINE DISCONNECT SWITCH:		N
COOLING/HEATING MACHINE ROOM:		R
PIT LIGHTING:		N
PIT OUTLETS:		N

HOISTWAY VENTING:		R
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2.2 MATERIALS

A. Steel:

1. Sheet Steel (Furniture Steel for Exposed Work): Stretcher-leveled, cold-rolled, commercial quality carbon steel, complying with ASTM A366, matte finish.
2. Sheet Steel (for Unexposed Work): Hot-rolled, commercial quality carbon steel, pickled and oiled, complying with ASTM A568/A568M-03.
3. Structural Steel Shapes and Plates: ASTM A36.

B. Stainless Steel: Type 316, or approved equal; complying with ASTM A240, with standard tempers and hardness required for fabrication, strength and durability. Apply mechanical finish on fabricated work in the locations shown or specified, (Federal Standard and NAAMM nomenclature). Protect with adhesive paper covering.

1. Satin: Directional polish finish (US 32D). Graining directions as shown or, if not shown, in longest dimension.

C. Aluminum: Extrusions per ASTM B221; sheet and plate per ASTM B209.

D. Plastic Laminate: ASTM E84 Class A and NEMA LD3.1, Fire-Rated Grade (GP-50), Type 7, 0.050" \pm 0.005" thick, color and texture as follows;

1. Exposed Surfaces: Color and texture selected by Owner's Representative.
2. Concealed Surfaces: Contractor's standard color and finish.

E. Paint: Clean exposed metal parts and assemblies of oil, grease, scale, and other foreign matter and factory paint one shop coat of standard rust-resistant primer. After erection, provide one finish coat of industrial enamel paint.

F. Glass: Laminated safety glass, minimum 9/16" thick, conforming to ANSI Z97.1 and CPSC 16 CFR Part 1201.

2.3 CAR AND GROUP PERFORMANCE

A. Speed: within \pm 10% of contract speed under any loading condition.

B. Leveling: within \pm 1/4" under any loading condition.

C. Door Opening Time: From start of opening to fully open:

1. Car 1: 3.1 seconds.

D. Door Closing Time: From start of closing to fully closed:

1. Car 1: 4.0 seconds.

E. Car Floor-to-Floor Performance Time: From start of doors closing until doors are 3/4 open (1/2

open for side opening doors) and car level and stopped at next successive floor under any loading condition or travel direction (132" typical floor height):

1. Car 1: 14.1 seconds.

F. Car Ride Quality:

1. Horizontal acceleration within car during all riding and door operating conditions. Not more than 20 mg peak to peak (adjacent peaks) in the 1 - 10 Hz range.
2. Acceleration and Deceleration: Smooth constant and not less than 3 feet/second² with an initial ramp between 0.5 and 0.75 second.
3. Sustained Jerk: Not less than 6 feet/second³.

G. Noise:

1. Measured noise level of elevator equipment during operation shall not the following:
 - a. Car at rest with doors closed, fan running - 55 dba.
 - b. Door in operation - 60 dba.

H. Vibration:

1. Isolate power unit, controller, oil supply lines and their supports from the building. Electrically isolate the equipment from the building power supply and to each other to reduce the potential noise and vibrations transmitted to adjacent occupants.

2.4 OPERATION Elevator 1

A. Selective Collective

1. Approved microprocessor-based, car and motion control systems as follows:
 - a. Kone: Resolve
 - b. Otis: Elevonic
 - c. Schindler 330A
 - d. Mitsubishi: AI-2100N
 - e. TKE: TAC 32
 - f. MCE: HMC
 - g. Smartrise
2. Provide selective collection operation operating from a single hall riser.
3. Do not reverse car direction until all car calls have been answered.
4. Slow car and stop automatically at floors corresponding to registered calls, in the order in which they are approached in either direction of travel. As slowdown is initiated for a hall call, automatically cancel hall call. Cancel car calls in the same manner. Hold car at arrival floor an adjustable time interval to allow passenger transfer.
5. Answer calls corresponding to direction in which car is traveling unless call in the opposite direction of the call registered.
6. Illuminate pushbutton to visually indicate call registration.
7. Provide zone programming features to park car at the designated landing selected by the Owner.

- B. Low Oil Control: in the event oil levels is insufficient for travel to the top floor, provide controls to return elevator to the main level and park until oil is added.

- C. Independent Service: Provide controls for operation of each car from its pushbuttons only. Close doors by constant pressure on desired destination floor button or door close button. Open doors automatically upon arrival at selected floor.
- D. Firefighters' Service: Provide equipment and operation in accordance with Code requirements.
- E. Automatic Car Stopping Zone: Stop car within 1/4" above or below the landing sill. Maintain stopping zone regardless of load in car or direction of travel.
- F. Motion Control: AC type with unit valve suitable for operation specified and capable of providing smooth, comfortable car acceleration and retardation. Limit the difference in car speed between full load and no load to not more than $\pm 10\%$ of the contract speed in either direction of travel.
- G. Standby Lighting and Alarm: Car mounted battery unit with solid-state charger to operate alarm bell and car emergency lighting. Battery to be rechargeable with minimum five-year life expectancy. Include required transformer. Provide constant pressure test button in service compartment of car operating panel. Provide lighting integral with portion of normal car lighting system.
- H. Battery Lowering Device:
 - 1. Upon loss of normal power, provide controls to automatically lower the cars to the nearest lower landing. Upon arrival at the nearest landing, the elevator doors shall open automatically and remain open until regular door time has expired. The elevator shall then become deactivated. The standby power source shall be provided via 12 volt D.C. battery units installed in machine room, including solid-state charger and testing means mounted in a common metal container. Battery to be rechargeable lead acid or nickel cadmium with a ten-year life expectancy.
 - 2. Upon restoration of normal power, the elevator shall automatically resume normal operation.
- I. Door Operation: Automatically open doors when car arrives at main floor. At expiration of normal dwell time, close doors. Provide heavy door/variable air pressure feature for consistent specified door operation within appropriate speed and inertia limits. Car and hoistway doors shall be arranged to operate in unison without excessive noise or slamming in either direction of travel.
 - 1. Door opening speeds of 1.5 feet per second shall be provided in conjunction with closing speeds of 1.0 feet per second in accordance with governing code.
 - a. Door operation shall commence as the car stops level at the floor. Pre-door opening shall not be permitted.
 - b. The force necessary to prevent closing of the car and hoistway door from rest shall not exceed 30 lb. 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.
 - c. The operation of the door protective device by the interruption during the close cycle shall cause the immediate reversing of the doors to the fully open position.
 - d. 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.

- J. Car Light and Fan Timer: Provide necessary logic and power relay to allow car lights and fan to turn off.

2.5 MACHINE ROOM EQUIPMENT

- A. Pump Unit:
1. Provide a new pump unit with oil heater.
 2. Provide an adjustable valve capable of making adjustment without removal from the oil line with manual lowering.
 3. Provide electronic soft start, design unit for 80 upstarts/hour.
 4. Provide a heavy duty muffler to reduce noise and vibration.
 5. Provide tank shut off valve for isolating oil in the pump unit.
 6. Replace all Victaulic gaskets in retained lines and fittings.
- B. Encoder: Provide new solid state encoder, driven by the elevator car to provide absolute digital hoistway position to elevator controller.
1. Update car position at each floor so that movement to a terminal landing or other specific floor is not necessary to establish car position.
 2. Retain last known position in the event of power loss and automatically restore upon return of normal power. Include vanes and sensors to establish leveling and floor zones.
- C. Controller: New microprocessor based, UL/CSA labeled.
1. Compartment: Provide listed enclosure, mounted on power unit or machine room wall with latching doors and means to prevent overheating.
 2. Provide a solid-state starter.
 3. Relay Design: Provide proven design with material for reliable operation without overheating or excessive wear. Provide wiping action and means to prevent sticking due to fusion. Contacts carrying high inductive currents shall be provided with arc deflectors or suppressors.
 4. The manufacturer's standard on-board "LCD" display shall be incorporated on the main processor board and/or otherwise incorporated in the controller cabinet.
 5. Microprocessor-Related Hardware
 - a. Provide power supplies with noise suppression devices.
 - b. Isolate inputs from external devices.
 - c. Design control circuits with adequate grounding.
 - d. Safety circuits shall meet all requirements of the AHJ.
 - e. System shall automatically restart when power is restored.
 6. Wiring: CSA labeled copper for factory wiring. Route all wiring interconnections and securely attach wiring connections to studs or terminals.
 7. Permanently label all components and wiring.
 8. Provide elevator designation identification numbers on controller enclosures.
- D. Muffler: Provide in discharge oil line near pump unit. Design shall dampen and absorb

pulsation and noise in the flow of hydraulic fluid.

- E. Piping and Oil: Provide piping, connections and oil for the system. Buried piping shall be secondarily contained with watertight Schedule 40 PVC sleeves between elevator machine room and pit. A minimum of two sound isolation couplings shall be provided between the pump unit and oil line and the oil line and jack unit. Provide isolated pipe stands or hangers as required.
- F. Shutoff Valve: Manual valve in line adjacent to pump unit. Provide second valve in pit adjacent to jack unit.

2.6 HOISTWAY EQUIPMENT

- A. Guide Rails: Retain guide rails in place. Inspect rails, brackets and fishplates to determine if unfavorable conditions exist.
 - 1. Clean rails and brackets. Remove rust.
 - 2. Check all rail and bracket fastenings and tighten.
- B. Buffers: Retain existing.
 - 1. Clean and paint. Label pit equipment.
- C. Buffers: Provide new spring type with blocking and support channels.
- D. Hydraulic Jack Assembly: Retain and refurbish existing.
 - 1. Cylinder: Retain existing and repack. Provide automatic scavenger pump to collect oil at cylinder head and return automatically to oil reservoir. Provide cylinder stabilizer bracketing between guide rails as required.
 - 2. Plunger: Retain existing. Isolate plunger from car frame.
- E. Hydraulic Jack Assembly: New
 - 1. Cylinder: Seamless steel pipe. Design head to receive unit-type packing and provide means to collect oil at cylinder head and return automatically to oil reservoir. Provide secondary containment/cylinder protection. Provide cylinder stabilizer bracketing between guide rails as required.
 - 2. Plunger: Single stage. Polished seamless steel tubing or pipe. If plunger length exceeds 24", provide two or more sections not exceeding 16" in length, or coordinate installation of longer unit at the jobsite. Join sections by internal threaded couplings. Multiple section jack units shall be factory polished while assembled and marked for proper future reassembly. Isolate plunger from car frame.
- F. Jack Support and Fluid Shut-Off Valve: Retain existing steel pit channels to support jack assembly and transmit loads to building structure. Provide intermediate stabilizers as required. Provide manual on/off valve in oil line adjacent to pump unit and jack unit in pit.
- G. Jack Support: Provide steel pit channels to support jack assembly and transmit loads to building structure. Provide intermediate stabilizers as required.
- H. Overspeed Valve: Provide a pressure sensitive, mechanically-actuated seismic safety valve, conforming to ASME A17.1. Connect valve directly to jack assembly inlet.

- I. Terminal Stopping: Provide required normal and final devices.
- J. Electrical Wiring and Wiring Connections:
 - 1. 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.
 - 2. 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.
 - 3. Conductors and Connections: Copper throughout with individual wires coded and connections on identified studs or terminal blocks.
 - 4. Provide 20% spare conductors throughout.
 - 5. Provide four pairs of spare shielded communication wires in addition to those required to connect specified items. Tag spares in machine room.
 - 6. Conduit: Painted or galvanized steel conduit, EMT or duct. Conduit size, 1/2" minimum. Flexible heavy-duty service cord may be used between fixed car wiring and car door switches for door protective devices.
 - 7. Traveling Cables: Flame and moisture-resistant outer cover. Install traveling to prevent twisting and rubbing against hoistway or equipment within hoistway.
 - 8. Auxiliary Wiring: Connect all devices in each car controller in machine room.
- K. Hoistway Entrance Equipment: Retain and refurbish existing entrances. Refurbish/replace and adjust assemblies to ensure smooth and quiet mechanical open and close of doors.
 - 1. Door Hangers and Rollers: provide new hangers and rollers.
 - 2. Door Track: Provide new tracks.
 - 3. Door Safety Retainers: provide safety retainers as required by ASME A17.1.
 - 4. Door Interlocks: Replace all interlocks and relating equipment.
 - 5. Door Closers: Provide new door closing equipment.
- L. Hoistway Access Switches: Provide new switch at top and bottom floors.
- M. Floor Numbers: Stencil paint 4" high floor designations in contrasting color on inside face of hoistway doors or hoistway fascia in location visible from within car.

