City of Santa Cruz

Elevator Modernization Project

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DIVISION 14 – CONVEYING SYSTEMS

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Summary

Part 1 – General

1.01 Section Includes

A. General Project Information
B. A general description of Work covered by the Contract Documents.
C. A description of work performed by the City.
D. Miscellaneous provisions and information regarding site access and coordination with occupants.

1.02 Project Information

A. The Work of this Contract includes the modernization and electrical services (i.e., electrical, fire, and life safety infrastructure improvements) of two (2) existing hydraulic passenger elevators, located at 601 Front St. & 1050 Cedar St., Santa Cruz, CA, 95060.

1.03 Work Covered By Contract Documents

A. The Work of the Project is defined by the Contract Documents.
B. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
C. General Requirements of Work Covered in these Contract Documents. Section in Division 01 apply to the Work of all Section in the Specifications.

1.04 Type of Contract

A. The Project will be constructed under a single prime contract.
B. The Work is divided into bid items shown in the Bid Form included in the Contract Documents.

1.05 Phased Construction (Not Used)

1.06 Work By Contractor

A. General: Coordinate the Work of this Contract with work performed by City. Cooperate fully with City so work may be carried out smoothly, without interfering with or delaying work under this Contract or work by City.
B. Not Used.
C. Not Used.

1.07 Work By City

A. General: Cooperate fully with City so work may be carried out smoothly, without interfering with or delaying work under this Contract or work by City. Coordinate the Work of this Contract with work performed by City.

B. Maintaining Operations: The City will continue to operate the Civic Auditorium during the course of the Work. Coordination between City and Contractor will be required for the duration of the Work.
C. Inspection & Testing: City to provide inspection and 3rd party inspection for certain work performed under this Contract. Refer to plan sheet notes and Section 05 50 00 – Metal Fabrications for details.

1.08 Access to Site

A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Work limits and as limited by permits, and specifications.
B. Use of site: Contractor may use project site for purposes of project construction only as allowed by the Contract documents and only during such times as allowed by Contract documents.
C. Limits: Limit use of project site to areas within the Work limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
D. Contractor shall be held responsible for any damage resulting from Contractor operations to areas on City property, including storm drains. Damage to such resources can result in monetary fines, requirements for restoration of or compensation for damage, additional training, and stoppage of Work. Any costs or fines shall be paid by the Contractor.
E. Driveways, Walkways and Entrances: Keep access roads, driveways, and entrances serving premises clear and available to City, City's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.

1.09 Coordination With Occupants

A. Maintain access to existing facilities and properties. Do not obstruct access without prior permission from City and authorities having jurisdiction (Including Fire Departments and other emergency response).
B. Access to adjacent properties shall be maintained at all times and during active construction, work must be paused to provide such access as needed.
C. Provide not less than 5 working days' notice to City and obtain approval of activities prior to start that will affect City's normal operations and access.

1.10 Cooperation With Other Work Forces

A. Other contractors, other utilities and public agencies or their contractors, other City contractors, and/or City personnel may be working in the vicinity during the project construction period. These entities may include:
    1. PG&E

2. City of Santa Cruz
3. AT&T
4. Comcast

B. Any costs providing cooperation with other work forces shall be considered as included in the bid prove for the carious Contract items of work and no separate payment will be made therefore.

Part 2 – Products – Not Used

Part 3 – Execution – Not Used

Section 01 23 00

Alternates

Part 1 - General

1.1 Scope

A. Provide material and labor required for complete execution of accepted alternates. Comply with all provisions of the Contract Documents.

Part 2 – Products – Not Used

Part 3 – Execution – Not Used

End Of Section 01 23 00

Section 01 25 00

Substitution Procedures

1.01 Summary

A. Section includes
   1. The procedure for requesting the approval of substitution of a product that is not equivalent to a product which is specified by descriptive or performance criteria or defined by reference to one or more of the following:
      a. Name of manufacturer.
      b. Name of vendor.
      c. Trade name.
      d. Catalog number.

B. Substitutions are not “or-equals.”
   1. This specification Section does not address substitutions for major equipment.

C. Related Specification Sections include but are not limited to:
   1. Contract Documents
   2. Division 01 – General Specifications

D. Request for Substitution – General:
   1. Base all bids on materials, equipment, and procedures specified.
   2. Certain types of equipment and kinds of material are described in specifications by means of references to names of manufacturers and vendors, trade names, or catalog numbers.
      a. When this method of specifying is used, it is not intended to exclude from consideration other products bearing other manufacturer’s or vendor’s names, trade names, or catalog numbers, provided said products are “or-equals,” as determined by the engineer, architect, or City.
   3. Other types of equipment and kinds of material may be acceptable substitutions under the following conditions:
      a. Or-equals are unavailable due to strike, discontinued production of products meeting specified requirements, or other factors beyond control of Contractor; or,
      b. Contractor proposes a cost and/or time reduction incentive to the City.

1.02 Quality Assurance

A. In making a request for substitution or in using an approved product, Contractor represents they:
    1. Have investigated proposed product and have determined that it is adequate or superior in all respects to that specified, and that it will perform function for which it is intended.
    2. Will provide the same guarantee for substitute item as for product specified.
    3. Will coordinate installation of accepted substitution into Work, to include building modifications if necessary, making such changes as may be required for Work to be complete in all respects.
    4. Waives all claims for additional costs related to substitution which subsequently arise.

1.03 Definitions

A. Product: Manufactured material or equipment.

1.04 Procedure For Requesting Substitution During Bidding Period

A. See Contract Document Section Instructions to Bidders.

1.05 Procedure For Requesting Substitution After Award of Contract

A. Substitution will only be considered under the conditions stated herein.
B. Written request through Contractor only.
C. Transmittal Mechanics:
    1. Follow the transmittal mechanics prescribed in Section 01 33 00 – Submittal Procedures.
        a. Product substitution will be treated in a manner similar to “deviations,” as described in 01 33 00 Submittal Procedures.
        b. List the letter describing the deviation and justifications on the transmittal form.
            1) Include in the transmittal letter the items listed in Paragraph D below. Include either directly or as a clearly marked attachment.
D. Transmittal Contents:
    1. Product identification:
        a. Manufacturer’s name.
        b. Telephone number and representative contact name.
        c. Specification Section or Drawing reference of originally specified product, including discrete name or tag number assigned to original product in the Contract Documents.

2. Manufacturer's literature clearly marked to show compliance of proposed product with Contract Documents. The Architect/Engineer will not consider proposals for substitutions when such proposals are not accompanied by fill and complete technical data.
    a. Itemized comparison of original and proposed product addressing product characteristics including but not necessarily limited to:
        1) Size.
        2) Composition or materials of construction.
        3) Weight.
        4) Electrical or mechanical requirements.
3. Product experience:
    a. Location of past projects utilizing product.
    b. Name and telephone number of persons associated with referenced projects knowledgeable concerning proposed product.
    c. Available field data and reports associated with proposed product.
4. Data relating to changes in construction schedule.
5. Data relating to changes in cost.
6. Samples:
    a. At request of Architect/Engineer.
    b. Full size if requested by Architect/Engineer.
    c. Held until substantial completion.
    d. Engineer not responsible for loss or damage to samples.

1.06 Approval or Rejection

A. Written approval or rejection of substitution given by the Architect/Engineer.
B. Architect/Engineer reserved the right to require proposed product to comply with color and pattern of specified product if necessary to secure design intent.
C. In the event the substitution is approved, the resulting cost and/or time reduction will be document by Change Order in accordance with the General Conditions.
D. Substitution will be rejected it:
    1. Submittal is not through the Contractor with his stamp of approval.
    2. Request is not made in accordance with this Specification Section.
    3. In the Architect/Engineer's opinion, acceptance will require substantial revision of the original design.
    4. In the Architect/Engineer's opinion, substitution will not perform adequately the function consistent with the design intent.
E. Reimburse City for the cost of Architect/Engineer's evaluation whether or not substitution is approved.

F. Substitutions not specifically requested, although accepted through oversight, may be rejected at and stage of the Work. The Contractor will, at his own expense, reconstruct all Work affected by the later rejection of a substitution that was not specifically requested.

Article 2 – Products – (Not Used)

Article 3 – Execution – (Not Used)

Section 01 26 10

Request for Information (RFI) Procedures

Article 1 General

1.01 Summary

A. Section Includes:
   1. Administrative and procedural requirements for executing a change in the Work.

1.02 Preliminary Requirements

A. Change Order Cost Basis Summary Form:
   1. Submit a sample to Owner for review within 15 calendar days following Notice to Proceed:
      a. Items will be reviewed and their value, percentage, or calculation method mutually agreed to by the Contractor and Owner prior to executing a Change Order on the Project.
   2. Used by the Contractor for pricing each Change Order required for additions, deletions, or revisions in the Work.
   3. Include the following information:
      a. Agreed upon markups, percentages, and procedures for calculating all surcharges, etc. associated with the Cost of the Change Order Work.
      b. References for unit price information and special unit price information.
      c. Attachments with the following information:
         1) Certified labor rates breakdown.
         2) Equipment rates.
         3) Bond and insurance rates (PI&I).

1.03 Request For Information Or Interpretation (RFI)

A. Contractor may issue RFIs to request interpretation of the documents or to request for information that may be missing.
B. General Instructions:
   1. Use RFI Form as specified – Requesst for Information or Interpretation (RDI):

a. Use of other RFI Forms is acceptable if the form includes the information in the form provided in the referenced form, at a minimum.

2. Number RFIs consecutively:
    a. Add a consecutive letter to the RFI number on modified submittals of the same RFI (i.e., RFI 4B)
3. Provide RFI for 1 item:
    a. There may be exceptions when multiple items are so functionally related that expediency indicates review of the group of items as a whole.
    b. RFIs with multiple items will be rejected without review.
4. Contractor sign and date RFIs indicating review and approval:
    a. Contractor's signature indicates that they have satisfied RFI review responsibilities and constitutes Contractor's written approval of RFI.
    b. RFIs without Contractor's signature will be returned to the Contractor unreviewed. Subsequent submittal of this information will be counted as the first resubmittal.

C. Owner will render a written clarification, interpretation, or decision on the issue submitted or initiate an amendment or supplement to the Contract within 21 days:
    1. In the event the Contractor identifies an RFI as critical to the progress of the project, Owner will make every effort to reduce the RFI response time.

1.04 Preliminary Procedures

A. Owner may initiate changes by submitting a Request for Proposal (RFP) to Contractor including the following information:
    1. Detailed description of the Change, Products, and location of the change in the Project.
    2. Supplementary or revised drawings or specifications.
    3. Projected time span for making the change, and a specific statement if overtime work is authorized.
    4. A specific period of time during which the requested price will be considered valid.
    5. Such request is for information only, and is not an instruction to execute the changes, or to stop work in progress.
B. Contractor may initiate changes by submitting a Change Proposal to Owner containing the following:
    1. Description pf proposed changes.

2. Reason for making changes.
3. Specific period of time during which requested prove will be considered valid.
4. Effect on Total Contract Cost and/or Contract Time.
5. Documentation supporting any change in Total Contract Cost and/or Contract Time, as appropriate.

1.05 Work Change Directive Authorization

A. In lieu of a Request for Proposal (RFP), Owner may issue a Work Change Directive Authorization for Contractor to proceed with a change for subsequent inclusion in a Change Order.
B. Authorization will describe changes in the Work, both additions and deletions, with attachments of revised Contract Documents to define details of the change, and will designation method of determining any change in the Contract Sum and/or the Contract Time, as appropriate.
C. Owner will sign and date the Work Change Directive Authorization as authorization for the Contractor to proceed with the changes.
D. Contractor may sign and date the Work Change Directive Authorization to indicate agreement with the terms.

1.06 Documentation Of Change Proposals

A. Change proposal:
    1. Support with sufficient substantiating date to allow Engineer to evaluate the quotation:
        a. Lump sum.
        b. Unit prices: Use previously established unit prices.
        c. Time-and-material/force account basis:
            1) Name of the Owner's authorized agent who ordered the work, and date of the order.
            2) Dates and times work was performed, and by whom.
            3) Time record, summary of hours worked, and hourly rates paid.
            4) Receipts and invoices for:
                a) Equipment used, listing dates and times of use.
                b) Products used, listing of quantities.
                c) Subcontracts.
    2. Provide additional data to support time and cost computations:
        a. Labor required.
        b. Equipment required.

c. Products required:
    1) Recommended source of purchase and unit cost.
    2) Quantities required.
d. Taxes, insurance, and bonds.
e. Credit for work deleted from Contract, similarly documented.
f. Overhead and profit.
g. Justification for change to Contract Time.

1.07 Preparation Of Change Orders and Field Orders

A. Owner will prepare each Change Order and Field Order.
B. Change Orders:
    1. Will describe changes in the Work, both additions and deletions, with attachments of revised Contract Documents to define details of the change.
    2. Will provide an accounting of the adjustment in the Contract Sum and in the Contract Time.
    3. Recommendation of Change Proposal is indicated by Owner's signature.
    4. Upon signature and execution by Owner, the Change Proposal becomes a Change Order altering the Contract Time and Total Contract Cost, as indicated:
        a. Owner's Representative will transmit one signed copy each to Contractor and Owner.
    5. Contractor may only request payment for changes in the Work against an approved Change Order.
    6. If either Engineer or Owner's Representative disapproves the Change Proposal, the reason for disapproval will be stated:
        a. A request for a revised proposal or cancellation of the proposal will be shown.
C. Field Orders:
    1. Order minor changes in the Work without changes in Contract Price or Contract Times.

1.08 Lump-Sum/Fixed Price Change Order

A. Content of Change Orders will be based on, either:
    1. Owner's Proposal Request and Contractor's responsive Change Proposal as mutually agreed between Owner and Contractor.
    2. Contractor's Change Proposal for a change, as recommended by Owner.

B. Owner and Engineer will sign and date the Change Order to establish the change in Contract Sum and in Contract Time and serve as authorization for the Contractor to proceed with the changes.
C. Contractor will sign and date the Change Order to indicate agreement with the terms.

1.09 Unit Price Change Order

A. Content of Change Orders will be based on, either:
    1. Owner's definition of the scope of the required changes.
    2. Contractor's Change Proposal for a change, recommended by Owner.
    3. Curvey of completed work.
B. The amounts of the unit prices to be:
    1. Those stated in the Contract.
    2. Those mutually agreed upon between Owner and Contractor.
C. When quantities of each of the items affected by the Change Order can be determined prior to the start of the work:
    1. Owner or Architect will sign and date the Change Order as authorization for the contractor to proceed with the changes.
    2. Contractor will sign and date the Change order to indicate agreement with the terms.
D. When quantities of the items cannot be determined prior to start of the work:
    1. Owner or Architect will issue a Work Change Directive authorization directing Contractor to proceed with the change on the basis of unit prices, and will cite the applicable unit process.
    2. At completion of the change, Owner will determine the cost of such work based on the unit prices and quantities used.
    3. Contractor shall submit documentation to establish the number of units of each item and any claims for a change in Contract Time.
E. Owner and Architect will sign and date the Change Order to establish the change in Contract Sum and in Contract Time and serve as authorization for the Contractor to proceed with the changes.
F. Contractor will sign and date the Change Order to indicate their agreement with the terms.

1.10 Time and Material/Force Account Change Order/Work Change Directive Authorization

A. Owner will issue a Work Change Directive with a signature authorizing Contractor to proceed with the changes.
B. At completion of the change, Contractor shall submit itemized accounting and supporting data as specified in this Section.

C. Engineer will determine the allowable cost of such work, as provided in the Contract Documents.
D. Owner and Architect will sign and date the Change Order to establish the change in Contract Sum and in Contract Time and serve as authorization for the Contractor to proceed with the changes.
E. Contractor will sign and date the Change Order to indicate their agreement.

