PROFFITT & ASSOCIATES
ARCHITECTS

PAA Project Number: 24-14.03
June 12, 2026

Bid Set Specifications

Wootton High School

Elevator Modernization

2100 Wootton Pkwy
Rockville, MD 20850

Montgomery County Public Schools

Montgomery County Public Schools
UNLEASHING POTENTIAL

PAA

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BIDDING SPECIFICATIONS
June 12, 2026

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Elevator Modernization
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SECTION 01 10 00
SUMMARY OF WORK

PART 1 - GENERAL

1.1. SUMMARY

A. Unless otherwise noted, Contractor shall provide and pay for labor, materials, equipment, tools, construction machinery, transportation, and other facilities and services necessary for proper execution and completion of Work required by Contract Documents.

B. Work of Contract can be summarized by reference to Contract, General Conditions, specification sections as listed in "Table of Contents" bound herewith, drawings as listed in "Schedule of Drawings" bound herewith, addenda and modifications to Contract Documents issued subsequent to initial printing of project specifications, and including but not necessarily limited to printed matter referenced by any of these. It is recognized that Work of Contract may be affected or influenced by governing regulations, natural phenomenon including weather conditions, and other forces outside Contract Documents. General contractor will be responsible for supervising and coordinating work that has to be performed by Contractor or Subcontractors

C. General Contractor shall include all costs to perform and document inspections, observations, surveys and measurements required to prepare complete and accurate As-Built Plans, provide required certifications, and obtain approval thereof from The City of Rockville in its bid.

D. This project includes removal and replacement of elevator components to modernize two existing hydraulic elevator installations at Wootton High School. Furnish all labor, materials, equipment, and services necessary for and incidental to the elevator modernization scope of work described in spec section 14 24 10 including selective demolition of existing elevator components, general building components, and replacement as further specified herein. All work shall be bid as lump sum as indicated on the drawings and specifications. Work shall be coordinated with the Owner and completed in the time frame dictated by the Owner. Work is further described as follows:

1. Site Summary: The existing site is home to Wootton High School. The building will remain operational during construction of this project and will continue to operate as a high school after this project is complete. There is no sitework included in this project.

2. The Owner will be occupying the entire existing school building, following a normal school schedule for the 2026-2027 school year. All work of this project is to be complete prior to the start of the 2027-2028 school year. It is imperative that the Contractor understand the access, operational, safety and utility requirements of the Owner during the occupied periods. All work located on the interior and exterior of the building, and/or affecting occupied areas shall be completed at no disturbance to students or MCPS staff and teachers. Work at the existing building shall be completed during non-school hours – primarily over summer vacation, or as directed by the Owner. All utility outages shall be coordinated with the Owner, and occur during unoccupied periods.

3. The school will be partially unoccupied during the summer of 2027 for the following period of time: June 17 through August 23, 2027 (note that these timeframes are approximate and may shift slightly depending upon the final school calendar and adjustments for inclement weather days). Administrative staff will be present during the summer, however general staff and students will not be present except for small groups of students for camps or other summer programs.

4. During the construction period, all deliveries and construction traffic must be coordinated with school activities and use.

5. New Work: is indicated on the contract documents and includes architectural, mechanical, and electrical work.
   a. Architectural work includes, but is not limited to, replacement of select elevator components, machine room equipment, doors and frames, and select new finish systems. Some work is required to modify the existing built-up asphalt roofing and metal deck for installation of a new rooftop split system HVAC unit. All roofing work shall be performed by a contractor approved by MCPS and certified by the roofing manufacturer in order to maintain the existing warranty.
   b. Select mechanical and electrical systems are provided, including HVAC and ventilation systems, lighting and lighting controls, sprinkler systems, fire alarm, and telecommunications systems.
   c. Where required to install roof mounted equipment, provide structural steel angles to reinforce existing roof deck as noted on mechanical details.