2.7 HOISTWAY ENTRANCES

- A. Frames: Retain existing. Fix entrance at lobby. Provide Arabic floor designation/Braille plates, centered at 60" above finished floor, on both side jambs of all entrances
- B. Door Panels: Retain existing. Provide new gibs and fire tabs.
- C. Sight Guards: Retain existing. Replace damaged astragals.
- D. Sills: Retain existing. Check and tighten all sill fastenings.
- E. Sill Supports: Retain existing. Check and tighten all fastenings.

- F. Fascia, Toe Guards and Hanger Covers: Retain existing. Provide as required where damaged or missing. Check and tighten all fastenings.
- G. Struts and Headers: Retain existing. Check and tighten all fastenings.

2.8 CAR EQUIPMENT

- A. Frame: Retain Existing. Check and tighten all fastenings. 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
- B. Platform: Retain existing. Check and tighten all fastenings.
- C. Platform Apron: Provide new extended platform apron to meet Code.
- D. Guide Shoes: Provide new. Roller type with three or more spring dampened, sound-deadening rollers per shoe and seismic retainer plates.
- E. Finish Floor Covering:
 - 1. Coordinate with Owner's installer if new finish floor coverings are selected.
- F. Sills: Retain existing. Check and tighten all fastenings.
- G. Doors: Provide new 16-gauge steel, sandwich construction without binder angles. Provide a minimum of two (2) gibs per panel. Construct door panels with interlocking, stiffening ribs. Stainless steel #4 metal cladding shall wrap around leading and trailing edge of panel and return a minimum of 1/2" on rear side of leading edge of panel.
- H. Door Hangers and Rollers: Provide new. Two-point hanger roller with polyurethane roller surface and suspension with eccentric upthrust roller adjustment.
- I. Door Track: Provide new steel track with smooth roller contact surface.
- J. Door Header: Provide a new door header configured for new door operator with stiffening flanges.
- K. Door Electrical Contact: Provide new electrical contact.
- L. Door Clutch: Provide a new heavy-duty clutch, linkage arms and all relating components to provide quiet door operation. Design clutch so car doors can be closed, while hoistway doors remain open.
- M. Restricted Opening Device: Prevent car door opening outside the unlocking zone without plunger restrictor.
- N. Door Operator: Provide a heavy-duty door operator on top of the elevator car enclosure for power

opening and closing of the cab and hoistway entrance door panels. Provide solid-state door control with closed loop programmable circuitry. Provide consistent regardless of door weight or hoistway air pressure stack effect or varying conditions. Provide door opening speed averaging 1.5 feet per second and door closing speed of 1.0 feet per second. The door shall operate smoothly without a slam or abrupt motion in both the opening and closing cycle directions.

- O. 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.
- P. Door Reopening Device:
 - 1. Infrared Reopening Device: Provide infra-red reopening device the entire opening of the door. In event of device failure, provide for automatic shutdown of car at floor level with doors open.
 - 2. Nudging Operation: 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.
 - 3. Interrupted Beam Time: When reopening device is interrupted during initial door opening, hold door open a minimum of 3.0 seconds. When reopening device is interrupted after the initial 3.0 second hold open time, reduce time doors remain open to an adjustable time of approximately 1.0 - 1.5 seconds after beams are reestablished.
 - 4. Door Timing: Adjust doors remain open after stopping in response to calls with the following:
 - a. Car Call: Car door hold open time adjusted between 3.0 and 5.0 seconds.
 - b. Hall Call: Hall door hold open time adjusted between 5.0 and 8.0 seconds.
- Q. Car Operating Panel:
 - 1. Provide one stainless car operating panel with vandal resistant operating fixtures mounted behind the car stationary front return panel. Faceplate shall be hinged and constructed of satin finish stainless steel.
 - 2. Provide Braille to the left of operating buttons. Designations minimum of 5/8" high, 0.03" raised and stud mounted.
 - 3. Provide "star" at main egress landing.
 - 4. Configure plates per local building code accessibility standards including Braille.
 - 5. Provide minimum 3/4" diameter raised floor pushbuttons which illuminate to indicate call registration.
 - 6. Provide alarm button to ring bell located on car control panel with illumination.
 - 7. Provide keyed stop switch in locked car service compartment.
 - 8. Provide "door open" button.
 - 9. Provide "door close" button engage door close cycle.
 - 10. Provide firefighters' Phase II key switch with engraved instructions filled red.
 - 11. Provide self-locking service compartment with recessed flush door with matching finish and engraved capacity.
 - 12. Include the following in lockable service cabinet:
 - a. Inspection switch.
 - b. Light switch.

- c. Fan switch.
- d. Independent service switch.
- e. Constant pressure test button for battery pack emergency lighting.
- f. 120-volt, AC, GFCI protected electrical convenience outlet.
- g. Card reader override switch.
- h. Stop switch.
- i. Switch to select either floor voice annunciation, floor passing tone, or chime.
- j. Car lighting dimmer switch.
- 13. Provide paint filled etched signage as follows:
 - a. Phase II firefighters' operating instructions.
 - b. Car number on main car operating panel.
 - c. Car capacity in pounds on service compartment door.
- R. Car Top Control Station: Mount on cartop handrail to provide safe access and operation while standing on cartop.
- S. Work Light and Duplex Plug Receptacle: GFCI protected outlet at top of car with LED guarded lamps. Include on/off switch and lamp guard.
- T. Communication System:
 - 1. A hands-free emergency voice communication system shall be furnished in each car mounted as an integral part of the car operating panel. System shall meet CBC 2019 requirements.
 - 2. Provide a 4 hour power supply for communication devices under power loss.
 - 3. Provide two-way communication between car and emergency personnel if required.

2.9 CAR ENCLOSURE

- A. Car Enclosure: Retain existing car shell and interior. Apply sound-deadening mastic to exterior. Remove cartop rust and paint cartop. Provide required modifications for new signal and pushbutton fixtures. Check and tighten all fasteners. Remove existing interior finishes, weigh, and document. Check and tighten all fastenings. Provide new interior finishes as specified herein. Verify weight of new interior finishes does not exceed weight of removed finishes by more than code allowable. Provide the following features:
 - 1. Shell: Retain existing
 - 2. Canopy: Retain existing
 - 3. Front Return Panels and Integral Entrance Columns: retain, remove all scratches.
 - 4. Transom: retain, remove all scratches.
 - 5. Car Door Panels: Provide new.
 - 6. Base: Stainless steel with concealed ventilation cutouts.
 - 7. Interior wall finish: Removable panels, faced and edged, with color core plastic laminate. Design to be in-kind. Color and finish as selected by owner. Rear wall panel shall meet code requirements for glass.
 - 8. Ventilation: Two-speed model exhaust blower mounted to car canopy on isolated rubber grommets. Exhaust blower shall meet requirements of Item 2.3, G. Ventilation shall shut off after adjustable period (60 – 180 seconds) of no elevator demand.

9. Lighting: Provide LED fixtures with wiring and hookup. Coordinate with emergency lighting requirements. Lighting shall shut off after adjustable period (60 – 180 seconds) of no elevator demand. Provide emergency lighting integral with portion of normal car lighting system. Include required transformer.
10. Suspended Ceiling : Three section, 6 stainless steel panels mounted in an extruded aluminum angle and T-frame.
11. Handrails: Minimum 1-1/4" diameter aluminum tubular grab bar across rear wall.
12. Pads and Buttons or Hooks: Three-piece removable pads. Two pads covering side walls and adjacent front returns and one covering rear wall. Provide cutouts to access main car operating panel.

- B. Top of Car Guardrail: Provide car top railings where fall hazard exceeds 12". Install guardrails, necessary hardware and toe board to meet code requirements.

2.10 HALL CONTROL STATIONS

- A. Hall Call Control Stations: Provide new flush mounted hall call riser adjacent to each hoistway entrances. Pushbutton design shall match car operating panel pushbuttons with vandal resistant pushbutton assemblies. Provide enlarged faceplate to cover existing wall blockout. Provide appendix H pictorial signs. Provide cutting, patching and touchup painting around hall stations.

2.11 SIGNALS

- A. Car Direction Lantern Car 1: Provide new replacement car lantern in entrance columns. Illuminate up or down LED lights with electronic tone. Sound tone once for up direction and twice for down direction. Sound level shall be adjustable from 0 - 80 dBA measured at 5'-0" in front of hall control station and 3'-0" off floor. Provide ADA compliant hall call and dwell time. Car direction signals shall be arrow shaped minimum 2-1/2" dimension. Provide vandal resistant lantern and light assemblies consisting of series of dots or lines for maximum visibility.
- B. Hall position indicator car 1 numeric digital indicator containing floor designations and direction arrows a minimum of 1/2" high to indicate floor served and direction of car travel. Mount integral with hall lanterns at all floors.
- C. Car Position Indicator: Provide digital indicator in car operating panel.
- D. Faceplate Material and Finish: Satin stainless, all fixtures.
- E. Floor Passing Tone: Provide an audible tone.
- F. Voice Synthesizer: Provide electronic device with easily reprogrammable message and female voice to announce car direction, floor, emergency exiting instructions, etc.

2.12 SEISMIC OPERATIONS AND EQUIPMENT

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

PART 3 - EXECUTION

3.1 SITE CONDITION INSPECTION

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 project, 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. Coordinate the scheduling of the work of this section with the work of other sections so as not to delay job progress.

3.2 PRODUCT DELIVERY, STORAGE, AND HANDLING

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

3.3 INSTALLATION

- A. Modernize the elevators in accordance with Contractor's instructions, referenced Codes, specification and approved shop drawings.
- B. Install all equipment with clearances in accordance with Codes and specification of the AHJ.
- C. Provide coordination of modernization items for ease of accessibility, maintenance and repair.
- D. Remove oil, dirt and impurities 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.
- E. Paint machine room and pit floors.

3.4 FIELD QUALITY CONTROL

- A. Contractor is responsible for Code Authority acceptance inspection performed and complete corrective work. Re-inspection costs due to the Contractor shall be included at no cost by the Contractor.

3.5 ADJUSTMENTS

- A. Verify alignment of rails within of 1/16" in 100'-0". Provide rail alignment and secure joints without gaps and file any irregularities to a smooth surface.
- B. Balance car to equalize pressure of guide shoes on guide rails.
- C. Lubricate all equipment in accordance with Manufacturer's MCP recommendations.

3.6 CLEANING

- A. Adequately protect surfaces against accumulation of paint, mortar, mastic or damage during shipment and installation.
- B. Keep work areas clean during the progress of project. Remove debris materials daily.
- C. Clean machine room equipment and floor.
- D. Remove all protective packaging and clean hoistway, car, car enclosure, entrances, operating and signal fixtures.

3.7 ACCEPTANCE REVIEW AND TESTS

- A. Contractor is responsible for Code Authority acceptance inspection performed and complete corrective work. Re-inspection costs due to the Contractor shall be included at no cost by the Contractor.

3.8 PURCHASER'S INFORMATION

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

END OF SECTION

SECTION 055000 - METAL FABRICATIONS

1. PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Shop fabricated ferrous metal items and prime painted.
- B. Schedule of metal fabrications.

1.2 REFERENCES

- A. ASTM A36 - Structural Steel.
- B. ASTM A53 - Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
- C. ASTM A123 - Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- D. ASTM A153 - Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- E. ASTM A307 - Carbon Steel Externally Threaded Standard Fasteners.
- F. ASTM A492 - Standard Specification for Stainless Steel Rope Wire.
- G. ASTM A500 - Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
- H. ASTM A780 - Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
- I. AWS A2.4 - Standard Welding Symbols.
- J. AWS D1.1 - Structural Welding Code - Steel.

1.3 QUALIFICATIONS

- A. Welders' Certificates: Submit under provisions of Section 01 33 00, certifying welders employed on the Work, verifying AWS qualification within the previous 12 months.

1.4 FIELD MEASUREMENTS

- A. Verify that field measurements are as indicated on Drawings.

2. PART 2 PRODUCTS

2.1 MATERIALS

- A. Steel Sections: ASTM A36.