1.11 Correlation With Contractor's Submittals

A. Periodically revise Schedule of Values and Applications for Payment forms to record each Change Order as a separate item of Work, and to record the adjusted Contract Sum.
B. Periodically revise the Construction Schedule to reflect each change in Contract Time. Revise subschedules to show changes for other items of work affected by the changes.
C. Upon completion of work under a Change Order, enter pertinent changes in Record Documents.

Article 2 Products (Not Used)

Article 3 Execution (Not Used)

Section 01 31 19

Project Meetings

1.01 Section Includes

A. Contractor participation in preconstruction meeting.
B. Contractor responsibilities regarding progress and special meetings.

1.02 Preconstruction Conference

A. Upon receipt of the Notice to Proceed, or at an earlier time in mutually agreeable, the Construction Manager (CM) will arrange a preconstruction conference to be attended by the Contractor's project representative authorized to commit on the behalf of the Contractor and to direct the performance of the Work by others as well as the Contractor's superintendent, the CM, the Engineer, City representatives, major subcontractors, and others involved in the execution of the Work. This pre-construction conference shall be held at the City of Santa Cruz Parks and Recreation Building unless otherwise indicated by the City.
B. The purpose of this conference will be to establish a working relationship and understanding between the parties and to discuss project organization, job communications, the Construction Schedule, shop drawing submittals and processing, cost breakdown payment applications and their processing, extra work procedures, safety requirements, permits and inspections, and such other subjects as may be pertinent for the execution of the Work. Suggested Agenda:
    1. Distribution and discussion of:
        a. List of major subcontractors and suppliers;
        b. Projected Construction Schedules;
        c. Critical path for materials availability, backorders, and estimated delivery length of time.
    2. Major equipment deliveries and priorities;
    3. Project coordination & design of responsible personnel;
    4. Distribution procedures and processing of;
        a. Proposal requests;
        b. Submittals;
        c. Change Orders;
        d. Applications for Payment;
        e. Requests for Information (RFIs); and
        f. Field Orders.
    5. Procedures for maintaining Project Record Documents;
    6. Use of premises:

a. Offices, work and storage areas; and
b. City's CM's and Architect's/Engineer's requirements.

7. Construction Facilities, controls and construction aids;
8. Environmental requirements;
9. Characterization of solid wastes, and liquid wastes.
10. Procedures for Emergency Action Plan, Construction and Demolition Wate Disposal Plan, Spill Contingency and Containment Plan, Dust Control and Monitoring Plan, Fire Plan;
11. Temporary utilities and facilities;
12. Safety program and first-aid procedures including special requirements for underwater, confined space, blasting and other work;
13. Planning for community impacts due to construction, for example traffic and noise, and process for responding to complaints from the community;
14. Funding Agency requirements;
15. Security requirements and procedures;
16. Housekeeping procedures.

1.03 Weekly Progress Meetings

A. The Construction Manager will arrange and conduct weekly progress meetings with Contractor and City staff. The Construction Manager will prepare and circulate an agenda for each meeting.
B. Progress meetings will be conducted at a time that is mutually agreed upon by the Construction Manager, the Contractor, and City Staff. Progress meetings shall be attended by the Cm, Architect/Engineer (as necessary), City personnel, Contractor's project representative and superintendent, and representatives of all subcontractors required by the Contractor or requested by the CM.
C. Progress meetings will be held at a location as determined by the CM. These meetings will require a virtual platform for those that cannot attend in-person.
D. The purpose of the meetings will be to facilitate the work of the Contractor and any subcontractor or other organization that is not progressing to schedule, resolve conflicts, identify and resolve any potential delays and in general, coordinate and facilitate the execution of the Work.
E. The agenda of progress meetings shall include review of the work progress and the latest Construction Progress Schedule, potential project delays, submittal reviews, review neighborhood/community concerns, information requests, safety concerns and extra work items. Suggested agenda:
    1. Review and approval of minutes of previous meeting;
    2. Review project safety, including upcoming potential hazards;

3. Field observations, quality issues, potential conflicts;
4. Maintenance of quality standards;
5. Anticipated impacts on neighbors/community/City operations during the current week and one forthcoming week, with a focus on visual/view, noise, and odor problems;
6. Review submittal schedules; expedite as required;
7. Review critical path equipment and discuss any expected delays or changes;
8. Review of RFI's; expedite as required;
9. Review of off-site fabrication, delivery schedule
10. Review work progress since previous meeting and expected progress and schedule during the current week and the two forthcoming weeks;
11. Review proposed contract modifications and discuss;
12. Coordination of schedules;
13. Problems which impede Construction Schedule;
14. Revisions to Construction Schedule and proposed corrective measures and procedures to regain project schedule;
15. Pending changes and substitutions. Identify impacts on cost and schedule;
16. Environmental items and sediment control compliance;
17. Existing or potential neighborhood/community concerns;
18. Any unresolved issues; and
19. Other business.

F. The Construction Progress Schedule will be reviewed to verify at a minimum:
    1. Actual start and finish dates of completed activities since the last progress meeting;
    2. Durations, progress, and productivity rates of all activities not completed;
    3. Critical submittals/materials delivery problems;
    4. Potential project delays;
    5. Any activity behind schedule and the Contractor's plan to bring it back on schedule;
    6. Coordination of system outage requests or access restrictions;
    7. Labor and equipment availability;
    8. Contractor readiness to implement contingency plans necessary to keep the project on schedule; and
    9. Potential impacts from City's operation and maintenance activities.

G. If the logic of the submitted Look-Ahead Schedule deviates significantly from the current schedule, a reconciliation of the two schedules is required to be resubmitted with the next reporting requirements.
H. The Construction Manager will prepare and distribute minutes of the meetings.

1.04 Special Meetings

A. Other meetings as necessary to address construction progress issues, change proposals and closeout. The location and time of this meeting is to be determined by the CM.
B. Facility Outage Plan Meetings
C. Starting subcontracted work
    1. Jointly with the City Representative, Contractor shall convene a pre-construction meeting at least 5 days but no more than 30 days prior to the commencement of any CM specified phase of Work to introduce any new subcontractors and to discuss the following items:
        a. Scope of work to be performed;
        b. Quality Control Plan (prior to each phase of major work);
        c. Any outstanding submittal issues;
        d. Methods and constraints;
        e. Construction sequencing and coordination with other work;
        f. Equipment operating parameters;
        g. Safety procedures;
        h. Instrumentation and monitoring;
        i. Reporting requirements;
        j. Other issues as may be raised by either party.

Article 2 – Products – (Not Used)

Article 2 – Execution – (Not Used)

Section 01 33 00

Submittal Procedures

Article 1 – General

1.01 Section Includes

A. Requirements for Inspection and Testing Schedule, Schedule of Submittals.
B. Requirements for Shop Drawings, Product Data, Samples.
C. General procedure and responsibilities for Contractor's Submittals.
D. Procedure for CM's review of Submittals.

1.02 General Provisions

A. Prepare and process Submittals in accordance with this Section and the specific requirements for the various items of work contained elsewhere in these Contract Documents.
B. Submit samples, drawings, and data for the Engineer's approval which demonstrate fully that the construction, and the materials and equipment to be furnished will comply with the provisions and intent of this Specification.
C. When requested by the Construction Manager (CM) and/or Architect/Engineer to substantiate data on Submittals, additional engineering calculations, performance data, certified test reports, and other material shall be submitted in the manner provided for Submittals.
D. All information on submittals shall be in the English language. U.S. Standard units of measure (foot-pounds) and other terms and nomenclature customarily in use in the U.S. shall be used in presenting data.
E. Work included:
    1. Specific items to be covered by the submittals will include, as a minimum, the following:
        a. For bracing and shoring of operations, submit all shop drawings, manufacturer requirements, and calculations completed by a professional civil or geotechnical engineer in compliance with the State of California Construction Safety Orders of the Division of Industrial Safety, and OSHA excavation standards 29 CFR 1926, Subpart P, Trenching and Excavations;
        b. For structures, submit all shop, setting, equipment, miscellaneous iron and reinforcement drawings and schedules necessary;

c. For pipelines, submit a detailed layout of the pipeline with details of bends and fabricated specials and furnish any other details necessary. Show location of shop and field welds;
d. For equipment which requires electrical service, submit detailed information to show power supply requirements, wiring diagrams, control and protection schematics, shop test data, operation and maintenance procedures, outline drawings, and manufacturer's recommendation of the interface/interlock among the equipment;
e. For mechanical equipment, submit all data pertinent to the installation and maintenance of the equipment including shop drawings, manufacturer's recommended installation procedure, detailed installation drawings, test data and curves, maintenance manuals, and other details necessary.

2. Additional submittals required: See pertinent section of the specification.
3. Submit a Schedule of Submittals that includes a critical path for materials, based on availability, backorders, and estimated delivery length of time.

1.03 Submittals

A. Submit Submittal Schedule including a detailed listing of all Submittals required in the various sections of the Specifications together with the scheduled date for submission of each.
    1. Schedule the Submittals in such a sequence as will cause no delay in the Work or in the work of any other contractor, supplier or manufacturer and will be compatible with the schedule for other events and constraints stated in the Contract Documents.
    2. Show dates Contractor will require information for specified City-furnished equipment and/or services.
    3. Update the form monthly to reflect all Submittals made during the preceding month. Update the scheduled dates to reflect Contractor's current schedule for submitting all remaining required Submittals.
    4. The contractor initiates each submittal by providing an electronic copy to Owner Representative via email.

1.04 Preparation of Shop Drawings, Product Data, and Samples

A. Coordination of Submittals
    1. Prior to submittal for CM and/or Architect's/Engineer's review, use all means necessary to fully coordinate all material, including the following procedures:

a. Determine and verify all field dimensions and conditions, materials, catalog numbers, and similar data; and
b. Coordinate as required with all trades involved.

2. Secure all necessary approvals from agencies having jurisdiction and signify with agency stamp, or other means, that approvals have been secured.
3. Unless otherwise specifically permitted by the CM and/or Architect/Engineer, make all submittals in groups containing all associated items; the CM and/or Architect/Engineer may reject partial submittals as not complying with the provisions of the Contract Documents.

B. Shop Drawings:
1. Present Shop Drawings in a clear and thorough manner. Identify details by reference to locations, to details shown on Contract Drawings, or to applicable Specifications sections.
2. Each drawing and each page of calculation sin a submittal shall bear the name of the firm under which the work was accomplished and shall have been checked. The person(s) who prepared the drawing or calculation and the person(s) who scheduled the work shall sign or initial each such drawing and page. The preparer and checker shall not be the same person.
3. Submittals received by CM and/or Architect/Engineer without the foregoing evidence of checking will be considered incomplete and will not be reviewed and will be returned to the Contractor to have the work completed. Contractor shall bear full responsibility for any delay resulting from such actions.
4. Submittals shall contain:
a. The Contract Number and Project title.
b. The names of Contractor and Supplier/Manufacturer as appropriate.
c. The current date of the submitted item and an indication of previous versions by a numbered revision symbol and a notation with dates.
d. Identification of the work or product, with the specification section number and referenced to the equipment designations or device numbers used in the Drawings and Specifications.
e. Field dimensions, clearly identified as such.
f. Relation to adjacent or critical features of the Work or materials.
g. Applicable standards, such as ASTM or ANSI numbers.

h. Identification of deviations for Contract Documents
i. An 8 inch by 3 inch blank space for Contractor's or Contractor's Engineer stamps (Minimum sheet size: 8 ½ inches by 11 inches).
j. Contractor's stamp, initialed or signed, certifying to review of Submittal in conformance with the Contract Document requirements. Stamp shall be included on the submittal cover letter or in the following form:

CONTRACTOR'S NAME
This certifies that this Submittal has been reviewed and that the information presented conforms to all requirements of the Contract Documents.
Comments:_____
By:_____ Date:_____

C. Product Data:
1. Preparation: Clearly mark each copy to identify pertinent products or models.
    a. Show performance characteristics and capacities.
    b. Show dimensions and clearances requires.
    c. Show wiring and piping diagrams and controls.
    d. Show other information required by the Specifications and necessary for an effective review by Architect/Engineer.
2. Manufacturer's standard data sheets, schematic drawings and diagrams:
    a. Modify drawings and diagrams to delete all information not applicable to the Work.
    b. Supplement standard information to provide information specifically applicable to the Work.
3. Samples: Samples will be of sufficient size and quantity to clearly illustrate:
    a. Functional characteristics of the product, with integrally related parts and attachment devices.
    b. Full range of colors, textures and patterns, where applicable.
    c. Provide samples for testing as required by applicable sections of the Specifications.

1.05 Revision of Shop Drawings, Product Data, and Samples

A. Make changes in the Submittals, in required as a result of the Construction Manager and/or Architect/Engineer and Contractor's reviews, and resubmit.
B. For resubmittals, comply with all requirements for Submittals. Apply Contractor's certifying stamp on resubmittals.
C. For drawings, identify newly revised areas on the Submittal by a "cloud" outline with the numbered revision symbol.
D. Indicate all changes which have been made in addition to those requested by the Construction Manager and/or Architect/Engineer.
E. Samples: Submit new samples as required for initial Submittal.
F. Revise the originals of Shop Drawings and Product Data to reflect the completed, as-constructed conditions.
    1. Show all information entered on the marked-up Project Record copies during the course of construction.
    2. Show all changes and data developed during installation, adjusting, and startup of equipment.

1.06 Submission and Distribution of Shop Drawings, Product Data, and Samples

A. Make submissions promptly in accordance with the Schedule of Submittals accepted by the Architect/Engineer/Owner's Representative allowing sufficient review time by Architect/Engineer/Owner's Representative and for incorporation of review comments. Unless stated otherwise in specific specification sections, submit a minimum of 30 days in advance of when the work of the Submittal is scheduled to commence.
B. Provide with each submission, a transmittal letter in the form provided by Construction Manager and/or Engineer/Architect/Owner's Representative.
C. All items submitted under a transmittal will be of the same or related category of work.
D. Number of copies required:
    1. Shop Drawings and Product Data: Submit electronically.
    2. Samples: Submit the quantity stated in each Specification Section, but not less than the number needed to allow two to be retained by CM and/or Architect/Engineer.
    3. Color Samples: Where choice of color is not specified, submit accurate color samples or charts, labeled to show proposed use and location, for CM review and selection.
E. Distribute copies of accepted Shor Drawings and copies of accepted Product Data which carry the Engineer's review stamp to:
    1. Contractor's jobsite file.

2. Record Documents file.
3. Subcontractors.
4. Other affected parties.
5. Maintain at place of fabrication or manufacture, and make available to City's inspectors, copies of all Submittals, including Shop Drawings and Product Data, certificates of compliance, and shop test reports pertaining to that fabrication or manufacture.

F. Distribute samples, together with evidence of Engineer's review, as directed by the Engineer.
G. Copies of certain Shop Drawings and Product Data revised to reflect the as-constructed conditions are required documentation for the Operation and Maintenance Manual.
H. The City requires one full-size bon reproducible copy and two prints of Certain Shop Drawings along with the AutoCAD electronic file after they are revised to reflect the as-constructed conditions. When all construction is complete, Contractor shall submit the list of all Shop Drawings prepared by and for Contractor for the Work. CM and or Architect/Engineer will identify those Shop Drawings required for City's permanent record and will inform Contractor.

1.07 Substitutions

A. Substitution requirements are described in 01 25 00 Substitutions Procedures.
B. If proposed equipment or materials deviate from the Contract Drawings or Specifications in any way, clearly note the deviation and justify the said deviation in detail in a separate letter immediately following transmittal sheet. All such deviations are subject to review and approval by the CM.
C. Any deviation from plans or specification not depicted in the submittal or included by not clearly noted by the Contractor may not have been reviewed. Review by the Architect/Engineer/Owner Representative shall not serve to relieve the Contractor of the contractual responsibility for any error or deviation from Contract requirements.