1.2. WORK BY OWNER OF SEPARATE CONTRACTOR

A. Not Applicable

1.3. HOUSEKEEPING

A. Fire protection during construction

1. Provide and maintain hand fire extinguishers suitable for fire hazard involved at convenient accessible locations during construction.
   a. Provide each storage location with at least one approved portable fire extinguisher having a rating of not less than 20 - B:C.
   b. Place portable extinguishers rated not less than 2A so that maximum travel distance to the nearest exit shall not exceed 100 feet.
2. Avoid accumulation of flammable debris and waste within the building and vicinity. Avoid large and unnecessary accumulations of combustible forms and form lumber. Keep lumber stacked in an orderly manner.
3. Store flammable or volatile liquids in the open or in small detached structures or trailers. Handle liquids with low flash points to be used within the building in approved safety cans. Supervise closely the storage of paint materials and other combustible finishing and cleaning products. Do not permit oily rags to be stored in closets or other tight permanent spaces.
4. Prohibit smoking on school property.
5. Closely supervise welding and torch cutting operations near combustible materials.
6. Supervise locations and operation of temporary portable heating units and fuel.
7. Use only fire-resistant building paper, plastic sheet, and tarpaulins for temporary protection.
8. Do not store combustible material outdoors within 10 feet of a building or structure.
9. Do not use gasoline for cleaning within the building under any circumstances.
10. Take other precautions suitable for hazardous conditions at the site to prevent fire.

B. Burning

1. Do not burn any trash or other material on site.

C. Clean Up

1. The contractor is responsible for cleanup of the adjacent rooms and areas used for next day's normal school activities that occur inside and outside the construction containment spaces. All cleaning is to be provided by a professional cleaning services contractor and OWNER only acceptable standard is "White Glove Clean".

1.4. SALVAGE RIGHTS

A. The contractor shall coordinate with the Owner on the disposal of salvageable items. The Owner has first rights to all salvageable materials. In order to avoid Owner induced delays add a duration limit of up to 5-7 working days for Owner's reclamation of the salvage items in article 1.4.1 unless written extension is submitted.

B. All items not claimed by the Owner for salvage shall become the responsibility of the Contractor for removal.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

PART 4 - SCHEDULE OF DRAWINGS

4.1 Drawings indicating Work to be performed under this Contract include:

GENERAL

A0.1	COVER SHEET	6/12/26

ARCHITECTURAL

A1.1	EXISTING/DEMOLITION & PROPOSED FLOOR PLANS ELEVATOR 1	6/12/26
A1.2	EXISTING/DEMOLITION & PROPOSED FLOOR PLANS ELEVATOR 2	6/12/26
A5.1	INTERIOR ELEVATIONS ELEVATOR 1	6/12/26
A5.2	INTERIOR ELEVATIONS ELEVATOR 2	6/12/26

MECHANICAL

MP0.1	MECHANICAL LEGEND & ABBREVIATIONS	6/12/26
MP1.1	FLOOR PLANS	6/12/26
MP7.1	MECHANICAL & PLUMBING DETAILS	6/12/26

ELECTRICAL

E0.1	ELECTRICAL LEGEND & ABBREVATIONS	6/12/26
E0.2	OVERALL PLANS	6/12/26
ED1.1	DEMOLITION PLANS	6/12/26
E1.1	FLOOR PLANS – POWER & FIRE ALARM	6/12/26

E1.2 FLOOR PLANS - LIGHTING 6/12/26

END OF SECTION 01 10 00

SECTION 01 33 00
SUBMITTALS

PART 1 - GENERAL

1.1 Summary:

A. Make submittals required by Contract Documents to Architect, and revise and resubmit as necessary to establish compliance with the specified requirements.

1.2 Related Sections:

A. Individual requirements for submittals may be described in Divisions 2 through 26 of these Specifications.

B. Maintain a record document set of approved submittal documents. See Section 01 78 10.

D. Submittals not required will not be reviewed by Architect.

E. Contractor may require Subcontractors to provide drawings, setting diagrams, and similar information to help coordinate the Work, but such data shall remain between the Contractor and Subcontractors and will not be reviewed by Architect.