- B. Steel Tubing: ASTM A500, Grade B.
- C. Plates: ASTM A36.
- D. Pipe: ASTM A53, Grade B, Schedule 40.
- E. Bolts, Nuts, and Washers: ASTM A307 galvanized to ASTM A153 for galvanized components.
- F. Welding Materials: AWS D1.1; type required for materials being welded.
- G. Shop and Touch Up Primer: SSPC 15, Type 1, red oxide.
- H. Touch-Up Primer for Galvanized Surfaces: SSPC 20.

2.2 FABRICATION, GENERAL

- A. Fit and shop assemble in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured.
- C. Continuously seal joined members by continuous welds unless indicated otherwise.
- D. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- E. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.
- F. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.3 FINISHES

- A. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
- B. Do not prime surfaces in direct contact with concrete or where field welding is required.
- C. Prime paint items with one coat.
- D. Galvanize assembled items to minimum 1.25 oz/sq ft zinc coating in accordance with ASTM A123.
- E. Repair damaged galvanized surfaces in accordance with ASTM A780 Method A2.
- F. Finish: Site paint exposed to view prime painted items under provisions of Section 09 90 00.

3. PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive work.
- B. Beginning of installation means erector accepts existing conditions.

3.2 PREPARATION

- A. Clean and strip primed steel items to bare metal where site welding is required.
- B. Supply items required to be cast into concrete or embedded in masonry with setting templates, to appropriate sections.

3.3 INSTALLATION

- A. Install items plumb and level, accurately fitted, free from distortion or defects.
- B. Allow for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- C. Field weld components indicated on Drawings.
- D. Perform field welding in accordance with AWS D1.1.
- E. After erection, prime welds, abrasions, and surfaces not shop primed, except surfaces to be in contact with concrete.

3.4 SCHEDULE

- A. The Schedule is a list of principal items only. Refer to Drawing details for items not specifically scheduled.
- B. Miscellaneous Framing and Supports: Steel not a part of structural steel framework as required to complete work; prime paint finish.
- C. Bollards: Steel pipe, concrete filled, crowned cap, as detailed; prime paint finish.
- D. Opening Frames for Overhead Doors and Wall Openings: Structural sections; prime paint finish.
- E. Elevator Hoist Way Beams: Structural sections as detailed, prime paint finish.
- F. Elevator Door Sill Supports: Steel shapes as detailed, prime paint finish.

END OF SECTION

SECTION 099000 – PAINTING

1. PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Surface preparation.
- B. Products and application.
- C. Surface finish schedule.

1.2 SUMMARY OF PAINTED SUBSTRATES

- A. Section includes the application of paint systems on the following interior substrates:
 - 1. Primed or unprimed steel.
 - 2. Galvanized metal.
 - 3. Steel handrails, guardrails and fittings.
 - 4. Steel doors, frames and lights.
 - 5. Access doors and frames.
 - 6. Horizontal and vertical gypsum board.
 - 7. Plaster.
 - 8. Wall louvers.
 - 9. Electrical panel board covers.
- B. Section includes the application of paint systems on the following exterior substrates:
 - 1. Concrete.
 - 2. Primed or unprimed steel.
 - 3. Decorative metal fencing.
 - 4. Bollards.
 - 5. Sheet metal flashing and trim.
 - 6. Sheet metal gutters and downspouts.
 - 7. Steel pipe downspouts.
 - 8. Steel doors, frames and lights.

9. Glass frames in steel and wood doors.
 10. Portland cement plaster (stucco).
 11. Wall louvers.
 12. Mechanical roof mounted equipment.
 13. Electrical panel board covers.
- C. Substrate listings are for principal surfaces only. Refer to drawings, details and individual specification sections for items, surfaces, and substrates not specifically listed.

1.3 REFERENCES

- A. ASTM D16 - Definitions of Terms Relating to Paint, Varnish, Lacquer, and Related Products.
- B. SSPC - The Society for Protective Coatings.

1.4 SYSTEM DESCRIPTION

- A. Preparation of all surfaces to receive final finish.
- B. Painting and finishing work of this section using coating systems of materials including primers, sealers, fillers, and other applied materials whether used as prime, intermediate, or finish coats.
- C. Surface preparation, priming, and finish coats specified in this Section are in addition to shop-priming and surface treatment specified under other Sections.
- D. Painting and finishing all exterior and interior surfaces of materials including structural, mechanical, and electrical work on site, in building spaces, and above or on the roof.
- E. Paint exposed surfaces except where a surface or material is specifically indicated not to be painted or is to remain natural. Where an item or surface is not specifically mentioned, paint the same as similar adjacent materials or surfaces.

1.5 DEFINITIONS

- A. Conform to ASTM D16 for interpretation of terms used in this Section.

1.6 QUALITY ASSURANCE

- A. Product Manufacturer: Company specializing in manufacturing quality paint and finish products with five years experience.
- B. Applicator: Company specializing in commercial painting and finishing with five years documented experience.
- C. Coats: The number of coats specified is the minimum number acceptable. If full coverage is not obtained with the specified number of coats, apply such additional coats as are necessary to produce the required finish.

- D. Employ coats and undercoats for all types of finishes in strict accordance with the recommendations of the paint manufacturer.
- E. Provide primers and undercoat paint produced by the same manufacturer as the finish coat.
- F. The minimum dry film thickness of each coat of paint shall comply with the manufacturer's recommendations for each type of paint used.

1.7 REGULATORY REQUIREMENTS

- A. Comply with applicable codes and regulations of governmental agencies having jurisdiction including those having jurisdiction over airborne emissions and industrial waste disposal. Where those requirements conflict with this specification, comply with the more stringent provisions.
- B. Comply with the current applicable regulations of the California Air Resources Board (CARB) and the Environmental Protection Agency (EPA).

1.8 SUBMITTALS

- A. Submit product data under provisions of City's Division 01 General Requirements.
- B. Submit samples under provisions of City's Division 01 General Requirements.
- C. Submit two samples 8-1/2 x 11 inch in size of each paint color and texture applied to cardboard. Resubmit samples until acceptable color, sheen and texture is obtained.
- D. On same species and quality of wood to be installed, submit two 4 x 8 inch samples showing system to be used for varnishes and stains.

1.9 FIELD SAMPLES

- A. Provide field samples under provisions of City's Division 01 General Requirements.
- B. On wall surfaces and other exterior and interior components, duplicate specified finishes on at least 100 sq.ft. of surface area.
- C. Provide full-coat finishes until required coverage, sheen, color and texture are obtained.
- D. Simulate finished lighting conditions for review of field samples.
- E. After finishes are accepted, the accepted surface may remain as part of the work and will be used to evaluate subsequent coating systems applications of a similar nature.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site and store and protect under provisions of City's Division 01 General Requirements.
- B. Deliver products to site in sealed and labeled containers; inspect to verify acceptance.
- C. Container labeling to include manufacturer's name, type of paint, brand name, brand code,

coverage, surface preparation, drying time, cleanup, color designation, and instructions for mixing and reducing. Paint containers not displaying product identification will not be acceptable.

- D. Store paint materials at minimum ambient temperature of 50 degrees F and a maximum of 90 degrees F, in well ventilated area, unless required otherwise by manufacturer's instructions.
- E. Take precautionary measures to prevent fire hazards and spontaneous combustion.

1.11 ENVIRONMENTAL REQUIREMENTS

- A. Provide continuous ventilation and heating facilities to maintain interior surface and ambient temperatures above 50 degrees F with a maximum humidity level of 50 percent for 24 hours before, during, and 48 hours after application of finishes, unless required otherwise by manufacturer's instructions.
- B. Do not apply exterior coatings during rain or snow, or when relative humidity is above 50 percent, unless required otherwise by manufacturer's instructions.
- C. Minimum Application Temperatures for Latex Paints: 50 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.
- D. Minimum Application Temperature for Varnish and Urethane Finishes: 65 degrees F for interior or exterior, unless required otherwise by manufacturer's instructions.
- E. Provide lighting level of 80 foot candles measured mid-height at substrate surface.

1.12 EXTRA MATERIAL

- A. Provide a one gallon unopened container of each color to Owner.
- B. Label each container with color, texture, and room locations in addition to the manufacturer's label.

2. PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS - PAINT

- A. Unless specifically identified otherwise, product designations included in this section are those that are manufactured and distributed by the Dunn-Edwards Corporation, www.dunndwards.com and shall serve as the basis of design standard for kind, quality, performance and function.
- B. Subject to full compliance with specified requirements, other manufacturers offering equivalent products are:
 - 1. Benjamin Moore Paints, www.benjaminmoore.com.
 - 2. Kelly-Moore Paint Company, www.kellymoore.com.
 - 3. Sherwin Williams, www.sherwin-williams.com.
 - 4. Vista Paint Corporation, www.vistapaint.com.

- C. Substitutions: Under provisions of City's Division 01 General Requirements.

2.2 MATERIALS

- A. Ready mixed, except field catalyzed coatings. Process pigments to a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating.
- B. Good flow and brushing properties; capable of drying or curing free of streaks or sags.
- C. "Deep Tone" colors to be composed of 100 percent acrylic pigments with a colored base.
- D. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve the finishes specified, of commercial quality.

2.3 FINISHES

- A. Refer to schedule at end of Section for surface finish schedule.

3. PART 3 EXECUTION

3.1 INSPECTION

- A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- B. Examine surfaces to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- C. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 - 1. Plaster and Gypsum Wallboard : 12 percent.
 - 2. Masonry, Concrete, and Concrete Unit Masonry : 12 percent.
 - 3. Interior Located Wood : 15 percent.
 - 4. Exterior Located Wood : 15 percent.
- D. Beginning of installation means acceptance of existing surfaces.

3.2 SURFACE PREPARATION - GENERAL

- A. Remove electrical plates, hardware, light fixture trim, and fittings prior to preparing surfaces or finishing.
- B. Remove all finish hardware from doors and frames prior to preparing surfaces or finishing.
- C. Correct minor defects and clean surfaces which affect work of this Section.

- D. Gypsum Board: Repair all voids, nicks, cracks and dents with patching materials and finish flush with adjacent surface. Latex fill minor defects. Spot prime defects after repair.
- E. Plaster: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.
- F. Uncoated Steel and Iron: Remove grease, scale, dirt, and rust. Where heavy coatings of scale are evident, remove by wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Prime paint after repairs.
- G. Shop Primed Steel: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime paint steel surfaces.
- H. Exterior Wood: Remove dust, grit, and foreign matter. Seal knots, pitch streaks, and sappy sections. Fill nail holes with tinted exterior caulking compound after prime coat has been applied.
- I. Wood Doors: Seal top and bottom edges with 2 coats of spar varnish sealer.

3.3 PROTECTION OF ADJACENT WORK

- A. Protect elements surrounding the work of this Section from damage or disfiguration.
- B. Repair damage to other surfaces caused by work of this Section.
- C. Furnish drop cloths, shields, and protective methods to prevent spray or droppings from disfiguring other surfaces.
- D. Remove empty paint containers from site.

3.4 WORK NOT TO BE PAINTED

- A. Painting is not required on surfaces in concealed and inaccessible areas such as furred spaces, foundation spaces, utility tunnels, pipe spaces and duct shafts.
- B. Do not paint metal surfaces such as stainless steel, chromium plate, brass, bronze, and similar finished metal surfaces.
- C. Do not paint anodized aluminum or other surfaces which are specified to be factory pre-finished.
- D. Do not paint sandblasted or architecturally finished concrete surfaces.
- E. Do not paint prefinished acoustic materials or acoustic suspension systems.
- F. Do not paint over Underwriters Laboratories, Factory Mutual or other code-required labels or identifications.

3.5 APPLICATION

- A. Apply products in accordance with manufacturer's instructions.

- B. Do not apply finishes to surfaces that are not dry.
- C. Apply prime coat to surfaces which are to be painted or finished.
- D. Apply each coat to uniform finish.
- E. Apply each coat of paint slightly darker than preceding coat unless otherwise approved.
- F. Sand lightly between coats to achieve required finish.
- G. Allow applied coat to dry before next coat is applied.
- H. The number of coats specified is the minimum that shall be applied. Apply additional coats when undercoats, stains or other conditions show through final paint coat, until paint film is of uniform finish, color and appearance.
- I. Where clear finishes are required, tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.
- J. Prime back surfaces of interior and exterior woodwork with primer paint.
- K. Prime back surfaces of interior woodwork scheduled to receive stain or varnish finish with gloss varnish reduced 25 percent with mineral spirits.
- L. Paint mill finished door seals to match door or frame.
- M. Paint primed steel glazing stops in doors to match door or frame.
- N. Cloudiness, spotting, lap marks, brush marks, runs, sags, spikes and other surface imperfections will not be acceptable.
- O. Where spray application is used, apply each coat of the required thickness. Do not double back to build up film thickness of two coats in one pass.
- P. Where roller application is used, roll and redistribute paint to an even and fine texture. Leave no evidence of roller laps, irregularity of texture, skid marks, or other surface imperfections.