1.08 Other Submittals

A. Submit laboratory test information and reports as required.
B. Submit Quality Control Plan and quality control documentation as required.
C. Submit the following in accordance with Section 01 77 00 Closeout Procedures.
    1. Test reports
    2. Project Record Documents
    3. Operation and maintenance
    4. Special bonds, warranties, guarantees, and associated documentation

5. Spare parts, tools and maintenance materials
6. Other documents and data as specified.

D. Submit electronic copy of progress photographs showing worn on all key construction activities taken during the preceding period with each application for progress payment.

1.09 CM and Architect's/Engineer's Review

A. CM and/or Architect/Engineer will review Submittals with reasonable promptness and in accordance with the accepted schedule. In scheduling the work, assume that CM and/or Architect's/Engineer's review process will be completed and the material dispatched within 21 days from the date received for each submittal and re-submittal.

B. CM and/or Architect/Engineer will provide comments on a submittal review form and/or annotate Submittals with comments, if needed, from the review and will affix the review stamp, with an initial or signature, indicating the status of the Submittal.

1. CM and/or Architect/Engineer will return to Contractor one signed cop of the review form or annotated and stamped copy of Shop Drawings/other Submittals.
    a. NO EXCEPTIONS TAKEN: Revision of the Submittal is not required. Contractor is authorized to proceed with the work covered by the Submittal.
    b. EXCEPTIONS TAKEN AS NOTED:
        1) If contractor agrees with CM and/or Architect/Engineer comments, Contractor shall revise the Submittal, incorporating CM and/or Architect/Engineer's comments, and submit for CM and/or Architect/Engineer's reference and record. Contractor is authorized to proceed with the work covered by the Submittal.
        2) If the Contractor does not agree with the CM and/or Architect/Engineer's comments, Contractor is not authorized to proceed and shall immediately inform the CM and/or Architect/Engineer.
    c. SUBMIT SPECIFIED ITEM: Acceptance of the Submittal is contingent upon acceptance and approval of other items not submitted. Contractor is not authorized to proceed with the work covered by the Submittal.

1) Contractor shall submit additional date containing the required information as a separate Submittal. The initial Submittal need not be resubmitted unless revisions have been made.
2) Upon acceptance by CM and/or Architect/Engineer of the Submittal of the specified item, Contractor is authorized to proceed with all work covered by the Submittal.

d. REVISE AND RESUBMIT: Contractor shall revise the Submittal and resubmit for CM and/or Architect/Engineer's review; Contractor is not authorized to proceed with the work covered by the Submittal.
   1) The contractor shall include a Comment and Response sheet with the resubmittal. The Comment and Response sheet shall be the first item after the submittal transmittal form. The Comment and Response sheet shall include each review comment (word for word) from the previous submittal cycle, followed by the Contractor's response clarifying how the comment has been addressed in the resubmittal. Al responses shall at a minimum have a general description of what new information in the resubmittal addresses the review comment; and where in the resubmittal this new information can be located (tab number, page number, etc.).
   2) Resubmittals that do not comply with the requirements set forth in sub paragraph C.1 will be returned to the Contractor without review.
e. REJECTED: The Submittal is inadequate. CM and/or Architect/Engineerwill not review but will comment, in general, to explain the reason for rejection. Contractor shall correct the deficiency and submit a new original Submittal. Contractor is not authorized to proceed with the work covered by the Submittal.

C. Authorization for Contractor to proceed with the work covered by a Submittal is subject to other controls on the commencement of work imposed by the Contract Documents, as applicable.

1.10 Changes To Approved Submittals

A. A resubmittal is required for any proposed change to a submittal that has been "Approved" or "Approved as Noted". Changes which require resubmittal include, but are not limited to, drawing revisions, changes in materials and equipment,

changes to installation procedures and test data. All resubmittals shall include an explanation of the necessity for the change.

Article 2 – Products – (Not Used)

Article 3 – Execution – (Not Used)

End of Section

Section 01 42 10

Abbreviations, Symbols and Definitions

1.DEFINITIONS

A. The following terms, when used on the Drawings or in the Specifications, shall have the following meanings:

1. ADDENDUM (ADDENDA):Clarification of, or revisions, additions or deletions to the Contract Documents, issued during the Bidding Period.

2. APPROVAL:The approval of the Owner's Representative.

3. AS DIRECTED:As directed by Owner's Representative.

4. AS REQUIRED:As required by Applicable Code Requirements; by good building practice; by the condition prevailing; by the Contract Documents; by Owner; or by Owner's Representative.

5. AS SELECTED:As selected by Owner's Representative.

6. BY OTHERS:Work on the Project that is outside the scope of Work to be performed by Contractor under the Contract, but that will be performed by Owner, separate contractors, or other means.

7. CHANGE ORDER:A written document prepared by the Owner's Representative authorizing additions, omissions, or changes in the work. A Change Order is prepared on the Owner's standard form.

8. DAYS:The word "days" used herein or in other Contract Documents shall mean calendar days unless specifically noted otherwise.

9. EQUAL:Of same quality, appearance, and utility to that specified, as determined by Owner's Representative. Contractor bears the burden of proof of equality.

10. FURNISH:Supply only, not install.

11. INSPECTOR:Representative of the Owner who will perform inspections of the work for code compliance and quality assurance reporting in addition to those observations reported by the Owner's Representative. The Inspector may be the Owner's Representative or may be another representative of the Owner. If the Inspector and the Owner's Representative are not the same, the Inspector will have only that authority as specifically stated herein.

12. INSTALL:Install or apply only, not furnish.

13. Owner:The term "Owner" refers to "The Regents of the Owner of California."

14. Owner-FURNISHED,

CONTRACTOR-INSTALLED:To be furnished by Owner at its cost and installed by

Contractor as part of the Work.

15. PROJECT:The specific facility to be constructed under these Contract Documents.

16. PROJECT SITE:Geographical location of the Project.

17. PROVIDE:The term "provide" as used herein shall mean "furnish and install, including provision of all related work."

18. REASONABLY REQUIRED:The term "reasonably required" shall include those items which may not specifically be indicated or noted in these documents, but which can reasonably be assumed to be necessary to complete the work of a particular system.

19. SHOWN:As indicated on the Drawings."

20. SPECIFIED:As written in the Contract Documents.

21. SUBMIT:Submit to Owner's Representative.

22. SUBMITTALS:Detailed fabrication and setting drawings, samples, material lists, and manufacturer's equipment brochures setting forth in detail the work as it is to be performed by Contractor.

B. Items marked "by Owner" or "N.I.C." on the Drawings are not to be furnished or installed as part of this Contract.

2. INTERPRETATION OF TERMS

"As directed", "as required", "as permitted", "equal", "acceptable",

"satisfactory", means by or to the Owner's Representative.

3. ABBREVIATIONS

A. Wherever the following terms are used, the intent and meaning shall be as follows:

AASHTOAmerican Association of State Highway and Transportation Officials

ABMAAmerican Boiler Manufacturers Association

AGMAAmerican Gear Manufacturers Association

AIAAmerican Insurance Association (formerly National Board of Fire Underwriters)

AISIAmerican Iron and Steel Institute

AISCAmerican Institute of Steel Construction

APIAmerican Petroleum Institute

AREAAmerican Railway Engineering Association

ANSIAmerican National Standards Institute (formerly United States of America Standards Institute)

ASCEAmerican Society of Civil Engineers

ASHRAEAmerican Society of Heating, Refrigerating and Air Conditioning Engineers

ASMEAmerican Society of Mechanical Engineers

ASTMAmerican Society of Testing and Materials

AWSAmerican Welding Society

AWPAAmerican Wood Preservers' Association

AWWAAmerican Water Works Association

CBMCertified Ballast Manufacturers

CBRCalifornia Bearing Ratio

CTICooling Tower Institute

DFPADouglas Fir Plywood Association

ETLElectrical Testing Laboratory

FPSFluid Power Society

FSFederal Specifications

IEEEInstitute of Electrical and Electronic Engineers

IESIlluminating Engineering Society

ISAInstrument Society of America

LEEDLeadership in Energy and Environmental Design (USGBC)

MSSManufacturer's Standardization Society

NEMANational Electrical Manufacturers Association

OSHAOccupational Safety and Health Act

SMACNASheet Metal and Air Conditioning Contractors National Association

SSPCStructural Steel Painting Council

UBCUniform Building Code

ULUnderwriter's Laboratories, Inc.

USGBC United States Green Building Council

USS United States Steel

END OF SECTION 01 42 00

Section 01 50 00

Temporary Facilities and Controls

Article 1 – General

1.01 Section Includes

A. This Section includes requirements for construction facilities and temporary controls, including temporary utilities, support facilities, and security and protection.

B. Temporary utilities include, but are not limited to, the following:
   1. Water service and distribution.
   2. Temporary electric power and light.
   3. Temporary heat.
   4. Ventilation.
   5. Telephone service.
   6. Sanitary facilities, including drinking water.
   7. Storm and sanitary sewer.

C. Support Facilities include, but are not limited to, the following:
   1. Field offices and storage sheds.
   2. Temporary paving.
   3. Dewatering facilities and drains.
   4. Temporary enclosures.
   5. Hoists and temporary elevator use.
   6. Temporary project identification signs and bulletin boards.
   7. Waste disposal services.
   8. Construction aids and miscellaneous services and facilities.

D. Security and protection facilities include, but are not limited to, the following:
   1. Temporary fire protection.
   2. Barricades, warning signs, and lights.
   3. Sidewalk bridge or enclosure fence for the site.
   4. Environmental protection.
   5. Security.

1.02 Submittals

A. Temporary Utilities: Submit reports of tests, inspections, meter readings, and similar procedures performed on temporary utilities.

B. Implementation and Termination Schedule: Within 15 days of the date established for commencement of the Work, submit a schedule indicating implementation and termination of each temporary utility.

1.03 Quality Assurance

A. Regulations: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction including but not limited to, the following:
    1. Building code requirements.
    2. Health and safety regulations.
    3. Utility company regulations.
    4. Police, fire department, and rescue squad rules.
    5. Environmental protection regulations.
    6. Secretary of Interior's Standards for Rehabilitation.
B. Standards: Comply with NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations," ANSI A10 Series standards for "Safety Requirements for Construction and Demolition," and NECA Electrical Design Library "Temporary Electrical Facilities."
    1. Electrical Service: Comply with NEMA, NECA, and UL standards and regulations for temporary electric service. Install service in compliance with NFPA 70 "National Electric Code."
C. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

1.04 Project Conditions

A. Temporary Utilities: Prepare a schedule indicating dates for implementation and termination of each temporary utility. At the earliest feasible time, when acceptable to the Owner, change over from use of temporary service to use of permanent service.
B. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Relocate temporary services and facilities as the Work progresses. Do not overload facilities or permit them to interfere with progress. Take necessary fire-prevention measures. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on-site.

Article 2 – Products

2.01 Products

A. General: Provide new materials. If acceptable to the Architect/Engineer/Owner Representative, the Contractor may use undamaged, previously used materials in serviceable condition. Provide materials suitable for use intended.
B. Lumber and Plywood
    1. For fences and vision barriers, provide minimum 3/8-inch-thick exterior plywood.
    2. For Safety barriers, sidewalk bridges, and similar uses, provide minimum 5/8-inch-thick exterior plywood. Where barriers are provided at areas adjacent to the public way, provide continuous glide board to eliminate abrupt changes in direction that could present tripping hazards. Comply with Department of Public Works accessibility requirements.
C. Tarpaulins: Provide waterproof, fire-resistant, UL-labeled tarpaulins with flame-spread rating of 15 or less. For temporary enclosures, provide translucent, nylon-reinforced, laminated polyethylene or polyvinyl chloride, fire-retardant tarpaulins.
D. Water: Provide potable water approved by the Water Department and local health authorities.
E. Open-Mesh Fencing: Provide 0.120-inch-thick, galvanized 2-inch chain link fabric fencing with support posts sufficient for loading required. Where chain link is provided at areas adjacent to the public way, provide embedment in ground or otherwise affix in place in compliance with accessibility requirements – provide continuous glide board to eliminate abrupt changes in direction that could present tripping hazards.

2.02 Equipment

A. General: Provide used, undamaged or new equipment. Provide equipment suitable for use intended.
B. Water Hoses: Provide heavy-duty, abrasion-resistant, flexible rubber hoses, with pressure rating greater than the maximum pressure of the water distribution system. Provide adjustable shutoff nozzles at hose discharge.
C. Electrical Outlets: Provide properly configured, NEMA-polarized outlets to prevent insertion of 110-to-120 Volt plug into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button, and pilot light for connection of power tools and equipment.
D. Electrical Power Cords: Provide grounded extension cords. Use hard-service cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords is single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.

E. Lamps and light fixtures: Provide general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered-glass enclosures where exposed to breakage. Provide exterior fixtures where they are exposed to moisture.
F. Heating Units: Provide temporary heating units that have been tested and labeled by UL, FM, or another recognized trade association related to the type of fuel being consumed.
G. Temporary Toilet Units: Provide self-contained, single occupant toilet units of the chemical, aerated recirculation, or combustion type. Provide units properly vented and fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.
H. Fire Extinguishers: Provide hand-carried, portable, UL-rated, Class A fire extinguishers for temporary offices and similar space. In other locations, provide hand-carried, portable, UL-rated, Class ABD, dry-chemical extinguishers or a combination of extinguishers of NEFA-recommended classes for the exposures.
    1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.

Article 3 – Execution

3.01 Installation

A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.
B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.02 Temporary Utility Installation

A. General: Engage the appropriate local utility agency to install temporary services. Where agency provides only part of the service, provide the remainder with matching, compatible materials and equipment. Comply with utility company recommendations.
    1. Arrange with agency and existing users for a time when service can be interrupted, if necessary, to make connections for temporary services.
    2. Provide adequate capacity at each stage of construction.

3. Use Charges: Cost or use charges for temporary facilities are not chargeable to the Owner. The Owner will not accept cost or use charges as a basis of claims for Change Orders.

B. Water Service: Install temporary water service and distribution piping of sizes and pressures adequate for areas under construction until permanent water service is re-established. Continue water services to occupied portions of neighboring buildings, except for temporary shutdowns as negotiated with Owner.
    1. Sterilization: Sterilize temporary water piping and portion of re-established permanent water piping prior to re-establishment.

C. Temporary Electric Power Service: Where existing power cannot be used, provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics during construction period. Include meters, transformers, overload-protected disconnects, automatic ground-fault interrupters, and main distribution switch gear.
    1. Install electric power service underground, except where overhead service is permissible.
    2. Power distribution System: Install wiring overhead and rise vertically where least exposed to damage. Where permitted, wiring circuits not exceeding 125 Volts, ac 20 Ampere rating, and lighting circuits may be nonmetallic sheathed cable where overhead and exposed for surveillance.

D. Temporary Lighting: provide temporary lighting with local switching throughout areas of construction.
    1. Install and operate temporary lighting that will fulfill security and protection requirements without operating the entire system. Provide temporary lighting that will provide adequate illumination for construction operations and traffic conditions.

E. Temporary Heat: Provide temporary heat required by construction activities for curing or drying of completed installation or for protection of installed construction from adverse effects of low temperatures or high humidity. Select safe equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce the ambient condition required and minimize consumption of energy.

F. Heating facilities: Except where the Owner authorizes the use of the permanent system, provide vented, self-contained, LP-gas or fuel-oil heaters with individual space thermostatic control.
    1. Use of gasoline-burning space heaters, open-flame, or salamander heating units is prohibited.