1.3 Quality Assurance:

A. Certifications: Provide such certification as is required per pertinent sections of these specifications. A minimum of two originals and one copy of Certification shall be forwarded.

1.4 Coordination of submittals:

A. Prior to each submittal, carefully review and coordinate aspects of each item being submitted.

B. Verify that each item and submittal for it conform with the specified requirements.

C. Verify field measurements and conditions prior to submission.

D. By affixing Contractor's signature to each submittal, certify that coordination has been performed.

E. Each drawing submittal shall be certified by Contractor with the following stamp:

1. "This is to certify that specification requirements have been met and dimensions, conditions and quantities are verified as shown and/or corrected on these drawings."

Signed _____
Contractor

1.5 Submittals:

A. Make submittals of Product Data, Shop Drawings, Samples, and other items in accordance with the provisions of this Section.

PART 2 - PRODUCTS

2.1 Shop Drawings:

A. Upon signed release from the Contractor, Architect will make electronic copies of construction documents available for use as base sheet for providing coordinated Shop Drawings.

B. Scale and measurements: Make Shop Drawings accurately to a scale sufficiently large to show pertinent aspects of the item and its method of incorporation into Work.

C. Types of media required:

1. Submit Shop Drawings in the form of one original reproducible copy of each drawing plus six bond prints of each.

2. Unless absolutely necessary, the size of Shop Drawings shall not exceed 42" x 30". Provide space on Drawings for approval stamps and brief review comments.

3. Copies of architectural/engineering blueprints will not be accepted.

D. Review comments of the Architect will be shown on the reproducible drawing when it is returned to the Contractor. The Contractor may make and distribute such copies as are required for his purpose.

2.2 Product Data:

A. Manufacturers' data include catalogue cuts, technical descriptive brochures, performance charts, test reports, writing diagrams, details, specifications, and other printed information issued or provided by manufacturers. Data shall be submitted in not less than eight (8) copies each. Upon receipt, the Architect will review, stamp copies, and return to the Contractor. If resubmittal is necessary, repeat process until approval has been obtained.

B. Manufacturers' data for equipment includes materials, type, performance, characteristics, voltage, phase, capacity, and similar data. Provide wiring diagrams when applicable. Submittals shall indicate catalogue, model, and serial numbers representing specified equipment.

C. Where contents of submitted literature from manufacturers include data not pertinent to submittal, clearly show which portions of the contents is being submitted for review.

D. Provide material safety sheets to Owner for approval prior to releasing product for manufacture.

2.3 Samples:

A. Provide physical Samples of precise items proposed to be provided. Identify as described under "Identification of Submittals" below.

B. Number of Samples required:

1. Submit Samples in quantity which is required to be returned, plus one which will be retained by Architect.

2. By prearrangement in specific cases, a single Sample may be submitted for review and, when approved, be installed in Work at a location agreed upon by Architect.

C. Colors and Patterns: Unless the precise color and pattern is specifically called out in Contract Documents, and whenever a choice of color or pattern is available in the specified products, submit samples of accurate color and pattern, to Architect for selection.

2.4 Equipment Operating and Maintenance Data:

A. Provide Operating, Maintenance and Product data manuals as described in Section 01 78 20 of these Specifications.

2.5 Utility Approvals:

A. Approval of utilities or other public authorities having jurisdiction shall be obtained and reflected on affected submittals.

PART 3 - EXECUTION

3.1 Deviations from Contract Documents:

A. Clearly mark deviations in a conspicuous manner indicating component and system variations, additions and deletions, revised equipment locations, construction detail variations, substitutions, and similar changes or deviations. Indicate headroom heights, ceiling heights, clearances, and other dimensions affected by proposed deviations. Variations from Contract Documents not brought to the attention of Architect shall be the sole responsibility of Contractor even though such submittal has been accepted.