3.6 FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT]

- A. Paint shop primed equipment. Do not paint shop prefinished items.
- B. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.
- C. Prime and paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, except where items are prefinished.
- D. Replace identification markings on mechanical or electrical equipment when painted accidentally.

- E. Paint interior surfaces of air ducts, and connector and baseboard heating cabinets that are visible through grilles and louvers with one coat of flat black paint, to limit of sight line. Paint dampers exposed behind louvers, grilles, and connector and baseboard cabinets to match face panels.
- F. Paint exposed conduit and electrical equipment occurring in finished areas.
- G. Paint both sides and edges of plywood backboards for electrical and telephone equipment before installing equipment.
- H. Replace electrical plates, hardware, light fixture trim, and fittings removed prior to finishing.
- I. Paint grilles, registers, and diffusers which do not match color of adjacent surface.
- J. Paint all mechanical and electrical equipment, vents, fans, and the like occurring on roof.
- K. Do not paint moving parts of operating units; mechanical or electrical parts such as valve operators; linkages; sensing devices; and motor shafts.
- L. Do not paint over labels or equipment identification markings.
- M. Do not paint mechanical room specialties such as compressors, boilers, pumps, control panels, etc.
- N. Do not paint switch plates, light fixtures, and fixture lenses.

3.7 CLEANING

- A. As Work proceeds, promptly remove paint where spilled, splashed, or spattered.
- B. During progress of Work maintain premises free of unnecessary accumulation of tools, equipment, surplus materials, and debris.
- C. Collect cotton waste, cloths, and material which may constitute a fire hazard, place in closed metal containers and remove daily from site.

3.8 PROTECTION OF COMPLETED WORK

- A. Protect finished installation under provisions of City's Division 01 General Requirements.
- B. Erect barriers and post warning signs. Maintain in place until coatings are fully dry.
- C. Confirm that no dust generating activities will occur following application of coatings.

3.9 PATCHING

- A. After completion of painting in any one room or area, repair surfaces damaged by other trades.
- B. Touch-up or re-finish as required to produce intended appearance.

3.10 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of City's Division 01 General Requirements.
- B. The Owner reserves the right to invoke the following test procedure at any time and as often as the Owner deems necessary.
- C. The Owner will engage the services of an independent testing agency to sample paint material being used.
- D. Samples of material delivered to the Project will be taken, identified, sealed, and certified in the presence of the Contractor.
- E. The testing agency will perform appropriate quantitative materials analysis and other characteristic testing of materials as required by the Owner.
- F. If test results show materials being used and their installation do not comply with specified requirements or manufacturer's recommendations, the Contractor may be directed to stop painting, remove noncomplying paint, pay for testing and repaint surfaces to acceptable condition.

3.11 COLOR SCHEDULE

- A. Paint and finish colors shall be selected by the Architect from manufacturer's entire range of standard and custom color selections and special colors selected to match or compliment the colors of other materials, equipment, or components which comprise the work.
- B. Access doors, registers, exposed piping, electrical conduit and mechanical/electrical panels: Generally the same color as adjacent walls.
- C. Exterior and interior steel doors, frames and trim: Generally a contrasting color to adjacent walls.
- D. Doors generally are all the same color, but of a contrasting color from frame and trim.
- E. Exterior and interior steel fabrications: Generally a contrasting color to adjacent walls.
- F. Exposed interior mechanical/ductwork: Generally a contrasting color to adjacent walls or ceiling.
- G. Ceilings are generally to be painted a different color than walls.
- H. Approximately 20 percent of overall painting work will be required to be "Deep Tone" colors. This work will require one additional coat of paint beyond that as specified.

3.12 SCHEDULE - EXTERIOR SURFACES

	A. Concrete (Flat Acrylic)	
1st coat:		ESPROO Eff-Stop Premium
2nd coat:		EVSH10 Evershield
3rd coat:		EVSH10 Evershield

	B. Cement Plaster (Flat Elastomeric)	
1st coat:		FPSL00 Flex Prime Select
2nd coat:		EDLX10 Enduralastic 10
3rd coat:		EDLX10 Enduralastic 10
	C. Steel - Primed or Unprimed (Eggshell Urethane Alkyd Enamel)	
1st coat:		BRPR00 Bloc-Rust Premium
2nd coat:		ASHL30 Aristoshield
3rd coat:		ASHL30 Aristoshield
	D. Steel - Galvanized (Eggshell Urethane Alkyd Enamel)	
1st coat:		Supreme Chemical Metal Clean and Etch SCME-01
2nd coat:		ULGM00 Ultrashield Galvanized Metal Primer
3rd coat:		ASHL30 Aristoshield
4th coat:		ASHL30 Aristoshield

3.13 SCHEDULE - INTERIOR SURFACES

	A. Steel - Primed or Unprimed (Eggshell, Urethane Alkyd Enamel)	
1st coat:		BRPR00 Bloc-Rust Premium
2nd coat:		ASHL30 Aristoshield
3rd coat:		ASHL30 Aristoshield
	B. Steel - Galvanized (Eggshell, Urethane Alkyd Enamel)	
1st coat:		ULGM00 Ultrashield Galvanized Metal Primer
2nd coat:		ASHL30 Aristoshield
3rd coat:		ASHL30 Aristoshield
	C. Gypsum Board (Eggshell Acrylic)	
1st coat:		VNPROO Vinylastic Premium
2nd coat:		SPMA30 Suprema
3rd coat:		SPMA30 Suprema
	D. Gypsum Board (Semi-Gloss Acrylic)	
1st coat:		VNPROO Vinylastic Premium
2nd coat:		SPMA50 Suprema
3rd coat:		SPMA50 Suprema

END OF SECTION

City of San Mateo



Contract Book – Volume 3 Central Garage Elevator Modernization City Project No. 46F035

Technical Specifications

October 26, 2023

SECTION 14250 – ELEVATOR MODERNIZATION

PART 1 – GENERAL

1.2 WORK INCLUDED

- A. Improve one (1) hydraulic elevator at Central Parking Garage, 315 S. Ellsworth Street, San Mateo, CA 94401.
- B. All engineering, equipment, labor, and permits required to satisfactorily complete elevator modernization required by Contract Documents.
- C. Applicable conditions of General, Special, and Supplemental Conditions and all sections listed in Contract Documents.
- D. Cartage and Hoisting: All required staging, hoisting and movement to, on and from the site including new equipment, reused equipment, or dismantling and removal of existing equipment.
- E. Provide new equipment unless equipment is specifically identified as “Retain,” or “Refurbish.”
- F. Removal and lawful disposal of any existing equipment not specifically being re-used in the elevator modernization.

1.2 RELATED WORK BY CONTRACTOR

- D. Hoistway and Pit:
 - 1. Wall blockouts and fire rated closure for control and signal fixture boxes which penetrate walls.
 - 2. Cutting and patching walls and floors.
 - 3. Opening in hoistway wall or pit wall for hydraulic piping. Trench and back fill underground piping.
 - 4. Pit access stationary ladder for each elevator. Retractable ladder if provided shall include an electrical contact conforming to ASME A17.1, Rule 2.2.2.4.2.7.
 - 5. Protect car enclosure, hoistway entrance assemblies, and special metal finishes from damage.
 - 6. Paint pit floor. Floors to be painted deck gray. Floor paint to be high impact resistant epoxy based.
 - 7. Hole in pit floor, 3'-0" square, to facilitate installation of protective secondary containment casing by Elevator Contractor. Fill hole with concrete after jack installation.

Seal pit with non-permeable epoxy.

E. Machine Room and Machinery Spaces:

1. Ventilation and heating. Maintain minimum temperature of 55° F, maximum 90° F. Maintain maximum 80% relative humidity, non-condensing.
2. Paint floor. Floors to be painted deck gray. Floor paint to be high impact resistant epoxy based.
3. Fire sprinkler removal or installation where required.
4. Coordinate secondary containment of pump unit oil reservoir with elevator contractor.

F. Electrical Service, Conductors and Devices:

1. Lighting and GFCI convenience outlets in pit, machine room, and overhead machinery spaces. Provide one additional non-GFCI convenience outlet in pit for sump pump and oil return pump.
2. Three-phase mainline copper power feeder with true earthen grounding to terminals of each elevator controller in the machine room with protected, lockable "open" disconnecting means with auxiliary contacts to allow Elevator Contractor to electronically interlock battery power lowering unit.
3. Provide lighting fixtures in machine room that are above existing controllers to provide 19 fc of illumination throughout the machine room.
4. Replace existing unguarded lighting in each pit with guarded fluorescent lighting to provide 10 fc of illumination throughout the pit. Lighting should be mounted lower than the current position so that the new extended 48" toe guard installed on the elevator cabs does not strike the new lighting. Install 4' dual bulb led light.
5. Install GFCI convenience outlets in pit and machine room.
6. Single-phase copper power feeder to each elevator controller for car lighting and exhaust blower with individual protected, lockable "open" disconnecting means located in machine room.
7. Emergency telephone line to designated elevator control panel in elevator machine room.
8. Fire alarm initiating devices in each elevator lobby for each group of elevators or single elevator and each machine room to initiate firefighters' return feature. Device at top of hoistway if sprinklered. Provide alarm initiating signal wiring from hoistway or machine room connection point to elevator controller terminals. Device in machine room and at top of hoistway to provide signal for general alarm and discrete signal for Phase II firefighters' operation.
9. Temporary power and illumination to install, test, and adjust elevator equipment.
10. Means to automatically disconnect power to affected elevator pump unit and controller prior to activation of machine room fire sprinkler system and/or hoistway fire sprinkler system. Manual shut-off means shall be located outside bounds of machine room.
11. When sprinklers are provided in the hoistway all electrical equipment located less than 4'-0" above the pit floor shall be identified for use in wet locations. Exception: seismic protection devices.
12. Single-phase power feeders to firefighters' control panel.

13. Single-phase power feeder to elevator intercom amplifier in the elevator machineroom.

1.10 DEFINITIONS

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

1.11 QUALITY ASSURANCE

- A. Qualified and Approved Contractors: Alternate Contractors must receive approval of Purchaser and or Consultant at least 14 calendar days prior to bid date.
 - 1. Control Systems: OEM, Motion Control Engineering (MCE), Smartrise Engineering, Elevator Controls.
 - 2. Hydraulic Power Unit and Accessories: OEM, MEI, Canton.
 - 3. Door Operator Equipment: ECI VF2500, GAL MOVFR, OEM linear.
 - 4. Signal Fixtures: Innovation Industries, OEM.
- B. Warranty:
 - 1. Contractor shall warrant the equipment installed under the specifications against defect in material and quality of installation and correct any defects, unless due to unordinary wear and tear or improper use or care by Purchaser.
 - a. Defective is defined to include, but not limited to; operational system failures, car performance, unusual degradation of materials or finishes, unsafe conditions, the need for excessive maintenance, unusual wear, abnormal noise or vibration, and related unsatisfactory conditions.
 - b. Retained Equipment: All retained equipment and components shall be checked and cleaned or repaired to be suitable for reuse and covered under preventative maintenance by the Contractor. All retained equipment shall integrate with newly installed systems.
 - c. Modify or adjust equipment to meet performance requirements of Contract Documents.