G. Temporary Telephones: Provide cellular telephone service throughout the construction period for all personnel engaged in construction activities. At construction office, post a list of important telephone numbers.
H. Sanitary facilities: Provide temporary toilets, wash facilities, and drinking-water fixtures. Comply with regulations and health codes for the type, number, location, operation, and maintenance of fixtures and facilities. Install where facilities will best serve the Project's needs.
    1. Toilets: Provide self-contained toilet units. Shield toilets to ensure privacy. Provide separate facilities for male and female personnel.
    2. Provide toilet tissue, paper towels, paper cups, and similar disposable materials for each facility. Provide covered waste containers for used material.
I. Wash Facilities: Install wash facilities supplied with potable water at convenient locations for personnel involved in handling materials that require wash-up for a healthy and sanitary condition. Dispose of drainage properly. Supply cleaning compounds appropriate for each condition.
    1. Provide safety showers, eyewash fountains, and similar facilities for convenience, safety, and sanitation of personnel.
J. Drinking-Water Facilities: Provide containerized, tap-dispenser, bottled-water drinking-water units, including paper supply.
K. Sewers and Drainage: provide temporary connections to remove effluent that can be discharged lawfully. If sewers cannot be used for discharge of effluent, provide containers to remove and dispose of effluent of off-site in a lawful manner.
    1. Filter out excessive amounts of soil, construction debris, chemicals, oils, and similar contaminants that might clog sewers or pollute waterways before discharge.
    2. Connect temporary sewers to the municipal system, as directed by sewer department officials.
    3. Maintain temporary sewers and drainage facilities in a clean, sanitary condition. Following heavy use, restore normal conditions promptly.

3.03 Support Facilities Installation

A. Locate field offices, storage containers, and other temporary construction and support facilities for easy access. Contractor may use existing building areas for field offices and storage, pending agreement with the Owner. Contractor may use areas within the construction area for field office, so long as sufficient area is available for construction activities. Where phases of construction and building

occupancy do not allow sufficient space for Contractor use of areas, provide temporary field office at location agreed-upon by Owner. Contractor shall pay for temporary field office, including fees required for street occupancy.

1. Maintain support facilities until near Substantial Completion. Remove prior to Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to the Owner.

B. Provide non-combustible construction for offices, shops, and sheds located within the construction or within 30 feet of building lines. Comply with requirements of NFPA 241.

C. Field Offices: Where existing building spaces are not utilized for field office, provide insulated, weather tight temporary offices of sufficient size to accommodate required office personnel at the Project Site. Keep the office clean and orderly for use for use for small progress meetings. Contractor shall pay any required City fees for use of street spaces for temporary Field Offices.

D. Storage and Fabrication Sheds: Provide storage and fabrication sheds or containers sized, furnished, and equipped to accommodate materials and equipment involved, including temporary utility service. Sheds may be fully enclosed spaces within the building or elsewhere on- or off-site. Contractor shall pay any required City fees for use of street spaces for temporary storage or fabrication sheds.

E. Dewatering Facilities and Drains: For temporary drainage and dewatering facilities and operations not directly associated with construction activities included under individual Sections, comply with dewatering requirements of applicable sections. Where feasible, utilize the dame facilities. Maintain the site, excavations, and construction free of water.

F. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities.

1. Where heat is needed and the permanent building enclosure is not complete, provide temporary enclosures where there is no other provision for containment of heat. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
2. Install tarpaulins securely, with wood framing and other materials. Close openings of 25 sq. ft. or less with plywood or similar materials.
3. Close openings through floor or roof decks and horizontal surfaces with load-bearing, wood-framed construction.

4. Where temporary wood or plywood enclosure exceeds 100 sq. ft. in area, use UL-labeled, fire-retardant-treated material for framing and main sheathing.
5. Provide emergency access hardware at doors to construction area where necessary to allow safe egress through the construction for building occupants.

G. Temporary Lifts and Hoists: Provide facilities for hoisting materials and employees where required by authorities having jurisdiction. Where providing temporary lifts, restore all disturbed building features and finished at completion of the work. Provide all necessary truck cranes and similar devices used for hoisting materials.
H. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than 7 days during normal weather or 3 days when the temperature is expected to rise above 80 deg. F. Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material lawfully.

3.04 Security and Protection Facilities Installation

A. Except for use of permanent fire protection as soon as available, do not change over from use of temporary security and protection facilities to permanent facilities until Substantial Completion, unless requested by the Owner.
B. Temporary Fire Protection: Until fire-protection needs are supplied by permanent facilities, install and maintain temporary fire-protection facilities of the types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 10 “Standard for Portable Fire Extinguishers” and NFPA 241 “Standard for Safeguarding Construction, Alterations, and Demolition Operations.”
    1. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor at or near each usable stairwell.
    2. Store combustible materials in containers in fire-safe locations.
    3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways, and other access routes for fighting fires. Prohibit smoking in hazards fire-exposure areas.
    4. Provide supervision of welding operations, combustion-type temporary heating units, and similar sources of fire ignition.

C. Barricades, Warning Signs, and Lights: Comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and the public of the hazard being protect against. Where appropriate and needed, provide lighting, including flashing red or amber lights.
D. Enclosure Fence: install an enclosure fence with lockable entrance gates where openings exist in building under construction. Enclose the entire site or the portion determined sufficient to accommodate construction operations. Install in a manner that will prevent people, dogs, and other animals from easily entering the site, except by the entrance gates.
E. Covered Walkway: Where required to protect the public and other site users from exterior construction activities, erect a structurally adequate, protective covered walkway for passage of persons along the adjacent public streets or within portions of the building. Coordinate with entrance gates, other facilities, and obstructions. Comply with regulations of authorities having jurisdiction.
    1. Construct covered walkways using scaffold or shoring framing. Provide wood plank overhead decking, protective plywood enclosure walls, handrails, barricades, warning signs, lights, safe and well-drained walkways, and similar provisions for protection and safe passage. Extend the back wall beyond the structure to complete the enclosure fence. Paint and maintain in a manner acceptable to the Owner and the Architect/Engineer.
F. Security Enclosure and Lockup: Install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.
    1. Storage: Where materials and equipment must be stored, and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.
G. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations, and minimize the possibility that air, waterways, and subsoil might be contaminated or polluted or that other undesirable effects might result. Avoid use of tools and equipment that produce harmful noise. Restrict use of noise-making tools and equipment to hours that will minimize complaints from persons or firms near the site.

H. Security: Contractor shall be responsible for site security of areas under construction during the duration of construction. Contractor shall provide security guards or otherwise secure areas under construction during hours when workers are not on site performing construction activities.

3.05 Operation, Termination, and Removal

A. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.
B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.
    1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
    2. Protection: Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.
C. Termination and Removal: Unless the Architect/Engineer requests that it be maintained longer, remove each temporary facility when the need has ended, when replaced by authorized use of a permanent facility, or no later then Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with the temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
    1. Materials and facilities that constitute temporary facilities are the Contractor's property. The Owner reserves the right to take possession of project identification signs.
    2. Remove temporary paving not intended for or acceptable for integration into permanent paving. Remove materials contaminated with road oil, asphalt and other chemical compounds, and other substances. Repair or replace street paving, curbs, and sidewalks at the temporary entrances, and as required by the governing authority.
    3. At Substantial Completion, clean and renovate permanent facilities used during the construction period including, but not limited to, the following:
        a. Replace air filters and clean inside of ductwork and housings.
        b. Replace significantly worn parts subject to unusual operating conditions.
        c. Replace lamps burned out or noticeably dimmed by hours of use.

End of Section

SECTION 01 77 00

CONTRACT CLOSEOUT

Article 1 - General

1 .01 SUMMARY

A. This Section includes administrative and procedural requirements for contract closeout including, but not limited to, the following:
   2. Inspection procedures.
   3. Project record document submittal.
   4. Operation and maintenance manual submittal.
   5. Submittal of warranties.
   6. Final cleaning.
B. Closeout requirements for specific construction activities are included in the appropriate Sections.

1 .02 SUBSTANTIAL COMPLETION

A. Request for Inspection: Notify Architect and Owner, in writing, when Project is ready for inspection to certify Substantial Completion. In event such written request pertains to selective portion(s) of Project, clearly identify such portion(s) by building and room number.
   1. Include in written request: statement that all casework, doors, windows, window shades and blinds, finish materials, mechanical and electrical equipment and cover plates, have been properly installed, that all debris has been removed from Project site, and that all interior and exterior conditions have been cleaned.
   2. Mock-up(s) not incorporated into final construction shall be maintained at Project site during inspection(s) to certify Substantial Completion.
B. Within 48 hours of written request for inspection to certify Substantial Completion, submit to Owner and Architect a written schedule for each of the following items, listing items by name and, for each item, the date by which it will be done or ready for processing.
   1. Advising Owner of pending insurance changeover requirements.
   2. Submitting of warranties, workmanship bonds, maintenance agreements, final certifications, and similar documents.

3. Obtaining and submitting of releases enabling Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
4. Submitting record drawings, maintenance manuals, final project photographs, damage or settlement surveys, property surveys, and similar final record information.
5. Delivering tools, spare parts, extra stock, and similar items.
6. Changeover to permanent locks and transmitting of keys to the Owner. Advise the Owner's personnel of changeover in security provisions.
7. Complete startup testing of systems and instruction of the Owner's operation and maintenance personnel.
8. Discontinue and remove temporary facilities from the site, along with mockups, construction tools, and similar elements.
9. Application for Payment showing 100 percent completion for the portion of the Work claimed to be substantially complete.
    a. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.
    b. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.

C. Inspection Procedures: Upon receipt of written request for inspection, the Owner Representative/Architect will either proceed with inspection as requested or, at Owner Representative/Architect's sole discretion, reply in writing that unfilled requirements render inspection premature. Following inspection, the Owner Representative/Architect will prepare the Certificate of Substantial Completion or report, in writing, of construction that must be completed or corrected before the Certificate of Substantial Completion will be issued.
    1. The Owner Representative/Architect/Engineer will repeat inspection as necessary, pending receipt of written request for inspection addressed to Architect and Owner, as described above.
    2. Results of the completed inspection will form the basis of requirements for final acceptance.

1 .03 FINAL ACCEPTANCE

A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.
    1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include insurance certificates for products and completed operations where required.
    2. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
    3. Submit a certified copy of the Owner Representative/Architect's final inspection list of items to be completed or corrected, endorsed and dated by the Owner Representative/Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance and shall be endorsed and dated by the Owner Representative/Architect.
    4. Submit final meter readings for utilities, a measured record of stored fuel, and similar data as of the date of Substantial Completion or when the Owner took possession of and assumed responsibility for corresponding elements of the Work.
    5. Submit consent of surety to final payment.
    6. Submit a final liquidated damages settlement statement.
    7. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
B. Reinspection Procedure: The Owner Representative/Architect will reinspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except for items whose completion is delayed under circumstances acceptable to the Architect.
    1. Upon completion of reinspection, the Owner Representative/Architect will prepare a certificate of final acceptance. If the Work is incomplete, the Architect will advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
    2. If necessary, reinspection will be repeated.

1 .04 RECORD DOCUMENT SUBMITTALS

A. General: Do not use record documents for construction purposes. Protect record documents from deterioration and loss in a secure, fire-resistant location. Provide

access to record documents for the Architect's reference during normal working hours.

B. Record Drawings: Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark that drawing that is most capable of showing conditions fully and accurately. Where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
    1. Mark record sets with red erasable pencil. Use other colors to distinguish between variations in separate categories of the Work.
    2. Mark new information that is important to the Owner but was not shown on Contract Drawings or Shop Drawings.
    3. Note related change-order numbers where applicable.
    4. Organize record drawing sheets into manageable sets. Bind sets with durable-paper cover sheets; print suitable titles, dates, and other identification on the cover of each set.
C. Record Specifications: Maintain one complete copy of the Specifications, including addenda. Include with the Specifications one copy of other written construction documents, such as Change Orders and modifications issued in printed form during construction.
    1. Mark these documents to show substantial variations in actual Work performed in comparison with the text of the Specifications and modifications.
    2. Give particular attention to substitutions and selection of options and information on concealed construction that cannot otherwise be readily discerned later by direct observation.
    3. Note related record drawing information and Product Data.
    4. Upon completion of the Work, submit record Specifications to the Architect for the Owner's records.
D. Record Product Data: Maintain one copy of each Product Data submittal. Note related Change Orders and markup of record drawings and Specifications.
    1. Mark these documents to show significant variations in actual Work performed in comparison with information submitted. Include variations in products delivered to the site and from the manufacturer's installation instructions and recommendations.

2. Give particular attention to concealed products and portions of the Work that cannot otherwise be readily discerned later by direct observation.
3. Upon completion of markup, submit complete set of record Product Data to the Architect for the Owner's records.

E. Record Sample Submitted: Immediately prior to Substantial Completion, the Contractor shall meet with the Architect and the Owner's personnel at the Project Site to determine which Samples are to be transmitted to the Owner for record purposes. Comply with the Owner's instructions regarding delivery to the Owner's Sample storage area.

F. Miscellaneous Record Submittals: Refer to other Specification Sections for requirements of miscellaneous record keeping and submittals in connection with actual performance of the Work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records and place in good order. Identify miscellaneous records properly and bind or file, ready for continued use and reference. Submit to the Architect for the Owner's records.

G. Operations and Maintenance Manuals: Contractor shall compile operations and maintenance manuals for all operating equipment and electrical systems. Comply with the following format and content requirements for compilation of operations and maintenance manuals.
    1. Quantity: 1 reproducible master and 2 copies, with CD ROM or flash (thumb) drive.
    2. Binders: 8-1/2 inch x 11 inch high quality loose-leaf type, black color, with plastic-covered fronts and backs, clearly labeled on front and spine. Use maximum 3-inch thick binders. Do not overload; use multiple binders for a manual, as required to hold all pages.
    3. Format: Include tile page and table of contents (listing all contents and corresponding page numbers) in front of each binder. Include main tab (white color) for each Specification Section. Behind this tab, include sub-taps (yellow or “manila” color) for each piece of major equipment or group of equipment. Sub-tab shall indicate equipment ID. Behind each equipment ID tag, provide the following, in order specified below, divided by double-weight paper (pale yellow color), each such piece of paper indicating the section title, as specified below, typed in all upper case (Times New Roman font, 12 point):
        a. Contact Information: The section shall be immediately behind the equipment ID tab, and shall contain the name, address and telephone number of the manufacturer and installing contractor,

and the 24-hour emergency service telephone number of al equipment in this section, listed by equipment.

b. Submittal and Product Data: This section shall include all reviewed submittals. If Submittals were not required, provide manufacturer's printed descriptive literature. Include copy of start-up report.
c. Operation and Maintenance Instructions: This section shall include manufacturer's printed data with the model and features of the actual installation clearly noted as such, and with information that is not applicable to the actual installation clearly noted as such. Include the following:
    i) Installation, startup, and break-in instructions.
    ii) All starting, normal shutdown, emergency shutdown, manual operation, seasonal changeover and normal operating procedures and data, including any special limitations.
    iii) Operations and Maintenance and installation instructions that were shipped with unit.
    iv) Routine preventative maintenance and service schedules and procedures.
    v) Annual maintenance and service schedules and procedures.
    vi) Troubleshooting procedures.
    vii) Manufacturer's repair manual.
    viii) Parts List, with items and information that are not applicable to the actual installation clearly noted as such.

4. Wiring diagrams.
5. Recommended "turn-around" cycles.
6. Inspection procedures.
7. Shop Drawings and Product Data.
8. Fixture lamping schedule.

H. All commissioning requirements of the contractor are complete before Substantial Completion, except for trend log monitoring, seasonal testing, near-warranty end activities and verification of later controls system training sessions. All commissioning issues will have been resolved except those with a resolution schedule accepted by the Owner.

I. Before Final Acceptance all commissioning requirements of contractor shall be complete, and, unless otherwise authorized by Owner in writing, all commissioning issues shall be resolved. Requests to Owner for Final Acceptance while specific issues stay unresolved shall be made in writing, and such requests shall clearly describe the issue(s) to stay unresolved, the reasons for lack of resolution, and include a written schedule indicating the date by when they will be resolved.