3.2 Identification of Submittals:

A. Consecutively number submittals.

1. When material is resubmitted for any reason, transmit under a new letter of transmittal and with original transmittal number and letter designation beginning with "A".

2. Changes should be clearly designated as to revisions made. No consideration will be allowed for submittal revision labor made to coordinate revised, changed, adjusted details or extent.

B. Accompany each submittal and resubmittal with a letter of transmittal showing information required for identification and checking. Letter of transmittal should make reference to applicable drawing numbers, specification sections and submittal schedule item number to which each submittal applies.

C. On at least the first page of each submittal, and elsewhere as required for positive identification, show submittal number in which item was included.

D. Each submittal should indicate supplier/installer's name, phone number and specific location(s) of submitted product in project.

E. Maintain an accurate submittal log for duration of Work, showing current status of submittals at all times. Make submittal log available to Architect for review upon request. List submittals and resubmittals together.

3.3 Grouping of Submittals:

A. Unless otherwise specified, make submittals in groups containing associated items to ensure that information is available for checking each item when it is received.

1. Partial submittals unless approved in advance by Architect may be rejected as not complying with provisions of Contract.

2. Contractor may be held liable for delays so occasioned.

3.4 Timing of Submittals:

A. Contractor shall submit within thirty (30) calendar days of Contract award a submittal schedule listing items by number and dates of submittal, and lead time for each item with particular note of priority items to be reviewed. Submittals shall be submitted in an orderly sequence with priority items clearly identified.

B. A complete list of material and other required information in connection with mechanical and electrical Work of project (plumbing, heating, ventilating, air conditioning, electrical), as listed under respective mechanical and electrical Specification Sections, must be submitted within thirty (30) calendar days after date of Notice to Proceed; no consideration will be given to partial lists submitted from time to time.

C. Other submittals by Contractor should be made within 90 calendar days of Notice to Proceed and far enough in advance of scheduled dates for installation to provide time required for reviews.

D. Where Contractor has neglected to submit shop drawings on a timely basis or to place orders for materials and labor early enough to conform to materials and labor requirements, color schemes, etc., such failure shall not be deemed as legitimate cause for delay.

E. In scheduling, allow at least fourteen (14) working days for review by Architect following receipt of the submittal. The following submittals will, by their nature, require additional time for review which should be factored into the schedule.

1. Elevator

2. Lighting fixtures

3.5 Architect's Review:

A. Review by Architect does not relieve the Contractor from responsibility for errors which may exist in submitted data.

B. Revisions:

1. Make revisions required by Architect.

2. If Contractor considers required revisions to be a change, notification shall be given to Architect as provided for in General Conditions.

3. Make only those revisions required to obtain approval by Architect.

C. Architect's approval:

1. Until approval has been given by Architect, materials or items shall not be fabricated or incorporated in Work. Architect's approval will be only general in nature and shall not be construed as permitting departure from Contract requirements, or as relieving Contractor of responsibility for any errors concerning details, dimensions, materials, etc. If drawings show variations from Contract requirements because of standard

shop practice or for other reasons, Contractor shall describe such variation in letter of transmittal. If acceptable, Architect may approve variations, subject to proper adjustment in Contract price. If Contractor fails to describe such variation, Contractor shall not be relieved of responsibility for executing Work in accordance with Contract, even though such drawings have been approved.

2. Acceptance shall not be construed as a complete check but will indicate only that design, fabrication, and detailing is consistent with design intent and that errors and discrepancies observed when reviewed have been noted. Acceptance of a separate item shall not be interpreted as an approval of an assembly in which the item functions. The right is reserved by the Owner or Architect to require submission of additional detail, shop, erection or setting drawings and of any schedules for any part of Work, whether or not specifically mentioned in Project Specifications, where substitutions or modifications are proposed by Contractor, or where such information is essential to proper assembly, coordination or execution of Work under Contract.