1.12 APPLICABLE CODES

- A. Work specified by the Contract Documents shall be in compliance with applicable Federal, State, and municipal codes and ordinances in effect at the time of Contract execution. Requirements of the Authority Having Jurisdiction shall be completed by the Contractor and Subcontractors. The entire alteration, when completed shall Comply with most stringent applicable provisions

of following Codes, laws, and/or Authorities, including revisions and changes in effect:

1. Safety Code for Elevators and Escalators, ASME A17.1
2. Guide for Inspection of Elevators, Escalators, and Moving Walks, ASME A17.2
3. Elevator and Escalator Electrical Equipment, ASME A17.5
4. National Electrical Code, NFPA 70
5. Americans with Disabilities Act, ADA
6. Uniform Federal Accessibility Standard, UFAS
7. Local Fire Authority
8. Requirements of most stringent provision of local applicable building code within the governing jurisdiction.
9. Life Safety Code, NFPA 101.
10. California Accessibility Standards, Title 24 Chapter 11b.
11. California Code of Regulations Title 8 and California Building Code Title 24

B. Abbreviated symbols

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
IBC	International Building Code
IEEE	Institute of Electrical and Electronics Engineers
NEC	National Electric Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protections Agency
OSHA	Occupational Safety and Health Act

1.13 DOCUMENT AND SITE VERIFICATION

- A. Submission of a bid will be considered evidence that the bidder has made themselves fully aware of the Contract requirements, scope of work, building access, related work required by other trades, existing equipment, as well as any requirements of the local authority, manpower requirements and has made proper allowance for all contingencies.
- B. Any discrepancies, omissions or items requiring clarification found by bidders in the Contract Documents shall be submitted in writing directly to the Consultant for clarification. All bidders will be notified of clarifications in writing.

- C. Contractor shall be responsible for verifying all dimensions, data and site conditions.

1.14 SUBMITTALS

- A. Prior to beginning equipment fabrication, submit shop drawings and required material samples for review. Allow 15 days for response to initial submittal and include the following:
 - 1. Power Confirmation Information: Design for existing conditions.
 - 2. Fixture drawings.
- B. Acknowledge and/or respond to review comments within 10 calendar days of return. Incorporate required changes so that delivery and installation schedules are not affected.

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- C. Approval of the drawings and cuts by Owner's designee 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.
- D. Submittal review shall not be construed as an indication that submittal is correct or suitable, or that the work represented by submittal complies with the Contract Documents.

1.15 PERMIT, TEST AND INSPECTION

- A. Obtain and pay for permit, license, and inspection fee necessary to complete installation.
- B. Perform test required by Governing Authority in accordance with procedure described in ASME A17.2 Guide for Inspection of Elevators, Escalators, and Moving Walks in the presence of Authorized Representative.
- C. Supply personnel and equipment for test and final review by Consultant.

1.16 MAINTENANCE

- A. Warranty Maintenance:
 - 1. Provide preventive maintenance and 24-hour emergency callback service for one year commencing on date of final acceptance by Purchaser. Final acceptance shall be in writing and after the final inspection is turned over by the AHJ. Monthly, examine, adjust, clean, and lubricate all equipment. Repair or replace defective parts using parts produced by the Contractor of installed equipment. Maintain elevator machine room, hoistway, and pit in clean condition.
 - 2. Use licensed and competent personnel, acceptable to Purchaser.
 - 3. The warranty maintenance period specified above shall be extended one (1) month for each three (3) month period in which equipment related failures average more than .25 per unit per month.
 - 4. Purchaser retains the option to delete cost of warranty maintenance from new equipment contract and remit twelve (12) equal installments directly to Contractor during period in which maintenance is being performed.
 - 5. The Elevator Contractor shall contact ownership approximately two months prior to the end of the contract term. The Owner will make a thorough maintenance inspection of all elevators covered under the contract. At the conclusion of this inspection, the Owner shall give the Contractor written notice of any deficiencies found. The contractor shall be responsible for correction of these deficiencies within thirty days after receipt of such notice.
- B. Interim Maintenance:
 - 1. Provide pro-active preventive maintenance service with 24-hour service on elevators described herein for a period from notice to proceed, verbal or written, until each unit

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is removed from building service for modernization. 24-hour service begins when the first car is removed from service in occupied buildings. In addition, furnish interim preventive maintenance on completed units until the modernization of each group of elevators is complete and one-year warranty maintenance, defined in Item 1.02 below, is commenced. Cost of interim maintenance shall not be included as part of modernization quotation. Indicate costs on a per-unit basis for interim maintenance as requested on quotation form.

Costs for interim maintenance shall be paid by Purchaser separately and monthly based upon the number of units in service. Perform interim maintenance based upon terms and conditions of owners contract.

2. Use licensed and competent personnel, acceptable to Purchaser.
3. Provide interim maintenance in accordance with City of San Mateo contract

C. Preventive Maintenance

1. Use licensed and competent personnel, acceptable to Purchaser.
2. Maintenance shall include systematic examination, adjustment and lubrication of all equipment, including repair and replacement of electrical and mechanical parts of the system.
3. Adequate stock of spare parts for emergency callbacks shall be stored onsite.
4. Additional parts or equipment required for maintenance and repair of the system shall be available within 4 hours of the project site. Other items not normally stocked must be available within 24 hours for delivery. Overnight charges are the responsibility of the Contractor.

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5. Provide preventive maintenance in accordance with City of San Mateo contract.

PART 2 - PRODUCTS

2.13 SUMMARY

A. Elevator 1

B. Provide New, Alter, or Retain as required below.

State ID: elev. 1: 59503		R = Retain N = New A = Alter N/A = Not Applicable
SPEED:	150 FPM	R

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CAPACITY:	2500 lbs.	R
ENTRANCE SIZE:	42"x 84" SSSO	R
STOPS/LANDINGS	5	R
CONTROLS:	MCE 1000	N
ENCODER:	Digital	N
PUMP UNIT:	Submersible	N
HOISTWAY EQUIPMENT (BUFFERS AND PIT EQUIPMENT):		R
CAR SLING:		R
ROLLER GUIDES:		N
PLATFORM:		R
CAR DOOR OPERATOR:		N
CAR DOOR EQUIPMENT:		N
RAILS/SUPPORTS:		R
HOISTWAY DOOR EQUIPMENT:		N
HOISTWAY ENTRANCE FRAMES:		R/A
HOISTWAY DOOR PANELS:		R
HOISTWAY DOOR SILLS:		R
HOISTWAY WIRING TRAVELING CABLES:		N
HYDRAULIC CYLINDER		N
CAR OPERATING PANELS:		N
HALL PUSHBUTTONS:		N
HALL LANTERNS:		N/A
CAR POSITION INDICATORS:		N
CAB INTERIOR FINISHES:		N
MACHINE ROOM:		A
MACHINE ROOM LIGHTING:		A
MACHINE ROOM OUTLETS:		A
MACHINE ROOM ACCESS:		R

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MACHINE DISCONNECT SWITCH:		N
COOLING/HEATING MACHINE ROOM:		R/A
PIT LIGHTING:		A
PIT OUTLETS:		A
HOISTWAY VENTING:		R

2.14 MATERIALS

A. Steel:

1. Sheet Steel (Furniture Steel for Exposed Work): Stretcher-leveled, cold-rolled, commercial quality carbon steel, complying with ASTM A366, matte finish.
2. Sheet Steel (for Unexposed Work): Hot-rolled, commercial quality carbon steel, pickled and oiled, complying with ASTM A568/A568M-03.
3. Structural Steel Shapes and Plates: ASTM A36.

B. Stainless Steel: Type 316, or approved equal; complying with ASTM A240, with standard tempers and hardness required for fabrication, strength and durability. Apply mechanical finish on fabricated work in the locations shown or specified, (Federal Standard and NAAMM nomenclature). Protect with adhesive paper covering.

1. Satin: Directional polish finish (US 32D). Graining directions as shown or, if not shown, in longest dimension.

C. Aluminum: Extrusions per ASTM B221; sheet and plate per ASTM B209.

D. Plastic Laminate: ASTM E84 Class A and NEMA LD3.1, Fire-Rated Grade (GP-50), Type 7, 0.050" ±.005" thick, color and texture as follows;

1. Exposed Surfaces: Color and texture selected by Owner's Representative.
2. Concealed Surfaces: Contractor's standard color and finish.

E. Paint: Clean exposed metal parts and assemblies of oil, grease, scale, and other foreign matter and factory paint one shop coat of standard rust-resistant primer. After erection, provide one finish coat of industrial enamel paint.

F. Glass: Laminated safety glass, minimum 9/16" thick, conforming to ANSI Z97.1 and CPSC 16 CFR Part 1201.

2.15 CAR AND GROUP PERFORMANCE

A. Speed: within ± 10% of contract speed under any loading condition.

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- B. Leveling: within $\pm 1/4$ " under any loading condition.
- C. Door Opening Time: From start of opening to fully open:
 - 1. Car 1: 3.1 seconds.
- D. Door Closing Time: From start of closing to fully closed:
 - 1. Car 1: 4.0 seconds.
- E. Car Floor-to-Floor Performance Time: From start of doors closing until doors are 3/4 open (1/2 open for side opening doors) and car level and stopped at next successive floor under any loading condition or travel direction (132" typical floor height):
 - 1. Car 1: 14.1 seconds.
- F. Car Ride Quality:
 - 1. Horizontal acceleration within car during all riding and door operating conditions. Not more than 20 mg peak to peak (adjacent peaks) in the 1 - 10 Hz range.
 - 2. Acceleration and Deceleration: Smooth constant and not less than 3 feet/second² with an initial ramp between 0.5 and 0.75 second.
 - 3. Sustained Jerk: Not less than 6 feet/second³.
- G. Noise:
 - 1. Measured noise level of elevator equipment during operation shall not the following:
 - a. Car at rest with doors closed, fan running - 55 dba.
 - b. Door in operation - 60 dba.
- H. Vibration:
 - 1. Isolate power unit, controller, oil supply lines and their supports from the building. Electrically isolate the equipment from the building power supply and to each other to reduce the potential noise and vibrations transmitted to adjacent occupants.

2.16 OPERATION Elevator 1

- A. Selective Collective
 - 1. Approved microprocessor-based, car and motion control systems as follows:
 - a. Kone: Resolve
 - b. Otis: Elevonic
 - c. Schindler 330A
 - d. Mitsubishi: AI-2100N
 - e. TKE: TAC 32
 - f. MCE: HMC
 - g. Smartrise
 - 2. Provide selective collection operation operating from a single hall riser.
 - 3. Do not reverse car direction until all car calls have been answered.
 - 4. Slow car and stop automatically at floors corresponding to registered calls, in the order

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- in which they are approached in either direction of travel. As slowdown is initiated for a hall call, automatically cancel hall call. Cancel car calls in the same manner. Hold car at arrival floor an adjustable time interval to allow passenger transfer.
5. Answer calls corresponding to direction in which car is traveling unless call in the opposite direction of the call registered.
 6. Illuminate pushbutton to visually indicate call registration.
 7. Provide zone programming features to park car at the designated landing selected by the Owner.
- B. Low Oil Control: in the event oil levels is insufficient for travel to the top floor, provide controls to return elevator to the main level and park until oil is added.
- C. Independent Service: Provide controls for operation of each car from its pushbuttons only. Close doors by constant pressure on desired destination floor button or door close button. Open doors automatically upon arrival at selected floor.
- D. Firefighters' Service: Provide equipment and operation in accordance with Code requirements.
- E. Automatic Car Stopping Zone: Stop car within 1/4" above or below the landing sill. Maintain stopping zone regardless of load in car or direction of travel.
- F. Motion Control: AC type with unit valve suitable for operation specified and capable of providing smooth, comfortable car acceleration and retardation. Limit the difference in car speed between full load and no load to not more than $\pm 10\%$ of the contract speed in either direction of travel.
- G. Standby Lighting and Alarm: Car mounted battery unit with solid-state charger to operate alarm bell and car emergency lighting. Battery to be rechargeable with minimum five-year life expectancy. Include required transformer. Provide constant pressure test button in service compartment of car operating panel. Provide lighting integral with portion of normal car lighting system.
- H. Battery Lowering Device:
1. Upon loss of normal power, provide controls to automatically lower the cars to the nearest lower landing. Upon arrival at the nearest landing, the elevator doors shall open automatically and remain open until regular door time has expired. The elevator shall then become deactivated. The standby power source shall be provided via 12 volt D.C. battery units installed in machine room, including solid-state charger and testing means mounted in a common metal container. Battery to be rechargeable lead acid or nickel cadmium with a ten-year life expectancy.
 2. Upon restoration of normal power, the elevator shall automatically resume normal operation.