PART 2 - PRODUCTS - Not Used

PART 3-EXECUTION

3.01 CLOSEOUT PROCEDURES

A. Operation and Maintenance Instructions: Arrange for each Installer of equipment that requires regular maintenance to meet with the Owner's personnel to provide instruction in proper operation and maintenance. Provide instruction by manufacturer's representatives if installers are not experienced in operation and maintenance procedures. Include a detailed review of the following items:
    1. Maintenance manuals.
    2. Record documents.
    3. Spare parts and materials.
    4. Tools.
    5. Lubricants.
    6. Fuels.
    7. Identification systems.
    8. Control sequences.
    9. Hazards.
    10. Cleaning.
    11. Warranties and bonds.
    12. Maintenance agreements and similar continuing commitments.
B. As part of instruction for operating equipment, demonstrate the following procedures:
    1. Startup.
    2. Shutdown.
    3. Emergency operations.
    4. Noise and vibration adjustments.
    5. Safety procedures.
    6. Economy and efficiency adjustments.
    7. Effective energy utilization.

3.02 FINAL CLEANING

A. Cleaning Agents: Comply with Green Seal's GS-37 and California Code of Regulations maximum allowable VOC levels.
B. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program.
C. Clean HVAC system in compliance with NADCA Standard 1992-01.

END OF SECTION

SECTION 14 01 20

ELEVATOR PREVENTIVE MAINTENANCE

PART 1 – PART 1 - GENERAL

1.1 SUMMARY

A. This section includes the scope and requirements for the Elevator Preventative Maintenance and Service Contract with the City of Santa Cruz CA.

1. The two hydraulic passenger elevators shall be covered by the Maintenance and Service Contract for the entire duration of the contract including before, during and after their modernization work per Section 14 24 23 Hydraulic Passenger Elevators.

2. The Maintenance and Service Contract shall start the day that Notice to Proceed is issued, and continue to expiration of the twelve-month Warranty Period..

3. Following the expiration of Warranty Period, contractual service shall resume coverage under the broader City of Santa Cruz elevator maintenance agreement.

B. Related sections: Section 14 24 23 –Hydraulic Passenger Elevators

1.2 GENERAL REQUIREMENTS

A. For elevator contractor's qualification requirements, refer to City of Santa Cruz Invitation to Bid.

B. Contract duties shall include all labor, materials, supplies, tools, equipment, parts, and safety equipment required or reasonably inferred, whether or not specifically identified by the Agreement.

C. Contract duties shall be performed to the standard of quality established by the National Elevator Industry, Inc. Part 7 Maintenance Guidelines.

Contractor shall submit a Maintenance Control Program (MCP) as recommended by the equipment manufacturer and as required by ASME A17.1 Section 8.6 for all equipment included under Contract Duties. Routine maintenance procedures shall include identifiable weekly, bi-weekly, monthly, quarterly, and annual maintenance procedures, including required equipment tests. When accepted by Owner, Contractor's Maintenance Control Program (MCP) shall become **SCHEDULE A** to this exhibit.

D. Contractor shall schedule work to be accomplished under the Contract in conjunction with designated City of Santa Cruz Public Works "Facility Manager" in such a manner as to cause minimum inconvenience to the public affected by the work.

E. Unless otherwise specified, all replacement parts shall be new and of the same design, size, chemical composition, and generally equal to the material originally supplied by the manufacturer.

F. All lubricants shall be of the best quality for the purposes for which they are used.

G. Coordinate and follow the directives of Owner with respect to scheduling Duties and any required deliveries at times specified in the Agreement.

1.3 CONTRACT DUTIES SHALL BE PERFORMED:

A. In compliance with all Code requirements and legal statutes as required by the local Authority Having Jurisdiction (AHJ).

B. Per the original equipment manufacturer (OEM) specifications.

C. In compliance with Owner's work rules, policies, regulations, and requirements.

D. In compliance with Owner's requirements for cleanup using containers supplied by Contractor.

E. Diligently and in a professional, complete and skillful manner, free of neglect, defect or deficiency.

F. In such manner as to minimize interference or disruption to the Owner, Owners tenants or guests.

1.4 INITIATE, MAINTAIN, AND SUPERVISE ALL SAFETY PRECAUTIONS AND PROGRAMS RELATING TO SERVICES AND COMPLY WITH ALL APPLICABLE SAFETY LAWS. TAKE ALL REASONABLE PRECAUTIONS FOR SAFETY OF OWNER, OWNER'S TENANTS, OWNER'S EMPLOYEES, CONTRACTOR'S EMPLOYEES, AND OTHER PERSONS ON OR ABOUT PROPERTY.

A. Repair any damage to the Property and adjacent areas caused by performance of Services to the Owner's satisfaction.

B. Contractor shall submit a complete plan and schedule of its proposed operations for approval.

C. Contractor shall obtain approval for his or her schedule for the submission of reports from the Facility Manager and shall submit to the Facility Manager monthly service records, including repair work reports, callback reports, and semi-annual inspection reports for each elevator.

D. These records shall identify the cause of all elevator shutdowns and resolution of the same.

E. Timely submission of these monthly records shall be a condition of receiving any Contract payments.

F. Within 7 calendar days after notice to proceed, Contractor shall submit to Facility Manager an elevator repair and maintenance schedule showing in detail the proposed sequence of activities.

1. The schedule may be in the form of a bar chart (GANTT), which shows scheduled starting and completion dates for the various work units or trades involved, together with such other information relative to job progress and completion.

2. The schedule shall be revised monthly by the Contractor and submitted to the Facility Manager for review and approval on the 25th day of each month for the duration of the contract.

3. Failure to submit the schedule, or a revised schedule on time will be considered cause for withholding of any progress payments otherwise due under the contract.

G. Events to be included in the bar chart shall be on an elevator-by-elevator basis: Title and date of schedule issuance and/or revision;

1. All required elevator repair and maintenance activities; All required approvals, permits, certificates, tests, inspections etc. necessary for Contractor's execution of the elevator repair and maintenance work.

2. As-needed elevator repairs shall be added to the schedule as they are approved by the Facility Manager.

3. All document submittals; All test result submittals;

4. Each activity should also include the required resources for the completion of the work, this shall include crew size and numbers, materials ordered, lead time, and number of days the elevator is out of service.

H. Contractor shall submit to Public Works and the Facility Manager for review and approval a monthly activity report on the 25th day of each month covering the work completed as of the date of the report.

1. The report must list the detail of each maintenance and repair activity and other service contract work as set forth in these specifications.

2. The reports shall contain at a minimum the following information for each activity:

3. date, location, equipment identification, description of work and service, parts, crew size and hours.

4. Timely submission of these monthly records shall be a condition of receiving any Contract payments.

1.5 COMMUNICATION AND ACCESS OF PREMISES:

A. Contractor's personnel and mechanics must carry a working cellular phone at all times while on City of Santa Cruz premises.

1. Contractor shall provide Facility Manager with a complete listing of all such personnel and mechanics, along with their cellular phone numbers and keep the list current through the term of the contract.

2. Contractor personnel and mechanics shall adhere to the required sign in and sign out procedures established by the Facility Manager for access to Client premises.

B. Should Contractor fail to adhere to the City of Santa Cruz 'Access to Premises' sign-in, sign-out policy and fail to provide a proof-of-service technician time ticket (elevator service technician must check in with Facility Manager to get approval number for time ticket before leaving premises), it shall be presumed the maintenance/repair work was not performed and the portion of the progress payment reflecting the maintenance/repair will not be paid.

C. Meetings: Job Start, Progress and Closeout. Contractor's attendance is required at all meetings.

1. Job Start Meeting: Within seven (7) calendar days of the notice to proceed the Contractor shall attend a "Job Start Meeting" with the Client. A typical agenda would include but not be limited to: Use of premises, safety policies and procedures, security and housekeeping, emergency contact information, sign-in/sign out procedures, client designated representatives, work schedules, project record documents and discussion of progress meetings.

2. Progress Meeting: The Contractor will coordinate with the Client, prepare agenda, and administer semiannual progress meetings for the duration of the contract, or more frequently if required by Client. A typical agenda will include: review of elevator repair and maintenance work on an elevator-by-elevator basis, review of callbacks, safety procedures, Contractor's schedule for maintenance and repair, and other business such as newly identified as-needed repairs.

3. Closeout Meeting: At sixty (60) days prior to completion of the contract, the Client will schedule a Closeout meeting with the Contractor. Contractor shall attend the closeout meeting to discuss closeout procedures and responsibilities. A typical agenda will include: elevator testing and license's, project record documents,

administrative activities, warranties, returning Client keys and documentation of open items.

D. All work to be performed in accordance with applicable laws, ordinances, rules, regulations, and standards of the following:

1. The California Codes for Industrial Safety shall apply to all maintenance, repairs and rehabilitations made under the Contract.

2. Charter 4 Division of Industrial Safety, subchapter 5, "Electrical Safety Orders" shall be followed by all personnel assigned to work on elevators and is made part of the Contract in its entirety.

3. California Code of Regulations, Title 8. Industrial Relations Division 1. Department of Industrial Division, Chapter 4, Sub-Chapter 6, "Elevator Safety Orders", shall be made available to all personnel assigned to work on elevators and is made part of the Contract in its entirety.

4. Safety Code for elevators and escalators American Society of Mechanical Engineers/American National Standard Institute ASME/ANSI A.17.1.

PART 2 – SCOPE OF WORK

2.1 SERVICES:

A. Elevator Preventive Maintenance (Minimum Requirements):

1. The Contractor shall perform elevator preventive maintenance in conformance with the manufacturer's recommendations and OEM (original equipment manufacturer) recommended preventive Maintenance Control Program (MCP) for hydraulic and traction elevators.

2. The Contractor shall develop a check list and service schedule incorporating these items and service intervals and shall furnish this schedule to the Facility Manager who will retain this list for signature by the Maintenance Service Person(s) upon the completion of each scheduled maintenance event.

3. Under no conditions shall the diligent performance of maintenance tasks be less than to the extent and on the frequency prescribed by the National Elevator Industry, Inc. Part 7 Maintenance Guidelines.

B. Working Hours:

1. All work shall be performed Monday through Friday between the hours of 7:00 A.M. – 4:00 P.M.

2. Routine preventative maintenance shall consist of not less than 1.5 hours, bi-weekly, as specified herein.

3. Should Contractor fail to adhere to the City of Santa Cruz 'Access to Premises' sign-in, sign-out policy and fail to provide a proof of service technician time ticket, it shall be presumed the maintenance/repair work was not performed and the portion of the progress payment reflecting the maintenance/repair will not be paid.

2.2 PERFORMANCE:

A. The gauge of adequate and appropriate preventive maintenance shall be a sustained minimum of ninety (90) days MTBF (Mean Time Between Failures) for each elevator unit covered under this agreement.

B. A failure includes any condition outside normal equipment operation, excluding vandalism or other cause beyond Contractor's control, requiring the attention of Contractor via callback.

PART 3 – GENERAL SERVICE CONTRACT WORK

3.1 SERVICE CALLBACK REQUIREMENTS

A. Callbacks are differentiated from those routine reported observations and issues noted by facility staff that are not considered urgent but are accumulated as they occur, reported to Contractor, and which warrant attention during the next scheduled maintenance visit.

B. Contractor shall respond to routine reported observations and issues promptly, but no later than the next scheduled service.

C. Normal Work Hour Callback Requirements

1. The PM Contract Prices quoted by the Contractor includes full compensation for all callbacks for elevator shutdowns, Monday through Friday between the hours of 7:00 A.M. to 4:00 P.M.

2. Facility will provide Contractor a list of designated representative(s) that are authorized to request a service callback.

3.2 CONTRACTOR SHALL RESPOND TO URGENT REPAIR CALLBACKS:

A. Contractor shall acknowledge City of Santa Cruz email notification for any urgent repair callback within fifteen (15) minutes of notification from the City.

B. Contractor shall respond to City of Santa Cruz email notification for any urgent repair callback within twenty (20) minutes of notification from the City with assigned elevator technician contact information and estimated arrival time.

C. Contractor's elevator technician must arrive within sixty (60) minutes of the original urgent repair callback notification from the City.

3.3 EMERGENCY SERVICE:

A. The PM Contract Prices includes full compensation for all Emergency Service callbacks, twenty-four (24) hours a day, seven (7) days a week.

B. An Emergency Service callback is necessary to remove people trapped in an elevator, to remedy a potentially dangerous (injury threatening) situation, or to correct a situation which, if not corrected, would cause further damage to the elevator unit or the building structure.

C. Emergency Service callback response:

1. Contractor shall acknowledge City of Santa Cruz email notification for any emergency within five (5) minutes of notification from the City.

2. Contractor shall respond to City of Santa Cruz email notification for any emergency within ten (10) minutes of notification from the City with assigned elevator technician contact information and estimated arrival time.

3. Contractor's elevator technician must arrive within sixty (60) minutes of the original emergency notification from the City.

4. Contractor shall immediately correct, repair or replace any damages to the elevator parts or facility structure, at no additional cost to Client, if damages result from Contractor's failure to respond within one (1) hour of the emergency notification and the Fire Department or others respond to the emergency call.

5. Contractor shall be responsible for restoring the elevator(s) equipment to a safe and satisfactory operating condition.

3.4 VANDALISM:

A. Services provided for repairs due to vandalism are covered in Part 4 – OTHER CONTRACT WORK.

3.5 SMALL PARTS SUPPLY:

A. Contractor shall supply and maintain at each site a locked cabinet with an adequate supply of relays, coils, shunts, resistors, gibs, switches, brushes, do interlocks, contacts, springs, corridor and car buttons, alarm buttons, emergency stop buttons, rollers, stops, cams, indicator bulbs and all other common replacement components unique to each location.

B. Contractor to provide initial inventory of spare parts which shall remain Contractor's property until permanently installed on the equipment. Any spare parts installed must then be itemized and priced with technician's time ticket for the related visit. Spare parts inventory and itemized installations shall be reconciled no less frequently than semi-annually, and Contractor shall invoice City for inventory parts installed during the report period.

C. Contractor shall replenish parts that were removed from supply and installed during report period, providing City with documentary evidence of purchase quantity and cost when conducting semi-annual reconciliation.

3.6 HOUSEKEEPING:

A. Within the first three (3) months of the term of this PO, the Contractor shall thoroughly clean all elevator hoistways, pits, car tops, controller interiors including filters and machine rooms. In addition, during the same period, all car and hoistway door tracks, hangers, interlocks and closers shall be cleaned, lubricated, adjusted, or replaced. Continuing cleaning must be on-going and at the aforementioned minimum intervals or more frequently where conditions warrant:

B. All debris such as wiping rags, empty oil cans, trash form pits, etc., resulting from the work shall be promptly removed on a daily basis by the Contractor.

C. All flammable material will be stored in a fire rated metal container supplied by the Contractor or at the building's flammable storage area so designated by the Facility Manager.

3.7 PENTHOUSE, MACHINE ROOM AND PIT SECURITY:

A. Contractor shall be responsible for elevator penthouse and pit security for equipment and spaces serviced under this PM Contract. Facility shall supply key/card/fob for necessary access to roof levels, elevator machine rooms and, where required, to building entrance doors.

3.8 INSPECTION BY LOCAL SUPERVISOR:

A. Facility Manager reserves the right to monitor the work by whatever means he or she deems necessary, including employing others to inspect and/or test the condition, speed and safety of the elevators.

B. Maintenance & Service – Contract Final Inspection:

1. Contractor shall initiate joint inspections with the Facility Manager not later than three (3) months before the end of each contract year. Full responsibility for the scheduling and conduct of joint inspections rests with the Contractor. This is a prerequisite to receiving final payments for each contract year.

2. All parts found defective except for fire damage, water damage, explosion or vandalism shall be promptly replaced or corrected in accordance with the PM Contract terms.

3. Parts replaced shall be warranted for one (1) full year as provided below.

3.9 DRAWINGS AND CONTROL PRINTS:

A. Facility shall furnish a set of all available drawings and control prints at each location designated in this Contract.