3. Review and acceptance shall not relieve the Contractor from responsibility for errors in shop drawings or for proper coordination assembly of materials and equipment with other Work, nor from responsibility of furnishing materials and labor not indicated on approved shop drawings, but required by Contract Documents for completion of Work.

- END OF SECTION 01 33 00 -

SECTION 01 45 00
QUALITY CONTROL

PART 1 - GENERAL

1.1 Summary:

A. Independent testing, inspection and quality control services for evaluation of material, methods and workmanship for steel work and masonry. At Contractor's option, one or more agencies may be used for quality control services.

B. Contractor shall retain services of acceptable independent agencies for testing required by specifications and pay costs related thereto.

1.2 Related Sections:

A. Drawings and general provisions of Contract, including General Conditions and other Division-1 Specification sections, apply to work of this section.

1.3 Structural Steel and Steel Joist Quality Control During Construction:

A. Inspection Agency: Contractor shall employ an independent testing and inspection agency having a registered Professional Engineer licensed in State of Maryland on its staff to inspect high strength bolted connections, welded connections, to perform tests and prepare test reports. This firm shall provide a qualified project inspector who shall work under direct supervision of registered Professional Engineer and who shall be approved in advance by Owner, Local Building Department and be acceptable to the Architect.

1. Testing agency shall conduct and interpret tests and state in each report whether test specimens comply with requirements, and specifically state deviations there from.

2. Testing agency may inspect structural steel and steel joist at plant before shipment; however, the Architect reserves the right, at any time before final acceptance, to reject material not complying with specified requirements.

B. Testing agency shall have access to places where structural steel Work and steel joist Work is being fabricated or produced so that required inspection and testing can be accomplished.

C. Contractor shall correct deficiencies in structural steel and steel joist Work which inspections and laboratory test reports indicate not to be in compliance with requirements.

D. Testing agency shall perform additional tests, at Contractor's expense, as may be necessary to reconfirm any non-compliance of original Work, and as may be necessary to show compliance of corrected Work.

E. Minimum Testing Requirements:

1. Shop Bolted Connections: Inspect or test in accordance with AISC specifications for structural steel.

2. Shop Welding: Inspect and test during fabrication of structural steel and steel joist assemblies as follows:

a. Certify welders and conduct inspections and tests as required. Record types and locations of defects found in Work. Record work required and performed to correct deficiencies.

b. Perform visual inspection of all welds.

c. Perform tests of suspected defective welds as follows: Inspection procedures listed are to be used at testing agency's option.

(1) Liquid Penetrant Inspection: ASTM E 165.

(2) Magnetic Particle Inspection: ASTM E 109; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration not acceptable.

(3) Radiographic Inspection: ASTM E 94 and ASTM E 142: minimum quality level "2-2T".

(4) Ultrasonic Inspection: ASTM E 164.

F. Field Bolted Connections: Inspect in accordance with AISC and SJI specifications.

G. Field Welding: Inspect and test during erection of structural steel, steel joist and metal decking as follows:

1. Certify welders and conduct inspections and tests as required. Record types and locations of defects found in Work. Record Work required and performed to correct deficiencies.

2. Perform visual inspection of all welds.

3. Perform tests of suspected defective welds and of all moment connection welds as follows: Inspection procedures listed are to be used at testing agency's option.

a. Liquid Penetrant Inspection: ASTM E 165.
b. Magnetic Particle Inspection: ASTM 109; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration not acceptable.

c. Radiographic Inspection: ASTM E 94 and ASTM E 142; minimum quality level "2-2T".
d. Ultrasonic Inspection: ASTM E 164.

1.4 Masonry Mortar and Grout Quality Control During Construction:

A. Masonry Mortar: The designated testing agency shall sample and test mortars in accordance with property specifications of ASTM C 270 and evaluate in accordance with ASTM C780. At least one test for each 5000 square feet of wall area or portion thereof.