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- I. Door Operation: Automatically open doors when car arrives at main floor. At expiration of normal dwell time, close doors. Provide heavy door/variable air pressure feature for consistent specified door operation within appropriate speed and inertia limits. Car and hoistway doors shall be arranged to operate in unison without excessive noise or slamming in either direction of travel.
 - 1. Door opening speeds of 1.5 feet per second shall be provided in conjunction with closing speeds of 1.0 feet per second in accordance with governing code.
 - a. Door operation shall commence as the car stops level at the floor. Pre-door opening shall not be permitted.
 - b. The force necessary to prevent closing of the car and hoistway door from rest shall not exceed 30 lb. 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.
 - c. The operation of the door protective device by the interruption during the close cycle shall cause the immediate reversing of the doors to the fully open position.
 - d. 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.
- J. Car Light and Fan Timer: Provide necessary logic and power relay to allow car lights and fan to turn off.

2.17 MACHINE ROOM EQUIPMENT

- A. Pump Unit:
 - 1. Provide a new pump unit with oil heater.
 - 2. Provide an adjustable valve capable of making adjustment without removal from the oil line with manual lowering.
 - 3. Provide electronic soft start, design unit for 80 upstarts/hour.
 - 4. Provide a heavy duty muffler to reduce noise and vibration.
 - 5. Provide tank shut off valve for isolating oil in the pump unit.
 - 6. Replace all Victaulic gaskets in retained lines and fittings.
- B. Encoder: Provide new solid state encoder, driven by the elevator car to provide absolute digital hoistway position to elevator controller.
 - 1. Update car position at each floor so that movement to a terminal landing or other specific floor is not necessary to establish car position.
 - 2. Retain last known position in the event of power loss and automatically restore upon return of normal power. Include vanes and sensors to establish leveling and floor zones.
- C. Controller: New microprocessor based, UL/CSA labeled.
 - 1. Compartment: Provide listed enclosure, mounted on power unit or machine room

- wall with latching doors and means to prevent overheating.
 - 2. Provide a solid-state starter.
 - 3. Relay Design: Provide proven design with material for reliable operation without overheating or excessive wear. Provide wiping action and means to prevent sticking due to fusion. Contacts carrying high inductive currents shall be provided with arc deflectors or suppressors.
 - 4. The manufacturer's standard on-board "LCD" display shall be incorporated on the main processor board and/or otherwise incorporated in the controller cabinet.
 - 5. Microprocessor-Related Hardware
 - a. Provide power supplies with noise suppression devices.
 - b. Isolate inputs from external devices.
 - c. Design control circuits with adequate grounding.
 - d. Safety circuits shall meet all requirements of the AHJ.
 - e. System shall automatically restart when power is restored.
 - 6. Wiring: CSA labeled copper for factory wiring. Route all wiring interconnections and securely attach wiring connections to studs or terminals.
 - 7. Permanently label all components and wiring.
 - 8. Provide elevator designation identification numbers on controller enclosures.
- D. Muffler: Provide in discharge oil line near pump unit. Design shall dampen and absorb pulsation and noise in the flow of hydraulic fluid.
- E. Piping and Oil: Provide piping, connections and oil for the system. Buried piping shall be secondarily contained with watertight Schedule 40 PVC sleeves between elevator machine room and pit. A minimum of two sound isolation couplings shall be provided between the pump unit and oil line and the oil line and jack unit. Provide isolated pipe stands or hangers as required.
- F. Shutoff Valve: Manual valve in line adjacent to pump unit. Provide second valve in pit adjacent to jack unit.

2.18 HOISTWAY EQUIPMENT

- A. Guide Rails: Retain guide rails in place. Inspect rails, brackets and fishplates to determine if unfavorable conditions exist.
 - 1. Clean rails and brackets. Remove rust.
 - 2. Check all rail and bracket fastenings and tighten.
- B. Buffers: Retain existing.
 - 1. Clean and paint. Label pit equipment.
- C. Buffers: Provide new spring type with blocking and support channels.
- D. Hydraulic Jack Assembly: Retain and refurbish existing.

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1. Cylinder: Retain existing and repack. Provide automatic scavenger pump to collect oil at cylinder head and return automatically to oil reservoir. Provide cylinder stabilizer bracketing between guide rails as required.
 2. Plunger: Retain existing. Isolate plunger from car frame.
- E. Hydraulic Jack Assembly: New
1. Cylinder: Seamless steel pipe. Design head to receive unit-type packing and provide means to collect oil at cylinder head and return automatically to oil reservoir. Provide secondary containment/cylinder protection. Provide cylinder stabilizer bracketing between guide rails as required.
 2. Plunger: Single stage. Polished seamless steel tubing or pipe. If plunger length exceeds 24", provide two or more sections not exceeding 16" in length, or coordinate installation of longer unit at the jobsite. Join sections by internal threaded couplings. Multiple section jack units shall be factory polished while assembled and marked for proper future reassembly. Isolate plunger from car frame.
- F. Jack Support and Fluid Shut-Off Valve: Retain existing steel pit channels to support jack assembly and transmit loads to building structure. Provide intermediate stabilizers as required. Provide manual on/off valve in oil line adjacent to pump unit and jack unit in pit.
- G. Jack Support: Provide steel pit channels to support jack assembly and transmit loads to building structure. Provide intermediate stabilizers as required.
- H. Overspeed Valve: Provide a pressure sensitive, mechanically-actuated seismic safety valve, conforming to ASME A17.1. Connect valve directly to jack assembly inlet.
- I. Terminal Stopping: Provide required normal and final devices.
- J. Electrical Wiring and Wiring Connections:
1. 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.
 2. 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.
 3. Conductors and Connections: Copper throughout with individual wires coded and connections on identified studs or terminal blocks.
 4. Provide 20% spare conductors throughout.
 5. Provide four pairs of spare shielded communication wires in addition to those required to connect specified items. Tag spares in machine room.
 6. Conduit: Painted or galvanized steel conduit, EMT or duct. Conduit size, 1/2" minimum. Flexible heavy-duty service cord may be used between fixed car wiring and car door switches for door protective devices.
 7. Traveling Cables: Flame and moisture-resistant outer cover. Install traveling to prevent twisting and rubbing against hoistway or equipment within hoistway.
 8. Auxiliary Wiring: Connect all devices in each car controller in machine room.

- K. Hoistway Entrance Equipment: Retain and refurbish existing entrances. Refurbish/replace and adjust assemblies to ensure smooth and quiet mechanical open and close of doors.
 - 1. Door Hangers and Rollers: provide new hangers and rollers.
 - 2. Door Track: Provide new tracks.
 - 3. Door Safety Retainers: provide safety retainers as required by ASME A17.1.
 - 4. Door Interlocks: Replace all interlocks and relating equipment.
 - 5. Door Closers: Provide new door closing equipment.
- L. Hoistway Access Switches: Provide new switch at top and bottom floors.
- M. Floor Numbers: Stencil paint 4" high floor designations in contrasting color on inside face of hoistway doors or hoistway fascia in location visible from within car.

2.19 HOISTWAY ENTRANCES

- A. Frames: Retain existing. Fix entrance at lobby. Provide Arabic floor designation/Braille plates, centered at 60" above finished floor, on both side jambs of all entrances
- B. Door Panels: Retain existing. Provide new gibs and fire tabs.
- C. Sight Guards: Retain existing. Replace damaged astragals.
- D. Sills: Retain existing. Check and tighten all sill fastenings.
- E. Sill Supports: Retain existing. Check and tighten all fastenings.
- F. Fascia, Toe Guards and Hanger Covers: Retain existing. Provide as required where damaged or missing. Check and tighten all fastenings.
- G. Struts and Headers: Retain existing. Check and tighten all fastenings.

2.20 CAR EQUIPMENT

- A. Frame: Retain Existing. Check and tighten all fastenings. 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
- B. Platform: Retain existing. Check and tighten all fastenings.
- C. Platform Apron: Provide new extended platform apron to meet Code.
- D. Guide Shoes: Provide new. Roller type with three or more spring dampened, sound-deadening rollers per shoe and seismic retainer plates.

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- E. Finish Floor Covering:
 - 1. Coordinate with Owner's installer if new finish floor coverings are selected.
- F. Sills: Retain existing. Check and tighten all fastenings.
- G. Doors: Provide new 16-gauge steel, sandwich construction without binder angles. Provide a minimum of two (2) gibs per panel. Construct door panels with interlocking, stiffening ribs. Stainless steel #4 metal cladding shall wrap around leading and trailing edge of panel and return a minimum of 1/2" on rear side of leading edge of panel.
- H. Door Hangers and Rollers: Provide new. Two-point hanger roller with polyurethane roller surface and suspension with eccentric upthrust roller adjustment.
- I. Door Track: Provide new steel track with smooth roller contact surface.
- J. Door Header: Provide a new door header configured for new door operator with stiffening flanges.
- K. Door Electrical Contact: Provide new electrical contact.
- L. Door Clutch: Provide a new heavy-duty clutch, linkage arms and all relating components to provide quiet door operation. Design clutch so car doors can be closed, while hoistway doors remain open.
- M. Restricted Opening Device: Prevent car door opening outside the unlocking zone without plunger restrictor.
- N. Door Operator: Provide a heavy-duty door operator on top of the elevator car enclosure for power opening and closing of the cab and hoistway entrance door panels. Provide solid-state door control with closed loop programmable circuitry. Provide consistent regardless of door weight or hoistway air pressure stack effect or varying conditions. Provide door opening speed averaging 1.5 feet per second and door closing speed of 1.0 feet per second. The door shall operate smoothly without a slam or abrupt motion in both the opening and closing cycle directions.
- U. 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.
- V. Door Reopening Device:
 - 1. Infrared Reopening Device: Provide infra-red reopening device the entire opening of the door. In event of device failure, provide for automatic shutdown of car at floor level with doors open.
 - 2. Nudging Operation: 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.

3. Interrupted Beam Time: When reopening device is interrupted during initial door opening, hold door open a minimum of 3.0 seconds. When reopening device is interrupted after the initial 3.0 second hold open time, reduce time doors remain open to an adjustable time of approximately 1.0 - 1.5 seconds after beams are reestablished.
4. Door Timing: Adjust doors remain open after stopping in response to calls with the following:
 - a. Car Call: Car door hold open time adjusted between 3.0 and 5.0 seconds.
 - b. Hall Call: Hall door hold open time adjusted between 5.0 and 8.0 seconds.

W. Car Operating Panel:

1. Provide one stainless car operating panel with vandal resistant operating fixtures mounted behind the car stationary front return panel. Faceplate shall be hinged and constructed of satin finish stainless steel.
2. Provide Braille to the left of operating buttons. Designations minimum of 5/8" high, 0.03" raised and stud mounted.
3. Provide "star" at main egress landing.
4. Configure plates per local building code accessibility standards including Braille.
5. Provide minimum 3/4" diameter raised floor pushbuttons which illuminate to indicate call registration.
6. Provide alarm button to ring bell located on car control panel with illumination.
7. Provide keyed stop switch in locked car service compartment.
8. Provide "door open" button.
9. Provide "door close" button engage door close cycle.
10. Provide firefighters' Phase II key switch with engraved instructions filled red.
11. Provide self-locking service compartment with recessed flush door with matching finish and engraved capacity.
12. Include the following in lockable service cabinet:
 - a. Inspection switch.
 - b. Light switch.
 - c. Fan switch.
 - d. Independent service switch.
 - e. Constant pressure test button for battery pack emergency lighting.
 - f. 120-volt, AC, GFCI protected electrical convenience outlet.
 - g. Card reader override switch.
 - h. Stop switch.
 - i. Switch to select either floor voice annunciation, floor passing tone, or chime.
 - j. Car lighting dimmer switch.
13. Provide paint filled etched signage as follows:
 - a. Phase II firefighters' operating instructions.
 - b. Car number on main car operating panel.
 - c. Car capacity in pounds on service compartment door.

- X. Car Top Control Station: Mount on cartop handrail to provide safe access and operation while standing on cartop.

- Y. Work Light and Duplex Plug Receptacle: GFCI protected outlet at top of car with LED guarded lamps. Include on/off switch and lamp guard.
- Z. Communication System:
 - 1. A hands-free emergency voice communication system shall be furnished in each car mounted as an integral part of the car operating panel. System shall meet CBC 2019 requirements.
 - 2. Provide a 4 hour power supply for communication devices under power loss.
 - 3. Provide two-way communication between car and emergency personnel if required.