B. Contractor shall be responsible for maintaining and updating these drawings when and if changes are made.

C. Contractor shall leave two (2) completely legible sets of drawings at each location at the completion of this contract. This shall be a prerequisite for final payment.

3.10 CONTRACTOR ADMINISTRATIVE REQUIREMENTS:

A. Contractor shall procure and pay for all conveyance equipment permits and licenses necessary to perform the work defined in the contract maintenance service specifications.

B. Contractor shall obtain without cost to Client all permits and certificates as required, and perform all required inspections and tests. This includes the yearly State Certification. Contractor shall perform an annual load test of each conveyance equipment and test, adjust, repair and/or replace any defects necessary to meet State of California load tests and submit reports to State of California and the Facility Manager.

C. Contractor shall examine all safety devices. All tests shall be performed in accordance with the provisions of the applicable American National Standard, Code for Elevators and Escalators ANSI/ASME A17.2.

D. Contractor shall renew conveyance equipment Certificates as necessary when they expire and shall pay all fees, including State inspection fees, in connection with the Certificate renewal and shall perform all testing, adjustments and repairs required by the State of California for issuance of the Certificates.

E. Contractor shall obtain approval for his or her schedule for the submission of reports from the Facility Manager.

F. Service records, including repair work reports, callback reports, and semi-annual inspection reports for each elevator serviced under the PM Contract shall be made readily available, through web portal, at all times to the Facility Manager. These records shall clearly identify the following aspects, as a minimum, of each visit to the site:

1. Attending technician’s last name and elevator identification

2. Nature of the visit (PM, Callback, Scheduled Repair, etc.).

3. Time reported, caller’s name, reported condition.

4. Time call acknowledged, time technician arrived, condition found.

5. Action taken, condition left, time approved by, time departed.

6. Note entrapments, damage/vandalism, parts installed, persistent problem

G. All work required herein shall be performed as promptly as possible, and in any event within the time herein set forth, and such work shall be subject to approval and acceptance by Facility, but such approval and acceptance shall not relieve the Contractor from the obligation

to correct any incomplete, inaccurate or defective work, all of which shall be promptly remedied by the Contractor on demand, without cost to Client.

3.11 OBSOLETE COMPONENTS:

A. The work covered shall include replacement of defective and obsolete components, with new manufactured components that shall be adapted to existing conditions.

B. The Full Preventive Maintenance Service shall cover all maintenance and repairs of product or installation defects, failure or damage attributed to normal wear and tear, inadequate maintenance or negligence.

C. Consultant shall make sole and final determination of any dispute of condition, action, interpretation of agreement, attribution of responsibility or costs.

3.12 NOTIFICATION:

A. The Contractor shall inform the Facility Manager or an Authorized Representative of all elevator shutdowns that will leave an elevator out of service more than twenty-four (24) hours in duration, the reason(s) therefore (parts on order, lead time, major repairs, etc.), and estimated time for restoring service.

B. Contractor shall provide a progress/status report no less frequently than every 24 hours until the equipment is returned to service.

3.13 STANDARD FOR MATERIALS:

A. Unless otherwise specified, all replacement parts shall be new and of the same design, size, chemical composition and generally equal quality and performance to the material originally supplied by the manufacturer.

B. All lubricants shall be of the best quality and suited to the purposes for which they are used.

3.14 PERSONNEL:

A. Contractor agrees that all services shall be performed by licensed and competent maintenance and repair personnel, trained on and familiar with the installed equipment, and directly employed and supervised by the Contractor.

B. All work shall be performed by a journeyman level mechanic as a minimum. Apprentices may not work alone but may assist the mechanic as needed.

C. In the event that the Facility Manager becomes dissatisfied with the performance of any persons assigned to perform the services under this Agreement, Contractor agrees, within thirty (30) days of request from the Facility Manager or an Authorized Representative, to assign other qualified personnel to perform these services.

D. Contractor’s service personnel shall wear uniforms which bear Contractor’s name or other appropriate symbol which identifies them as employees of the Contractor and such uniforms shall be clean and in good condition.

3.15 SPECIAL TESTS:

A. Elevators provided with fire service, emergency communication devices, derailment devices, seismic switches, flood sensors or other special circuitry shall be checked and reported no less often than quarterly, to make certain that these devices are operating correctly and as designed. Facility Manager and the Contractor shall arrange for mutually acceptable dates to perform the tests.

B. These tests shall be witnessed by the Facility Manager or an Authorized Representative and a written report shall be furnished indicating the results of such test. All testing shall conform with the requirements of ASME A17.2 and/or local code testing requirements.

C. Contractor must satisfactorily correct the applicable requirements of any Preliminary Orders issued by CA DOSH within thirty (30) days of first notice and promptly notify Facility Manager and DOSH in writing immediately upon completion.

PART 4 – SERVICE WORK OUTSIDE CONTRACT COVERAGE

4.1 ESTIMATES AND PROPOSALS

A. All Contractor quotes, proposals, and repair cost estimates for any elevator work outside of preventive maintenance coverage must include a price breakdown of labor (hours & rates) and material costs using the contract hourly rates, material markups as shown below and established unit prices.

B. Contractor shall provide a reasonable written estimate to the Facility Manager and Consultant for approval before commencing any work under this section unless the service is for emergency work to free trapped occupants in the EOL Service Contract or if the repair(s) can be completed by singular technician within one (1) hour.

C. Contractor shall bid straight time and overtime (premium) hourly rates and these unit prices shall apply for the duration of the contract. Premium time shall be defined as all h ours not otherwise identified as straight time work, including recognized legal holidays and weekends..

4.2 TRAVEL TIME:

A. No travel time or fuel charges shall be allowed under this contract for maintenance visits and scheduled repairs during straight time hours or for callback service.

B. All hourly rates bid for straight or premium time shall be inclusive of travel time and fuel charges and all other incidental costs that may be incurred by Contractor in the performance of the services herein.

C. Timesheets for each callback must itemize the time at the jobsite plus a description of what work was accomplished and if any problem still exists.

D. The Facility Manager or his or her appointed representative shall provide authorization number for timesheets prior to the attending technician’s departure from the site..

4.3 PARTS PLUS 15% MARK-UP

A. Parts and Materials charges shall be at Contractor’s net cost plus 15% mark-up (parts and materials invoices shall be submitted with Contractor’s regular invoice). Charges are only for parts and materials incorporated into the elevator systems at the Facility, or to replace onsite inventory.

B. F.O.B. Point. F.O.B destination to various City-owned and/or operated facilities (“Facility” locations – see exhibit “A”), freight prepaid and allowed, unless otherwise specified.

C. Contractor shall obtain written approval from the Facility Manager to replace parts with other than OEM (original equipment manufacturer) or generic parts and shall deliver all parts removed to the Facility Manager.

D. Unless otherwise specified, all replacement parts shall be new and of the same design, size, chemical composition and equal to the material originally supplied by the manufacturer.

E. All lubricants and their application shall be of the best quality for the purposes for which they are used, and as prescribed by the OEM (original equipment manufacturer).

4.4 VANDALISM:

A. If there is evidence of vandalism when responding to an elevator shutdown call, Contractor shall perform the work necessary to remedy any unsafe condition or remove the elevator from service, and immediately notify the Facility Manager. This paragraph clarifies Facility's requirements that vandalism must be apparent, or the Contractor shall repair the items as a Normal/Overtime service callback or Emergency Service callback.

B. If mutual agreement cannot be reached between Contractor and Facility Manager in determining whether vandalism is apparent, Consultant's decision shall be final.

C. Payment for repair or replacement work caused by vandalism shall be limited to the specified hourly rate plus reimbursement for materials.

4.5 CONTACTS FOR CONTRACT:

A. BJ (Robert) Dericco, Engineering Associate
City of Santa Cruz Public Works
Phone: 831-420-5519
Email: rdericco@santacruzca.gov

B. Filipina Warren, Operations Manager
City of Santa Cruz Public Works
Phone: 831-420-5559
Email: fwarrent@santacruzca.gov

END OF SECTION 14 01 20

SECTION 14 24 23

HYDRAULIC ELEVATORS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes modernization of two (2) hydraulic passenger elevators in separate parking facilities, including but not limited to:

1. All engineering, equipment, labor, and permits required to satisfactorily complete elevator modernization required by Construction Documents.

2. 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.

3. Unless specifically identified as “Reuse,” “Retain,” or “Recondition,” provide new equipment. All retained equipment to be reconditioned to “like new” condition and shall meet all performance requirements of this specification.

4. Hoistway, pit, and machine room barricades as required.

5. New equipment shall include, as a minimum, all features and functions of existing equipment unless designated for alteration or omission herein.

A. Related work required by this section:

1. Hoistway and Pit

a. Fire caulking at pipe openings in machine rooms and hoistways.

b. Wall block outs and fire rated closure for control and signal fixture boxes which penetrate walls.

c. Protect open hoistways and entrances during construction per OSHA Regulations.

d. Remove sprinklers in the overhead (as allowed by local AHJ).

e. Cutting and patching of lobby walls as necessary where fixtures are modified.

2. Machine Room – Modifications as required for Code approved enclosure.

3. Electrical Service, Conductors, and Devices

a. Lighting and GFCI convenience outlets in pit and machine room

b. Fused 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, and shunt trip to remove power from equipment prior to application of water from sprinkler.

c. 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

d. Fire alarm initiating devices in each elevator lobby and each machine room to initiate firefighters’ return feature. 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. All piping and wiring in public spaces to be discrete.

B. Related work not required by this section:

1. Updates to or replacement of the existing life safety and fire alarm system, which shall be performed by and coordinated with the current FLS maintenance contractor, including all required connections and testing.

2. Provision and installation of in-car flooring, other than supervision.

3. Removal of sprinklers from all upper hoistways and pits as allowed by AHJ; cap or re-route lines outside elevator spaces.

C. Weigh each elevator within sixty (60) days of award to confirm compliance with Code requirements for added weight or identify specific changes to the equipment that are required to bring the elevator to compliance.

1.2 DEFINITIONS

A. Terms used are defined in the 2004 edition of the Safety Code for Elevators and Escalators, ASME A17.1, along with the following:

1. "OEM": Acronym for Original Equipment Manufacturer, herein used to broadly identify manufacturers who globally design, produce or purchase, consolidate and install complete, holistic elevator systems, and for which they provide all-inclusive warranty.

2. "Provide": to furnish and install, complete for safe operation, unless specifically indicated otherwise.

3. "Install": to erect, mount and connect complete with related accessories.

4. "Supply": to purchase, procure, acquire, and deliver complete with related accessories.

5. "Work": all labor and materials required for proper and complete installation.

6. "Wiring": raceway, fittings, wire, boxes, and related items.

7. "Concealed": embedded in or installed underneath masonry or other permanent construction, installed in furred spaces, within double partitions or hung ceilings, in trenches, in crawl spaces or in enclosures; invisible without destructive exploration.

8. "Exposed": not installed underground or "concealed" as defined above.

9. "Indicated," "shown," or "noted": as indicated, shown, or noted on drawings or as specified.

10. "Similar" or "equal": compared to a product of the specified base bid manufacturer, equal in materials, weight, size, design, and performance of specified product, conforming to "acceptable manufacturers" and listed herein or an approved substitution.

11. "Reviewed", "satisfactory", "accepted", or "directed": as reviewed, satisfactory, accepted or directed, by or to Owner and Consultant.

12. "Defective": includes but is not limited to: operation or control system failures, car performance below required minimum, excessive wear, unusual deterioration, or aging of materials or finishes, unsafe conditions, the need for excessive maintenance, abnormal noise, or vibration, and similar unsatisfactory conditions.

B. Terms used are defined in the 2004 edition of the Safety Code for Elevators and Escalators, ASME A17.1.

C. Reference to a device or a part of the equipment applies to the number of devices or parts required to complete the installation.

D. The work shall be considered Substantially Complete when the elevator has been inspected and permit issued by the State of California Elevator Division, the Consultant has completed their review of quality and performance, the Contractor has satisfied any punchlist deficiencies, and the elevator has been released into operation for its intended public use.

E. Provide only control systems that can be installed, adjusted, and repaired using on-board diagnostic features, and which do not require separate proprietary tools or manuals, and which allow unlimited access by authorized personnel, have non-volatile memory and, for which the manufacturer (other than recognized OEM's) makes complete training available to any licensed contractor.

1.3 REFERENCES

A. Applicable Codes:

1. California Code of Regulations Title 8 Elevator Safety Orders
2. California Building Code Title 24 (including 2022 Building Energy Efficiency Standards for elevators in section 120.6(f))
3. OSHA Occupational Safety and Health Administration.
4. National Electrical Code, NFPA 70
5. Life Safety Code, NFPA 101.
6. Authorities having jurisdiction.
7. Other laws, codes, statutes, or ordinances applicable to the site or work

Note: In the event of a conflict between codes, regulations, standards or these specifications, the most stringent requirement shall take precedence unless otherwise specifically required by the Consultant.

B. Referenced Standards:

1. American Society of Mechanical Engineers, Safety Code for Elevators and Escalators (ASME A17.1-2004).
2. American Society of Mechanical Engineers, Guide for Inspection of Elevators, Escalators, and Moving Walks (ASME A17.2-2004).
3. American Disabilities Act - ADAAG published in 28 CFR Part 36 Federal Register.
4. National Electrical Code - (NFPA 70).
5. National Fire Protection Association – (NFPA 72).
6. Fire Test of Door Assemblies – (NFPA 252).
7. American Welding Society (AWS) D1.1 - Structured Welding Code Steel.
8. American National Standard Accessible and Usable Buildings and Facilities (ASME A117.1- 2003).
9. ANSI Z97.1 Glazing Materials Used in Buildings, Safety Performance Specifications and Methods of Test.
10. Authorities having jurisdiction.

1.4 SUBMITTALS

A. Product Data: Include capacities, sizes, performances, operations, safety features, finishes, and similar information. Include product data for the following specified components:

1. Hydraulic power unit, including reservoir support assembly.
2. Hydraulic control and rupture valves.
3. Door operator and related hardware.
4. Door protection device.
5. Microprocessor controller.
6. Guide shoes.
7. Signal fixtures.
8. Entrance jamb floor identification plates.

B. Shop Drawings: Show plans, elevations, sections, and large-scale details indicating machine room layout, lobby elevations, relationships with other construction, and locations of equipment and signals.

1. Large-scale layout of car control station and hall fixtures.
2. Electrical requirements based on the speed and capacity specified to include maximum and average power demands.
3. Design for existing electrical service and provide marked-up single-line wiring diagram to indicate changes or additions to existing supply circuits.
4. Elevator equipment heat output for design of machine room cooling.
5. Indicate any variations from existing conditions.

C. Samples: For exposed finishes of cars, hoistway doors and frames, and signal equipment; 3-inch- square samples of sheet materials; and 4-inch lengths of running trim members.

1. Provide operable sample of proposed push button devices.
2. Provide sample of entrance jamb plates.

D. Close-out Documentation

1. Operation and Maintenance Data: Provide Owner's Manuals with operation and maintenance instructions to include: manufacturers contact information, manufacturer's reference and serial numbers, operating instructions, recommended spare parts lists, maintenance recommendations and schedules.
2. Machine Room Prints. Provide one complete set of "record" field wiring and straight line wiring diagrams showing all electrical circuits in the hoistway as well as the machine room. These diagrams shall be bound in an 8 1/2-inch by 11-inch binder and located in the elevator machine room as directed.
3. Keys: Before acceptance of work, furnish three sets of keys for all keyed switches installed as part of this project, including controller cabinet, fire service, stop switch, service cabinet, inspection and others as provided.
4. Inspection and Acceptance Certificates and Operating Permits: As required by authorities having jurisdiction for normal, unrestricted elevator use.

1.5 PERMIT, TESTING, AND INSPECTION

A. Obtain and pay for permit, license, and inspection fees necessary to complete installation.

B. Perform tests 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 final performance and quality review by Consultant, and satisfaction of any punchlist deficiencies, as required.