2.21 CAR ENCLOSURE

- A. Car Enclosure: Retain existing car shell and interior. Apply sound-deadening mastic to exterior. Remove cartop rust and paint cartop. Provide required modifications for new signal and pushbutton fixtures. Check and tighten all fasteners. Remove existing interior finishes, weigh, and document. Check and tighten all fastenings. Provide new interior finishes as specified herein. Verify weight of new interior finishes does not exceed weight of removed finishes by more than code allowable. Provide the following features:
 - 1. Shell: Retain existing
 - 2. Canopy: Retain existing
 - 3. Front Return Panels and Integral Entrance Columns: retain, remove all scratches.
 - 4. Transom: retain, remove all scratches.
 - 5. Car Door Panels: Provide new.
 - 6. Base: Stainless steel with concealed ventilation cutouts.
 - 7. Interior wall finish: Removable panels, faced and edged, with color core plastic laminate. Design to be in-kind. Color and finish as selected by owner. Rear wall panel shall meet code requirements for glass.
 - 8. Ventilation: Two-speed model exhaust blower mounted to car canopy on isolated rubber grommets. Exhaust blower shall meet requirements of Item 2.3, G. Ventilation shall shut off after adjustable period (60 – 180 seconds) of no elevator demand.
 - 9. Lighting: Provide LED fixtures with wiring and hookup. Coordinate with emergency lighting requirements. Lighting shall shut off after adjustable period (60 – 180 seconds) of no elevator demand. Provide emergency lighting integral with portion of normal car lighting system. Include required transformer.
 - 10. Suspended Ceiling : Three section, 6 stainless steel panels mounted in an extruded aluminum angle and T-frame.
 - 11. Handrails: Minimum 1-1/4" diameter aluminum tubular grab bar across rear wall.
 - 12. Pads and Buttons or Hooks: Three-piece removable pads. Two pads covering side walls and adjacent front returns and one covering rear wall. Provide cutouts to access main car operating panel.

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- B. Top of Car Guardrail: Provide car top railings where fall hazard exceeds 12". Install guardrails, necessary hardware and toe board to meet code requirements.

2.22 HALL CONTROL STATIONS

- A. Hall Call Control Stations: Provide new flush mounted hall call riser adjacent to each hoistway entrances. Pushbutton design shall match car operating panel pushbuttons with vandal resistant pushbutton assemblies. Provide enlarged faceplate to cover existing wall blackout. Provide appendix H pictorial signs. Provide cutting, patching and touchup painting around hallstations.

2.23 SIGNALS

- A. Car Direction Lantern Car 1: Provide new replacement car lantern in entrance columns. Illuminate up or down LED lights with electronic tone. Sound tone once for up direction and twice for down direction. Sound level shall be adjustable from 0 - 80 dBA measured at 5'-0" in front of hall control station and 3'-0" off floor. Provide ADA compliant hall call and dwell time. Car direction signals shall be arrow shaped minimum 2-1/2" dimension. Provide vandal resistant lantern and light assemblies consisting of series of dots or lines for maximum visibility.
- B. Hall position indicator car 1 numeric digital indicator containing floor designations and direction arrows a minimum of 1/2" high to indicate floor served and direction of car travel. Mount integral with hall lanterns at all floors.
- C. Car Position Indicator: Provide digital indicator in car operating panel.
- D. Faceplate Material and Finish: Satin stainless, all fixtures.
- E. Floor Passing Tone: Provide an audible tone.
- F. Voice Synthesizer: Provide electronic device with easily reprogrammable message and female voice to announce car direction, floor, emergency exiting instructions, etc.

2.24 SEISMIC OPERATIONS AND EQUIPMENT

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

PART 3 - EXECUTION

3.9 SITE CONDITION INSPECTION

- A. Inspection

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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 project, 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. Coordinate the scheduling of the work of this section with the work of other sections so as not to delay job progress.

3.10 PRODUCT DELIVERY, STORAGE, AND HANDLING

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

3.11 INSTALLATION

- A. Modernize the elevators in accordance with Contractor's instructions, referenced Codes, specification and approved shop drawings.
- B. Install all equipment with clearances in accordance with Codes and specification of the AHJ.
- C. Provide coordination of modernization items for ease of accessibility, maintenance and repair.
- D. Remove oil, dirt and impurities 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.
- E. Paint machine room and pit floors.

3.12 FIELD QUALITY CONTROL

- A. Contractor is responsible for Code Authority acceptance inspection performed and complete corrective work. Re-inspection costs due to the Contractor shall be included at no cost by the Contractor.

3.13 ADJUSTMENTS

- A. Verify alignment of rails within of 1/16" in 100'-0". Provide rail alignment and secure joints without gaps and file any irregularities to a smooth surface.
- B. Balance car to equalize pressure of guide shoes on guide rails.
- C. Lubricate all equipment in accordance with Manufacturer's MCP recommendations.

3.14 CLEANING

- A. Adequately protect surfaces against accumulation of paint, mortar, mastic or damage during shipment and installation.
- B. Keep work areas clean during the progress of project. Remove debris materials daily.
- C. Clean machine room equipment and floor.
- D. Remove all protective packaging and clean hoistway, car, car enclosure, entrances, operating and signal fixtures.

3.15 ACCEPTANCE REVIEW AND TESTS

- A. Contractor is responsible for Code Authority acceptance inspection performed and complete corrective work. Re-inspection costs due to the Contractor shall be included at no cost by the Contractor.

3.16 PURCHASER'S INFORMATION

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

END OF SECTION

SECTION 055000 - METAL FABRICATIONS

3. PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Shop fabricated ferrous metal items and prime painted.
- B. Schedule of metal fabrications.

1.5 REFERENCES

- A. ASTM A36 - Structural Steel.
- B. ASTM A53 - Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
- C. ASTM A123 - Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- D. ASTM A153 - Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- E. ASTM A307 - Carbon Steel Externally Threaded Standard Fasteners.
- F. ASTM A492 - Standard Specification for Stainless Steel Rope Wire.
- G. ASTM A500 - Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
- H. ASTM A780 - Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
- I. AWS A2.4 - Standard Welding Symbols.
- J. AWS D1.1 - Structural Welding Code - Steel.

1.6 QUALIFICATIONS

- A. Welders' Certificates: Submit under provisions of Section 01 33 00, certifying welders employed on the Work, verifying AWS qualification within the previous 12 months.

1.7 FIELD MEASUREMENTS

- A. Verify that field measurements are as indicated on Drawings.

4. PART 2 PRODUCTS

2.2 MATERIALS

- A. Steel Sections: ASTM A36.

- B. Steel Tubing: ASTM A500, Grade B.
- C. Plates: ASTM A36.
- D. Pipe: ASTM A53, Grade B, Schedule 40.
- E. Bolts, Nuts, and Washers: ASTM A307 galvanized to ASTM A153 for galvanized components.
- F. Welding Materials: AWS D1.1; type required for materials being welded.
- G. Shop and Touch Up Primer: SSPC 15, Type 1, red oxide.
- H. Touch-Up Primer for Galvanized Surfaces: SSPC 20.

2.4 FABRICATION, GENERAL

- A. Fit and shop assemble in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured.
- C. Continuously seal joined members by continuous welds unless indicated otherwise.
- D. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- E. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.
- F. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.5 FINISHES

- A. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
- B. Do not prime surfaces in direct contact with concrete or where field welding is required.
- C. Prime paint items with one coat.
- D. Galvanize assembled items to minimum 1.25 oz/sq ft zinc coating in accordance with ASTM A123.
- E. Repair damaged galvanized surfaces in accordance with ASTM A780 Method A2.
- F. Finish: Site paint exposed to view prime painted items under provisions of Section 09 90 00.

4. PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive work.
- B. Beginning of installation means erector accepts existing conditions.

3.4 PREPARATION

- A. Clean and strip primed steel items to bare metal where site welding is required.
- B. Supply items required to be cast into concrete or embedded in masonry with setting templates, to appropriate sections.

3.5 INSTALLATION

- A. Install items plumb and level, accurately fitted, free from distortion or defects.
- B. Allow for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- C. Field weld components indicated on Drawings.
- D. Perform field welding in accordance with AWS D1.1.
- E. After erection, prime welds, abrasions, and surfaces not shop primed, except surfaces to be in contact with concrete.

3.5 SCHEDULE

- A. The Schedule is a list of principal items only. Refer to Drawing details for items not specifically scheduled.
- B. Miscellaneous Framing and Supports: Steel not a part of structural steel framework as required to complete work; prime paint finish.
- C. Bollards: Steel pipe, concrete filled, crowned cap, as detailed; prime paint finish.
- D. Opening Frames for Overhead Doors and Wall Openings: Structural sections; prime paint finish.
- E. Elevator Hoist Way Beams: Structural sections as detailed, prime paint finish.
- F. Elevator Door Sill Supports: Steel shapes as detailed, prime paint finish.

END OF SECTION

SECTION 099000 – PAINTING

2. PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Surface preparation.
- B. Products and application.
- C. Surface finish schedule.

1.3 SUMMARY OF PAINTED SUBSTRATES

- A. Section includes the application of paint systems on the following interior substrates:
 - 1. Primed or unprimed steel.
 - 2. Galvanized metal.
 - 3. Steel handrails, guardrails and fittings.
 - 4. Steel doors, frames and lights.
 - 5. Access doors and frames.
 - 6. Horizontal and vertical gypsum board.
 - 7. Plaster.
 - 8. Wall louvers.
 - 9. Electrical panel board covers.
- B. Section includes the application of paint systems on the following exterior substrates:
 - 1. Concrete.
 - 2. Primed or unprimed steel.
 - 3. Decorative metal fencing.
 - 4. Bollards.

5. Sheet metal flashing and trim.
 6. Sheet metal gutters and downspouts.
 7. Steel pipe downspouts.
 8. Steel doors, frames and lights.
 9. Glass frames in steel and wood doors.
 10. Portland cement plaster (stucco).
 11. Wall louvers.
 12. Mechanical roof mounted equipment.
 13. Electrical panel board covers.
- C. Substrate listings are for principal surfaces only. Refer to drawings, details and individual specification sections for items, surfaces, and substrates not specifically listed.

1.8 REFERENCES

- A. ASTM D16 - Definitions of Terms Relating to Paint, Varnish, Lacquer, and Related Products.
- B. SSPC - The Society for Protective Coatings.

1.9 SYSTEM DESCRIPTION

- A. Preparation of all surfaces to receive final finish.
- B. Painting and finishing work of this section using coating systems of materials including primers, sealers, fillers, and other applied materials whether used as prime, intermediate, or finish coats.
- C. Surface preparation, priming, and finish coats specified in this Section are in addition to shop-priming and surface treatment specified under other Sections.
- D. Painting and finishing all exterior and interior surfaces of materials including structural, mechanical, and electrical work on site, in building spaces, and above or on the roof.
- E. Paint exposed surfaces except where a surface or material is specifically indicated not to be painted or is to remain natural. Where an item or surface is not specifically mentioned, paint the same as similar adjacent materials or surfaces.

1.10 DEFINITIONS

- A. Conform to ASTM D16 for interpretation of terms used in this Section.

1.11 QUALITY ASSURANCE

- A. Product Manufacturer: Company specializing in manufacturing quality paint and finish products with five years experience.
- B. Applicator: Company specializing in commercial painting and finishing with five years documented experience.
- C. Coats: The number of coats specified is the minimum number acceptable. If full coverage is not obtained with the specified number of coats, apply such additional coats as are necessary to produce the required finish.
- D. Employ coats and undercoats for all types of finishes in strict accordance with the recommendations of the paint manufacturer.
- E. Provide primers and undercoat paint produced by the same manufacturer as the finish coat.
- F. The minimum dry film thickness of each coat of paint shall comply with the manufacturer's recommendations for each type of paint used.

1.12 REGULATORY REQUIREMENTS

- A. Comply with applicable codes and regulations of governmental agencies having jurisdiction including those having jurisdiction over airborne emissions and industrial waste disposal. Where those requirements conflict with this specification, comply with the more stringent provisions.
- B. Comply with the current applicable regulations of the California Air Resources Board (CARB) and the Environmental Protection Agency (EPA).

1.13 SUBMITTALS

- A. Submit product data under provisions of City's Division 01 General Requirements.
- B. Submit samples under provisions of City's Division 01 General Requirements.
- C. Submit two samples 8-1/2 x 11 inch in size of each paint color and texture applied to cardboard. Resubmit samples until acceptable color, sheen and texture is obtained.
- D. On same species and quality of wood to be installed, submit two 4 x 8 inch samples showing system to be used for varnishes and stains.

1.14 FIELD SAMPLES

- A. Provide field samples under provisions of City's Division 01 General Requirements.
- B. On wall surfaces and other exterior and interior components, duplicate specified finishes on at least 100 sq.ft. of surface area.

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- C. Provide full-coat finishes until required coverage, sheen, color and texture are obtained.
- D. Simulate finished lighting conditions for review of field samples.
- E. After finishes are accepted, the accepted surface may remain as part of the work and will be used to evaluate subsequent coating systems applications of a similar nature.

1.15 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site and store and protect under provisions of City's Division 01 General Requirements.
- B. Deliver products to site in sealed and labeled containers; inspect to verify acceptance.
- C. Container labeling to include manufacturer's name, type of paint, brand name, brand code, coverage, surface preparation, drying time, cleanup, color designation, and instructions for mixing and reducing. Paint containers not displaying product identification will not be acceptable.
- D. Store paint materials at minimum ambient temperature of 50 degrees F and a maximum of 90 degrees F, in well ventilated area, unless required otherwise by manufacturer's instructions.
- E. Take precautionary measures to prevent fire hazards and spontaneous combustion.

1.16 ENVIRONMENTAL REQUIREMENTS

- A. Provide continuous ventilation and heating facilities to maintain interior surface and ambient temperatures above 50 degrees F with a maximum humidity level of 50 percent for 24 hours before, during, and 48 hours after application of finishes, unless required otherwise by manufacturer's instructions.
- B. Do not apply exterior coatings during rain or snow, or when relative humidity is above 50 percent, unless required otherwise by manufacturer's instructions.
- C. Minimum Application Temperatures for Latex Paints: 50 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.
- D. Minimum Application Temperature for Varnish and Urethane Finishes: 65 degrees F for interior or exterior, unless required otherwise by manufacturer's instructions.
- E. Provide lighting level of 80 foot candles measured mid-height at substrate surface.

1.17 EXTRA MATERIAL

- A. Provide a one gallon unopened container of each color to Owner.
- B. Label each container with color, texture, and room locations in addition to the manufacturer's label.

4. PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS - PAINT

- A. Unless specifically identified otherwise, product designations included in this section are those that are manufactured and distributed by the Dunn-Edwards Corporation, www.dunnedwards.com and shall serve as the basis of design standard for kind, quality, performance and function.
- B. Subject to full compliance with specified requirements, other manufacturers offering equivalent products are:
 - 1. Benjamin Moore Paints, www.benjaminmoore.com.
 - 2. Kelly-Moore Paint Company, www.kellymoore.com.
 - 3. Sherwin Williams, www.sherwin-williams.com.
 - 4. Vista Paint Corporation, www.vistapaint.com.
- C. Substitutions: Under provisions of City's Division 01 General Requirements.

2.4 MATERIALS

- A. Ready mixed, except field catalyzed coatings. Process pigments to a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating.
- B. Good flow and brushing properties; capable of drying or curing free of streaks or sags.
- C. "Deep Tone" colors to be composed of 100 percent acrylic pigments with a colored base.
- D. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve the finishes specified, of commercial quality.

2.5 FINISHES

- A. Refer to schedule at end of Section for surface finish schedule.

5. PART 3 EXECUTION

3.2 INSPECTION

- A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- B. Examine surfaces to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

- C. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 - 1. Plaster and Gypsum Wallboard : 12 percent.
 - 2. Masonry, Concrete, and Concrete Unit Masonry : 12 percent.
 - 3. Interior Located Wood : 15 percent.
 - 4. Exterior Located Wood : 15 percent.
- D. Beginning of installation means acceptance of existing surfaces.

3.6 SURFACE PREPARATION - GENERAL

- A. Remove electrical plates, hardware, light fixture trim, and fittings prior to preparing surfaces or finishing.
- B. Remove all finish hardware from doors and frames prior to preparing surfaces or finishing.
- C. Correct minor defects and clean surfaces which affect work of this Section.
- D. Gypsum Board: Repair all voids, nicks, cracks and dents with patching materials and finish flush with adjacent surface. Latex fill minor defects. Spot prime defects after repair.
- E. Plaster: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.
- F. Uncoated Steel and Iron: Remove grease, scale, dirt, and rust. Where heavy coatings of scale are evident, remove by wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Prime paint after repairs.
- G. Shop Primed Steel: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime paint steel surfaces.
- H. Exterior Wood: Remove dust, grit, and foreign matter. Seal knots, pitch streaks, and sappy sections. Fill nail holes with tinted exterior caulking compound after prime coat has been applied.
- I. Wood Doors: Seal top and bottom edges with 2 coats of spar varnish sealer.

3.7 PROTECTION OF ADJACENT WORK

- A. Protect elements surrounding the work of this Section from damage or disfiguration.
- B. Repair damage to other surfaces caused by work of this Section.

- C. Furnish drop cloths, shields, and protective methods to prevent spray or droppings from disfiguring other surfaces.
- D. Remove empty paint containers from site.

3.8 WORK NOT TO BE PAINTED

- A. Painting is not required on surfaces in concealed and inaccessible areas such as furred spaces, foundation spaces, utility tunnels, pipe spaces and duct shafts.
- B. Do not paint metal surfaces such as stainless steel, chromium plate, brass, bronze, and similar finished metal surfaces.
- C. Do not paint anodized aluminum or other surfaces which are specified to be factory pre-finished.
- D. Do not paint sandblasted or architecturally finished concrete surfaces.
- E. Do not paint prefinished acoustic materials or acoustic suspension systems.
- F. Do not paint over Underwriters Laboratories, Factory Mutual or other code-required labels or identifications.

3.9 APPLICATION

- A. Apply products in accordance with manufacturer's instructions.
- B. Do not apply finishes to surfaces that are not dry.
- C. Apply prime coat to surfaces which are to be painted or finished.
- D. Apply each coat to uniform finish.
- Q. Apply each coat of paint slightly darker than preceding coat unless otherwise approved.
- R. Sand lightly between coats to achieve required finish.
- S. Allow applied coat to dry before next coat is applied.
- T. The number of coats specified is the minimum that shall be applied. Apply additional coats when undercoats, stains or other conditions show through final paint coat, until paint film is of uniform finish, color and appearance.
- U. Where clear finishes are required, tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.
- V. Prime back surfaces of interior and exterior woodwork with primer paint.

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- W. Prime back surfaces of interior woodwork scheduled to receive stain or varnish finish with gloss varnish reduced 25 percent with mineral spirits.
- X. Paint mill finished door seals to match door or frame.
- Y. Paint primed steel glazing stops in doors to match door or frame.
- Z. Cloudiness, spotting, lap marks, brush marks, runs, sags, spikes and other surface imperfections will not be acceptable.
- AA. Where spray application is used, apply each coat of the required thickness. Do not double back to build up film thickness of two coats in one pass.
- BB. Where roller application is used, roll and redistribute paint to an even and fine texture. Leave no evidence of roller laps, irregularity of texture, skid marks, or other surface imperfections.

3.7 FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT]

- A. Paint shop primed equipment. Do not paint shop prefinished items.
- B. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.
- C. Prime and paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, except where items are prefinished.
- D. Replace identification markings on mechanical or electrical equipment when painted accidentally.
- E. Paint interior surfaces of air ducts, and connector and baseboard heating cabinets that are visible through grilles and louvers with one coat of flat black paint, to limit of sight line. Paint dampers exposed behind louvers, grilles, and connector and baseboard cabinets to match face panels.
- F. Paint exposed conduit and electrical equipment occurring in finished areas.
- G. Paint both sides and edges of plywood backboards for electrical and telephone equipment before installing equipment.
- H. Replace electrical plates, hardware, light fixture trim, and fittings removed prior to finishing.
- I. Paint grilles, registers, and diffusers which do not match color of adjacent surface.
- J. Paint all mechanical and electrical equipment, vents, fans, and the like occurring on roof.
- K. Do not paint moving parts of operating units; mechanical or electrical parts such as valve operators; linkages; sensing devices; and motor shafts.
- L. Do not paint over labels or equipment identification markings.

- O. Do not paint mechanical room specialties such as compressors, boilers, pumps, control panels, etc.
- P. Do not paint switch plates, light fixtures, and fixture lenses.

3.12 CLEANING

- A. As Work proceeds, promptly remove paint where spilled, splashed, or spattered.
- B. During progress of Work maintain premises free of unnecessary accumulation of tools, equipment, surplus materials, and debris.
- C. Collect cotton waste, cloths, and material which may constitute a fire hazard, place in closed metal containers and remove daily from site.

3.13 PROTECTION OF COMPLETED WORK

- A. Protect finished installation under provisions of City's Division 01 General Requirements.
- B. Erect barriers and post warning signs. Maintain in place until coatings are fully dry.
- C. Confirm that no dust generating activities will occur following application of coatings.

3.14 PATCHING

- A. After completion of painting in any one room or area, repair surfaces damaged by other trades.
- B. Touch-up or re-finish as required to produce intended appearance.

3.15 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of City's Division 01 General Requirements.
- B. The Owner reserves the right to invoke the following test procedure at any time and as often as the Owner deems necessary.
- C. The Owner will engage the services of an independent testing agency to sample paint material being used.
- D. Samples of material delivered to the Project will be taken, identified, sealed, and certified in the presence of the Contractor.
- E. The testing agency will perform appropriate quantitative materials analysis and other characteristic testing of materials as required by the Owner.

- F. If test results show materials being used and their installation do not comply with specified requirements or manufacturer's recommendations, the Contractor may be directed to stop painting, remove noncomplying paint, pay for testing and repaint surfaces to acceptable condition.

3.16 COLOR SCHEDULE

- A. Paint and finish colors shall be selected by the Architect from manufacturer's entire range of standard and custom color selections and special colors selected to match or compliment the colors of other materials, equipment, or components which comprise the work.
- B. Access doors, registers, exposed piping, electrical conduit and mechanical/electrical panels: Generally the same color as adjacent walls.
- C. Exterior and interior steel doors, frames and trim: Generally a contrasting color to adjacent walls.
- D. Doors generally are all the same color, but of a contrasting color from frame and trim.
- E. Exterior and interior steel fabrications: Generally a contrasting color to adjacent walls.
- I. Exposed interior mechanical/ductwork: Generally a contrasting color to adjacent walls or ceiling.
- J. Ceilings are generally to be painted a different color than walls.
- K. Approximately 20 percent of overall painting work will be required to be "Deep Tone" colors. This work will require one additional coat of paint beyond that as specified.

3.14 SCHEDULE - EXTERIOR SURFACES

1st coat: 2nd coat: 3rd coat:	A. Concrete (Flat Acrylic)	ESPROO Eff-Stop Premium
		EVSH10 Evershield
		EVSH10 Evershield
1st coat: 2nd coat: 3rd coat:	B. Cement Plaster (Flat Elastomeric)	FPSL00 Flex Prime Select
		EDLX10 Enduralastic 10
		EDLX10 Enduralastic 10
1st coat: 2nd coat: 3rd coat:	C. Steel - Primed or Unprimed (Eggshell Urethane Alkyd Enamel)	BRPR00 Bloc-Rust Premium
		ASHL30 Aristoshield
		ASHL30 Aristoshield
1st coat:	D. Steel - Galvanized (Eggshell Urethane Alkyd Enamel)	Supreme Chemical Metal Clean and Etch SCME-

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2nd coat:	ULGM00 Ultrashield Galvanized Metal Primer
3rd coat:	ASHL30 Aristoshield
4th coat:	ASHL30 Aristoshield

3.15 SCHEDULE - INTERIOR SURFACES

	A. Steel - Primed or Unprimed (Eggshell, Urethane Alkyd Enamel)
1st coat:	BRPR00 Bloc-Rust Premium
2nd coat:	ASHL30 Aristoshield
3rd coat:	ASHL30 Aristoshield
	B. Steel - Galvanized (Eggshell, Urethane Alkyd Enamel)
1st coat:	ULGM00 Ultrashield Galvanized Metal Primer
2nd coat:	ASHL30 Aristoshield
3rd coat:	ASHL30 Aristoshield
	E. Gypsum Board (Eggshell Acrylic)
1st coat:	VNPROO Vinylastic Premium
2nd coat:	SPMA30 Suprema
3rd coat:	SPMA30 Suprema
	F. Gypsum Board (Semi-Gloss Acrylic)
1st coat:	VNPROO Vinylastic Premium
2nd coat:	SPMA50 Suprema
3rd coat:	SPMA50 Suprema

END OF SECTION