1.6 DOCUMENT AND SITE VERIFICATION

A. To discover and resolve conflicts or lack of definition which might create problems, Contractor must:

1. Review Construction Documents and thoroughly examine site conditions for compatibility with its products and their complete installation and operation, prior to submittal of bid.

2. Review existing structural, electrical provisions, and mechanical provisions for compatibility with Contractor's products.

Owner will not pay for change to structural, mechanical, electrical, or other systems required to accommodate Contractor’s equipment, except where Contractor responsibly exercised the identified opportunities to discover such obstacle and the obstacle is determined as having been concealed in the sole opinion of Consultant.

B. Site Condition Inspection:

1. Prior to beginning installation of equipment, examine hoistway and machine room areas. Verify no irregularities exist which affect execution of work specified.

2. Do not proceed with installation until work in place conforms to project requirements.

1.7 QUALITY ASSURANCE

A. Material and gauges as noted.

B. Replacement components shall be made available to the Owner for a period of not less than 20-years.

1.8 DESIGN CRITERIA

A. Provide equipment to fit and perform reliably within the existing spaces, structural and climatic conditions.

B. Performance:

1. Contract Speed: within 5% of the specified speed under any loading conditions

2. Floor-to-floor performance time: Measured from the start of doors closing at one floor until doors are ¾ open and the car is stopped at the next successive floor in either condition under any loading condition, based on 10’-0” floor height: 15.5 seconds

3. Door Open Time: From start of opening to fully opened: 3.1 seconds.

4. Door Close Time: From start of closing to fully closed: 4.0 seconds.

5. Door Dwell Times: Comply with accessibility requirements and provide separate adjustable timers for car and hall calls with initial settings as follows:

a. Hall Calls: 5.0-6.5 seconds.

b. Car Calls: 5.0-6.5 seconds.

c. Interrupted Door Beam: 1.0-1.5 seconds.

6. Nudging: Adjustable with initial setting of 20 seconds. If doors fail to close after the set time, doors close at reduced speed and pressure and activate nudging buzzer.

7. Leveling: Within 1/8-in. under any loading condition. Level into floor in both directions under all operating conditions; do not overrun floor and level back.

8. Vertical Acceleration and Deceleration: Maximum 4 feet per second^2. Maximum Jerk: 8 feet per second^3.

9. The final assembled form of all components shall neither provide or allow hazardous conditions to the public or maintenance personnel. Surface irregularities, sharp edges, or protrusions in public or maintenance areas shall not be permitted.

C. Operating Qualities: The Owner's Representative will judge riding quality of car and enforce the following requirements. Make all necessary adjustments.

1. Starting and stopping shall be smooth and comfortable. Slowdown, stopping and leveling shall be without jars or bumps.

a. Vertical Vibration: Maximum 30 mg

b. Horizontal Vibration: Maximum 30 mg peak-to-peak measured at full speed for full travel in both directions

2. Full Speed Ride: Free from vibration, noise, or sway.

D. Oil Quality: Hydraulic oil to be filtered, analyzed and certified to the following characteristics:

1. Total Acid Number (TAN): .3

2. Viscosity: 32 centisokes

3. Viscosity Index: 90 to 120

4. Water: Less than 50 ppm

5. ISO Cleanliness Code: 16/14/12

E. Sound Control:

1. Vibration: Sound isolate all equipment from building structure to prevent objectionable noise and vibration transmission to occupied building spaces including; hydraulic power unit, controller, piping,

2. Airborne Noise: Maximum acoustical output level of:

a. 85 dBA measured in machine room

b. 65 dBA measured in elevator car during all sequences of operation

c. 70 dBA measured in elevator lobbies

F. Motor Control: Operate at plus or minus 10% of normal feeder voltage plus or minus 3% of normal feeder frequency without damage or interruption of elevator service. Include protective devices to prevent damage on over or under voltage conditions and loss op phase or revers of phase.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle materials, components, and equipment in manufacturer's protective packaging.

B. Store and secure materials, components, and equipment off of ground, under cover, and in a dry location designated by Owner. Handle according to manufacturer's written recommendations to prevent damage, deterioration, or soiling.

C. Ship in original crated sections of a size to permit passage through available spaces.

D. Obtain approval and schedule delivery of material to meet Owner requirements.

1.10 COORDINATION

A. Coordinate installation of sleeves, block outs, and items that are embedded in concrete or masonry for elevator equipment. Furnish templates and installation instructions and deliver to Project site in time for installation.

B. Coordinate sequence of elevator installation with other work to avoid interference with other trades or delaying the Work.

C. Coordinate locations and dimensions of other work relating to the elevator including pit ladder, and electrical service, electrical outlets, lights, and switches in pits and machine rooms.

1.11 WARRANTY

A. Material and workmanship of installation shall comply in every respect with Construction Documents. Correct defective material or workmanship which develops within one year from date of Substantial Completion of all work to satisfaction of the Purchaser and Consultant at no additional cost, unless due to ordinary wear and tear, or improper use or care by Purchaser.

B. Retained Equipment: Check, clean, modify, repair, or replace all retained components and parts so that each component and its parts are in like new operating condition. Retained equipment must be compatible for integration with new systems. All retained equipment shall be covered under the warranty provisions above. No proration of equipment or parts shall be allowed on preventive maintenance contract between the Contractor and Purchaser.

1.12 MAINTENANCE SERVICE

A. Interim Maintenance:

1. Provide maintenance service on both elevators beginning from contract award until Substantial Completion.

2. The Work is considered substantially complete when the elevator is completed, inspected, permitted, and placed into normal operation for use by building tenants.

3. Maintenance costs shall not be included in the elevator contract and shall be invoiced to and paid by the Purchaser monthly as building operating expense during the modernization period. Maintenance costs shall be level during the term of the modernization work.

4. The scope of maintenance service shall be as defined in the Elevator Preventive Maintenance Requirements as included with these documents.

B. Warranty Maintenance:

1. Provide maintenance service for a period of one year beginning at Substantial Completion.

2. Warranty Maintenance costs shall not be included in the elevator contract and shall be invoiced to and paid by the Purchaser monthly as building operating expense during the warranty period. Warranty Maintenance costs shall be level during the Warranty Period.

3. The scope of maintenance service shall be as defined in the Elevator Preventive Maintenance Agreement as included with these documents.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Approved Manufacturers: Elevator equipment shall be manufactured by one of the following:

1. Hydraulic Power Units: Boremax, EECO, MEC, Schindler, ThyssenKrupp, Otis.

2. Controllers: MEC, SmartRise, MCE, Schindler, ThyssenKrupp, Otis.

3. Hydraulic valves: Maxton, Blain, Bucher.

4. Signal Fixtures: EPCO, MAD, Innovation or OEM's standard.

a. Push Buttons: Equal to PB-37 by Innovation.

5. Door Operators: GAL, Wittur, Schindler, ThyssenKrupp, Otis or approved equal.

a. Door Closers: SmarTorq ® spirator or approved equal.

b. Door Gibs: Equal to The Enforcer by Sees.

B. Substitutions: Include major components from the above listed manufacturers only. Substitution of products by other manufacturers will be considered by providing supporting documentation acceptable to the Consultant that the proposed substitutes are of equal or higher quality and performance characteristics than the specified products. Identify the source of all in the proposal.

2.2 EQUIPMENT SUMMARY

	601 Front Street	1050 Cedar Street
Installer	Republic	KONE
Install Date	2000	1992
CA ID No.	121233	102545
Capacity	2,500 lbs.	3,500 lbs.
Speed	125	150 fpm
Stops/Openings	4 / 4	5 / 5
Power Unit	Generic	KONE
Hydraulic Jack	In-Ground	In-Ground
MR Location	20' Remote at 1	20' Remote at G
Control	Microprocessor	Microprocessor
Operation	Collective	Collective
Door Type	Single-Speed, Side-Opening	Single-Speed, Center-Opening
Door Size	42" w. x 84" h.	42" w. x 84" h.
Clear Inside	6' 8" x 4' 3"	6' 7" x 5' 5"

2.3 CONTROL SYSTEMS

A. General: Provide OEM standard or non-proprietary microprocessor control system as required to perform the functions of elevator motion, car operation, and door control

1. Include sleep mode that turns car lights and fan off when there is no demand; provide adjustable time period between normal operation and activation of sleep mode.

2. Include hardware required to connect, transfer, interrupt power, and protect motors against overloading. Properly shield each controller cabinet containing memory equipment from line pollution. Design system to accept reprograming with minimum down time.

3. Stop car within 1/8" above or below the landing sill. Maintain stopping zone regardless of load in car, direction of travel, or distance between landings.

B. Operation:

1. Include hardware necessary to protect power unit motors and door operators. Software shall control group and simplex program operations.

2. Design the control system to accept reprogramming with no shutdown of system.

3. Controllers containing memory equipment must be properly shielded from line feeder pollution.

4. Elevator operation shall be simplex selective cancellation collective automatic control in accordance with the following:

a. The control and indicating devices and supplementary service modes to be provided, together with the basic functioning of these and of power doors, door protective devices and similar items, are detailed in the relevant paragraphs of this specification.

b. Car and landing calls in each direction of travel shall be answered in the order in which required floors are approached by the car, provided that the call is registered sufficiently in advance of the car's arrival to permit a stop to be made.

c. Provide "anti-nuisance service" whereby all car calls will be canceled if the load weighing device detects that an abnormal number of calls are registered given the number of passengers in the car. System using false call answering to accomplish this is not acceptable.

5. Fault Diagnostic System:

a. Provide a diagnostic system for microprocessor systems capable of determining faults most difficult to find. It shall constantly monitor the condition of all car computers. When variances occur from the normal mode, the change or fault shall be detected, the location of the elevator, time of day, number of times fault occurred, along with fault code message shall be stored on memory. This information shall be retrievable and shall be displayed on a LED monitor in the machine room.

b. The data link required to monitor all car computers shall be permanent. Installation requiring disconnect/reconnect of data line to retrieve specific car data is unacceptable.

C. Other Operations:

1. Pit Flood Operation: Upon activation of the Pit Float Switch, the elevator shall:

a. If in operation, stop at next landing in direction of travel; if downward, reverse direction without opening doors.

b. Disable hall and car calls

c. Travel without stopping to top landing.

d. Automatically cycle doors open and closed once, then park. Door operation buttons to remain operable.

e. Remain in disabled condition until examined and restored to service by licensed elevator mechanic.

2. Door Hold Operation: Provide controls and a button within car operating panel that shall hold the doors open for an adjustable period of 30 to 90-seconds. The button shall illuminate when pressed, extinguish when door begins to close. A buzzer shall sound if another call for the elevator is placed during the holding period.

3. The following shall resume normal door operation:

a. Activation of door close button.

b. Activation of any floor button within the elevator.

c. Expiration of time period.

D. Independent Service: Provide controls for operation of each car from its pushbuttons only. Close doors by constant pressure on the desired destination floor button or door close button. Open doors automatically upon arrival at selected floor.

E. Firefighters' Service: Provide equipment and operation in accordance with Code requirements.

F. Automatic Car Stopping Zone: Stop car within 1/8" above or below the landing sill. Maintain stopping zoned regardless of load in car, direction of travel, distance between landings, rope stretch or slippage.

G. Remote Monitoring and Diagnostics: Equip each controller with standard ports, interface boards, and drivers to accept maintenance, data logging, fault finding diagnostic and monitoring computers, keyboards, modems, and programming tools. The system shall be capable of driving remote color CRT monitors that continually scan and display the status of each car and call.

H. Door Operation: Automatically open doors when car arrives at main floor. At expiration of normal dwell time, close doors. Reopen doors when car is designated for loading.

I. Emergency Lighting and Alarm: Car mounted battery unit with solid-state charger to operate alarm bell and car emergency lighting. Battery to be rechargeable with minimum 5-year life expectancy. Include required transformer. Provide constant pressure test button in service compartment of car operation panel. Provide lighting integral with portion of normal car lighting system.

J. Battery-Powered Lowering:

1. Upon loss of normal power, provide controls to automatically lower the car at inspection speed to the designated landing. If the car is at a floor, open the doors, and shut down. If the car is in motion between floors are lowered to the designated floor, open the doors, and shut down. If the car is in motion below the designated floor, lowered to the next lower

floor, open their doors, and shut down. System includes rechargeable battery and automatic recharging system.

2. Upon restoration of normal power, the elevator shall automatically resume normal operation.

2.4 WIRING

A. General: Use only copper conductors; run in galvanized metal conduit or duct. Provide 10% spare conductors in conduit, duct, and wire runs. No splices in wiring; connect wiring directly to terminal blocks inside control cabinets or junction boxes. Tag spares inside controller cabinet. Complete all wiring in a neat and professional manner.

B. Within the elevator hoistway, all wiring trough, duct, conduit, elbows, and fittings to be IP65 rated for water resistance.

C. Traveling cables: Provide lighting, communication, and control wiring circuits in traveling cables from machine room to car connection point. Include a minimum of four (4) spare pairs of shielded communication wires. Provide means to prevent cables from rubbing or chafing against hoistway, structural beams, elevator equipment, and the car. Provide wiring required for Owner provided video cameras to be mounted inside each cab. Mid-hoistway junction box to be NEMA 4.

D. Work light and plug receptacle: provide work light on top of car with lamp guard and plug receptacle. Devices shall be NEMA 4 water resistant and shielded from falling water.

E. Conduit: where provided use EMT type conduit. Include a flexible conduit to sound isolated equipment and components. All piping and wiring shall be discrete and not visible in public spaces, i.e., conduit required for smoke detectors in public lobbies.

2.5 FINISH MATERIALS

A. General: Provide the following materials for exposed parts of elevator car enclosures, car doors, hoistway entrance doors and frames, and signal equipment as indicated.

B. Stainless Steel: ASTM A 240/A 240M, Allow 316 Satin Finish: No. 4 (US 32D), grain to run in the longest dimension. Minimum gauges: 14 for construction, 16 for cladding. Ferritic stainless unacceptable.

C. Cab Shell Wall Panels: Textured or patterned stainless steel; Rigid Metals 5WL or equal. Panels to be reinforced to avoid deflection at any point greater than 1/16” at any point across the entire surface.

D. Manufacturers’ Nameplates:

1. Manufacturer’s name plates and other identifying markings shall not be affixed on surfaces exposed to public view. This requirement does not apply to Underwriter’s Laboratories and code required labels.

2. Each major component of mechanical and electrical equipment shall have identification plate with the Manufacturer’s name, address, model number, rating, and any other information required by governing codes.

2.6 MACHINE ROOM EQUIPMENT

A. General: Arrange equipment within the available space. Coordinate related electrical and mechanical work.

B. Power Unit: New compact submersible type with isolated base. Include motor, pump, muffler, and shut off valves. Provide oil heater in tank to ensure constant oil temperature and operation of

elevator. Capacity of tank shall be sufficient to lift elevator to top landing plus minimum of 10 gallons.

C. Hydraulic Control Valve: New electronic hydraulic control valve to control starting, stopping, and accurate leveling.

D. Hydraulic Oil: Remove, contain, manifest, and properly dispose of as much of the existing hydraulic fluid as possible. Provide appropriate new hydraulic oil as designated by the most demanding recommendations of control valve, pump, and motor manufacturers. Once new oil is installed in the system, immediately engage a recognized elevator hydraulic fluid filtration system to remove residual contaminants loosened from the lining of oil supply lines, cylinders, and plungers to meet specified viscosity and other characteristics.

E. Shut-Off Valves: Provide new manual shut off valves at power unit in machine room and in the elevator pit.

F. Controller: As standard with approved manufacturer; overload relays in three legs of power circuit and in loop circuit; cabinets with NEMA-1 enclosures and hinged doors, arranged with locks or mechanical latches. Provide permanently marked symbols or letters identical to those on wiring diagrams adjacent to each component.

1. The controller wiring shall be carried out in a neat and workmanlike manner in accordance with relevant requirements of National Electric Code.

2. All external connections to the equipment on each controller shall be made by means of approved cable thimbles and/or solderless cable lugs, depending on the current to be carried.

3. Condenser activated or dash pot timers, motors or incandescent globes for dampening acceleration and deceleration steps are unacceptable.

4. Main contactors or starter switches shall be horsepower rated and are not to be mounted directly to the steel cabinets, to ensure quiet operation of controllers.

5. The controllers must be properly shielded from line feeder pollution.

2.7 HOISTWAY EQUIPMENT

A. All retained metal surfaces, including fasteners, hardware, rail clips, anchorages, brackets, and welds to receive water-resistant coating. All new fasteners to be stainless steel.

B. Guide Rails: Retain existing guide rails, realign and file as required to provide smooth ride. Provide supplemental rail brackets and or backing as required by Code or to enhance car ride quality. Clean and remove all dust, dirt, and rust. Paint rail surfaces not in contact with guides. Check and tighten all fastenings.

C. Guide Shoes: New roller-type guide shoes with neoprene tires, minimum 6” diameter and ¾-in. wide, fully adjustable and spring loaded to provide continuous contact with rail surfaces. Balance car to ensure equal guide shoe pressure on all wheels within manufacturer's recommendations. Provide and install stainless steel shrouds on all guides to cover and divert falling water away from shoes, springs, and adjustments.

D. Pit Float Switch: Provide new NEMA 4 pit float switch, located and installed per manufacturer’s instructions. *See also Pit Flood Service under 2.3C.*

E. Hydraulic Jack Assembly – Retain existing. Restore the surface finish of the piston as required using 220 grit emery cloth in an irregular pattern. Provide and install new jack packing seal.

F. Oil Supply Piping: Hydraulic supply plumbing within or entering hoistway shall be replaced with new, minimum Schedule 40, stainless steel pipe and fittings

G. Scavenger System: Provide a positive displacement, rotary type oil scavenger system, that shall automatically return oil to the oil reservoir. Provide a copper tubing scavenger line with in-line strainers to filter for solids before the oil is returned to oil reservoir. To prevent contamination from water that might accumulate in the pit, a lock out float switch shall be provided to detect high water in the pit and prevent the oil recovery pump from operating. The scavenger system shall be secured to the pit floor to prevent the system from floating or turning upside down in a high water condition.

H. Shut Off Valve: Provide Maxton OSV-series shutoff valve in oil line adjacent to jack. Valve to protect against elevator overspeed in down direction due to pipe rupture or car overload conditions.

I. Buffers – Retain Existing: Clean and apply one coat of rust inhibiting paint.

J. Pit Channels: Clean and apply one coat of rust inhibiting paint.

K. Earthquake Valve: Provide Code required earthquake rupture valve in pit.

L. Pit Stop Switch: Provide NEMA 4/IP65 water resistant pit stop switch.

M. Car Frame and Platform: Retain existing, check and tighten all fastenings. Reinforce as required to minimize deflection. Repair broken welds and tighten loose fastenings to eliminate squeaking. Provide new stainless steel apron.

N. Terminal Stopping: New NEMA 4/IP65 rated water resistant normal and final limit devices.

O. Selector Tape – Perforated stainless steel with all connectors, retainers and mounting to be stainless steel or have water resistant coating.

P. 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.

2.8 DOOR OPERATING EQUIPMENT

A. Door Operator: New GAL MOVFR II, medium speed, heavy duty, water-resistant, harmonic type machine, capable of opening doors at no less than 2.5 fps. Reverse door direction upon interruption of infrared beams in no more than 2 ½-in. of movement. Provide solid state control with closed loop circuitry to constantly monitor and automatically adjust door operation based on velocity, position, and motor current. Maintain consistent, smooth, and quiet door operation at all floors, regardless of door weight or air pressure. Door operator and its controller to be shrouded to divert falling water to open hoistway on either side of cab. Equip door operator with stainless steel drive arms.

B. Door Tracks: Replace with new stainless steel door track.

C. Door Hangers: Replace with new, including resilient rollers, sealed bearings and eccentric/upthrust.

D. Door Clutch: New, heavy duty, water-resistant components including clutch, galvanized linkage arms, drive blocks, and pickup rollers or cams, to provide positive, smooth, quite door operation. Design clutch so car doors can be closed while hoistway doors remain open.

E. Door Closers: Provide all new *SmarTorq*® landing door spirator closers.

F. Interlocks and gate switches: New, NEMA4 water resistant at all floors.

G. Door Gibs: New heavy-duty, stainless steel fire tabs and resilient gibs, minimum two per door panel, positioned near both leading and trailing edges, equal to The Enforcer by Sees Inc.

H. Restricted Opening Devices: New vane type door restrictors equal to The Restrictor by Sees Inc. or approved equal, as required by Code to prevent opening of car doors outside the unlocking zone. Plunger type restrictors are not acceptable.

2.9 DOOR REOPENING DEVICES

A. Infrared Array: Provide new NEMA 4/IP65 door reopening devices with uniform array of 36 or more microprocessor-controlled, infrared light beams projecting across car entrance. Interruption of one or more of the light beams shall cause doors to stop and reopen.

B. Nudging Feature: After car doors are prevented from closing for predetermined adjustable time, through activating door reopening device, a loud buzzer shall sound and doors shall begin to close at reduced kinetic energy.

2.10 CAR ENCLOSURE (Include by $50,000/elevator net allowance)

A. Acceptable Manufacturers:

1. OEM
2. SnapCab
3. Fab-A-Cab
4. Vertical Dimensions

B. Modular cab construction, assembled at site by the assigned installation crew.

C. Panel arrangement, ceiling model, lighting, colors and finishes per Owner’s selection.

D. Glass Rear Wall: Glass rear wall with aluminum mullions, resilient stops, and gaskets, framed to complement the existing glass hoistway rear wall.

E. Car Sill: Provide new stainless steel car sill.

F. Fan: New 3-speed exhaust blower, Man-D-Tech with shroud and seal to prevent entry of water into cab.

G. Emergency exit panel in canopy to be gasketed to prevent intrusion of water to cab interior and be secured by NEMA 4/IP65 water resistant lock and contact.

2.11 HOISTWAY ENTRANCES

A. General: Retain and recondition, provide new stainless steel hardware as specified.

B. Perimeter brushes: Provide SealEze thermal brushes per manufacturer’s instructions to entire perimeter of hoistway openings. Brushes and bristle length selected and positioned to provide maximum resistance to the entry of blown precipitation.

C. Frames: Retain and recondition existing. Remove all rust and dirt, clean mechanically and chemically, apply two coats rust-resistant paint.

D. Door Panels: Provide all new landing door panels in stainless steel .

E. Door Gibs: New heavy-duty door gibs with stainless steel fire tabs, two per door panel, positioned near both leading and trailing edges, equal to The Enforcer by Sees Inc.

F. Sills: Provide new stainless steel landing sills, supports, struts, anchorages, clean, polish and tighten and paint all retained fastenings.

G. Fascia, Toe Guards, and Hanger Covers: New 16-gauge stainless steel hanger covers and hoistway fascia. Adapt or add as needed to protect landing door hardware and divert falling water to either side of entrance.

H. Handicapped Floor Identification Plates: Provide new with raised, white, Arabic characters, with Braille designation to the left, on black background, of similar design to those for car operating panel buttons, of size required by governing authority. Locate on each entrance jamb at 60-in. above floor indicating floor designation. Include main landing "star" at lower floor. Provide with inconspicuous permanent mechanical attachment.

2.12 SIGNAL EQUIPMENT

A. General: Provide hall-call and car-call buttons of the same design and appearance, that illuminate when activated and remain lit until call has been completed. Provide push buttons which illuminate white across the entire face of the button for car and hall push buttons. Provide illuminating LED direction lanterns and position indicators with adjustable electronic tones. Locate and operate all devices in conformance with accessibility requirements.

B. Car Operating Panel: Provide a single car operating panel in new front swing return. Entire panel shall be hinged and reuse existing hinge points, box, and/or pockets where possible. Provide resilient gaskets between top of return panel and underside of transom to minimize risk of intrusion by falling or flowing water.

1. Identify floor buttons, alarm button, door open button, and door close button with Arabic and Braille designations. Configure plates per local building code accessibility standards.
2. Floor buttons to illuminate white across the entire surface.
3. Provide push buttons and plates in an oblong design. Locate floor buttons in a single vertical column with the highest button at 48-in. Locate emergency push-to-call and alarm button at 35-in. above finish floor.
4. Provide minimum ¾-in. diameter raised floor pushbuttons which illuminate to indicate car registration.
5. Provide alarm button to ring bell located on the car. Illuminate button when activated.
6. Provide firefighters' locked box and devices as required by Code.
7. Provide lockable service compartment with recessed flush door, key removable in locked position only. Door material and finish to match car operating panel faceplate. Inside surface of door shall contain an integral horizontal flush window for displaying the elevator operating permit. Include the following toggle type switches with function and operating positions identified by permanent signage or engraved legend:
    a. Inspection switch.
    b. Light switch.
    c. Three-position fan switch.
    d. Constant pressure emergency light test button.
    e. 120-volt GFCI duplex outlet.
    f. Stop switch.
8. Provide engraved and black painted capacity and elevator number on passenger-side surface of service cabinet door.

9. Provide discrete digital position indicator with direction of travel arrows located at the top of each car operating panel.

C. Emergency Communication System: Provide automatic dial "Hands-Free" voice, video, and text communication system integrated with the main car operating panel. A video display shall suitably identify activation of auto dialer for the visually and hearing impaired. Speaker shall be mounted without faceplate or visible fasteners and located behind the car operating panel. A camera shall be mounted in the front return to establish a visual link between the cab interior and remote communication center. Voice and video communication shall be capable of being heard and viewed from any location within the car enclosure.

1. Communication system shall have all modes monitored with live response on a 24/7/365 basis.

2. A pushbutton to actuate the communication means shall be provided in car operating panel. The pushbutton shall be visible and permanently identified as "HELP." The identification shall be on or adjacent to the "HELP" button. When the pushbutton is actuated, the emergency communication means shall initiate a call for help and establish audio and visual communications.

3. A video screen shall be provided within the cab, that is activated by authorized personnel, to acknowledge that a communications link has been established.

   a. The visual indication shall allow text messaging to be initiated from the communication center.

   b. A means shall be provided in the elevator cab to allow acknowledgement of receiving the text message.

   c. A video display shall provide indication that text, and video connection has been initiated. Display shall be positioned in the main COP centered at 52" AFF to facilitate wheelchair passengers' ability to read text messages.

4. Provide wiring from car to telephone terminal box in elevator machine room.

D. Hall Push-Button Stations: Provide flush mounted hall push-button stations at each landing with satin stainless steel faceplate NEMA 4/IP65 rated for water resistance.. Pushbutton design to match buttons in car operating panel. Provide Firefighters' Phase I devices and instructions in main floor hall station. Reuse existing fixture boxes and/or pockets where possible.

E. Direction Lanterns: Provide new NEMA 4/IP65 in-car direction lanterns with faceplates in return and jamb sides of opening. Faceplates to be No. 4 brushed stainless steel, gasketed to prevent entrance of water to fixtures.

F. Hoistway Access Switches: Provide new key switches in hall call station faceplate beside entrance jamb at top and bottom entrances. At landings where hall station is exposed to blown or falling precipitation, fixture to be NEMA 4/IP65 rated for water resistance.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification of Conditions: Examine elevator hoistways, machine rooms, and other work areas for compliance with requirements for installation tolerances and other conditions affecting performance of the finished installation. Submit written report listing any deficiencies or discrepancies that will adversely affect the performance and installation. Do not proceed with work until conditions have been corrected.

B. Field Measurements: Verify dimensions before proceeding with the work.

3.2 INSTALLATION

A. General: Comply with manufacturer's written instructions and in compliance with requirements of AHJ or other regulatory agencies. Install all components in accordance with specifications and approved shop drawings. Finish work neat in appearance and free from defects. Make plain surfaces smooth and free from warps and buckles. Apply molded members straight and true. Make connections between components tight to eliminate possible vibrations.

B. Install all equipment so it may be easily maintained and removed as needed for repair or replacement.

C. Welded Construction: Provide welded connections for installing elevator work where bolted connections are not required for subsequent removal or for normal operation, adjustment, inspection, maintenance, and replacement of worn parts. Comply with AWS standards for workmanship and for qualifications of welding operators.

D. Sound Isolation: Mount rotating and vibrating equipment on vibration-isolating mounts designed to minimize transmission of vibrations to structure and thereby minimize structure-borne noise from elevator system.

E. Lubricate operating parts of systems, including ropes, as recommended by manufacturers.

F. Alignment: Coordinate installation of hoistway entrances with installation of elevator guide rails for accurate alignment of entrances with car. Where possible, delay final adjustment of sills and doors until car is operable in shaft. Reduce clearances to minimum, safe, workable dimension at each landing.

G. Manufacturer's nameplates, trademarks, or other identifying symbols not allowed on surfaces visible to the public.

H. Leveling Tolerance: 1/8 -in. up or down, regardless of load and direction of travel.

3.3 FIELD QUALITY CONTROL

A. Acceptance Testing: On completion of elevator installation and before permitting use (either temporary or permanent) of elevators, perform acceptance tests as required and recommended by ASME A17.1 and by governing regulations and agencies.

B. Operating Test: Perform all testing as required by Code authorities and as required to demonstrate operation and performance in compliance with these specifications.

C. Advise Owner, Architect, and authorities having jurisdiction in advance of dates and times tests are to be performed on elevators.

3.4 FINAL CLEANING AND PAINTING

A. Clean all hoistways and elevator equipment and remove all rust, filings, welding slag, rubbish, loose plaster, mortar drippings, extraneous construction materials, dirt, and dust, including walls, building beams, sill ledges, and divider beams.

B. Restore all work areas and routes, including floors, walls, and ceilings, to their original condition.

C. Clean down surfaces and areas which require final painting and finishing work. Cleaning includes removal of rubbish, broom cleaning of floors, removal of any loose plaster or mortar, dust, and other extraneous materials from finish surfaces, and surfaces that will remain visible after the work is complete.

D. Paint machine room floor and pit floors with two coats of paint approved by Owner and appropriate for these spaces.

3.5 FINAL REVIEW REQUIREMENTS

A. Final review and evaluation of the finished work will be conducted by the Consultant. Notify the Consultant in writing no less than five (5) days prior to the elevators being ready for review. Provide all labor, materials, and equipment necessary to aid in this review and evaluation.

B. The installation is considered ready for final review when all tests and inspections by AHJs and inspecting authorities have been completed, permits received, final adjusting of all equipment is finished, and elevators restored to regular operation.

C. Consultant will provide a written punch-list identifying any performance or material deficiencies not in compliance with the specifications. Final Field Review and evaluation will include the following characteristics or conditions at a minimum:

1. Performance evaluation will be conducted under varied load conditions
2. Floor to floor and door performance times.
3. Elevator and door speed.
4. Ride quality including starting, acceleration, full speed ride, deceleration, stopping, and noise level.
5. Door operation, noise level, and closing pressure.
6. Testing of specified features and operations.

D. Provide the Consultant with a completed punch-list verifying that all punch-list items have been addressed and corrected. Consultant will conduct a back-check to verify

3.6 PURCHASER'S INFORMATION

A. Owner's Manuals: Provide one neatly bound hard copy and one electronic copy of all manufacturer's information, parts lists, straight-line as-installed wiring diagrams, parts list, lubrication charts, operating instructions. Summary page at beginning of manual to identify and include specific information including; complete manufacturer information, model, serial number, for each major component to include but not limited to: controller, door operator, signal fixtures, guide shoes.

B. Provide complete backup software for controller equipment installed.

END OF SECTION 14 24 23