B. Masonry Grout: Designated testing agency shall sample and test masonry grout in accordance with ASTM C 1019 for each 5,000 square feet of masonry wall surface.

PART 2 - PRODUCTS

2.1 Acceptable Inspection and Testing Agencies:

A. Hillis-Carnes Engineering Associates

B. Engineering Consulting Services, Ltd.

C. Geotech Engineers, Inc.

D. Kim Engineering, Inc.

E. PSI

F. KCI

G. CTI Consultants, Inc.

H. Giles Engineering Associates, Inc.

I. Specialized Engineering

J. Froehling & Robertson, Inc.

PART 3 - EXECUTION

3.1 Inspection and Testing Reports

A. Copies of inspection and testing reports shall be submitted to Architect (2 copies), Contractor, and Owner.

B. Reports shall be clearly and neatly typed (handwritten reports will not be accepted) and shall contain pertinent project information for each type of test. Submit samples of each report form for approval.

END OF SECTION 01 45 00

SECTION 01 78 10
PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 Summary:

A. Throughout progress of Work, maintain an accurate record of changes in Contract Documents.

B. Upon completion of Work, transfer recorded changes to a set of Final Project Record Documents.

1.2 Related Sections:

A. Documents affecting Work of this Section include General Conditions and Sections in Division 1 of these Specifications.

B. Other requirements affecting Project Record Documents may appear in pertinent other Sections of these Specifications.

1.3 Quality Assurance:

A. Delegate responsibility for maintenance of Record Documents to one person on Contractor's staff as approved by the Architect.

B. Accuracy of records:

1. Thoroughly coordinate changes within Record Documents, making adequate and proper entries on each page of Specifications and each sheet of Drawings and other Documents where such entry is required to show change properly.

2. Accuracy of records shall be such that a future search for items shown in Contract Documents may rely reasonably on information obtained from Project Record Documents.

3. Make entries within 72 hours after receipt of information that change has occurred.

C. Product Handling:

1. Maintain Job Set of Record Documents completely protected from deterioration and from loss and damage until completion of Work and transfer of recorded data to final Project Record Documents.

2. In event of loss of recorded data, use means necessary to again secure data to the Architect's approval.

3. Such means shall include, if necessary in opinion of the Architect, removal and replacement of concealing materials.

4. In such case, provide replacements to standards originally required by Contract Documents.

1.4 Submittals:

A. Comply with pertinent provisions of Section 01 33 00.

B. Architect's approval of current status of Project Record Documents will be a prerequisite to the Architect's approval of requests for progress payment and request for final payment under Contract.

C. Prior to submitting each request for progress payment, secure the Architect's approval of current status of Project Record Documents.

D. Prior to submitting request for final payment, submit final Project Record Documents to the Architect and secure approval.

PART 2 - PRODUCTS

2.1 Job Set:

A. Promptly following receipt of Owner's Notice to Proceed, secure from Architect at no charge to Contractor one complete conforming set of Documents comprising Contract.

2.2 Final Project Record Documents:

A. The purpose of Final Project Record Documents is to provide factual information regarding aspects of Work, both concealed and visible, to enable future modifications of Work to proceed without lengthy and expensive site measurement, investigation, and examination. The document set shall include:

1. Final Record Drawings: At a time nearing completion of Work, transfer information from Job Set to Final Record Drawings.
2. Specifications: At a time nearing completion of Work prepare Specification Sections received from Architect with revisions and addenda added.
3. Submittal Set: At a time nearing completion of Work, as per Section 01 33 00, prepare approved submittal documents for review including revisions if any.
    a. Collect approved submittal documents and prepare an index including following information:
        1) Specification Section
        2) Date approved
        3) Submittal number
        4) Brief description
    b. Index shall be organized per Specification Section.

PART 3 - EXECUTION

3.1 Job Set:

A. Immediately upon receipt of conforming set described above, identify each Document with title, "RECORD DOCUMENTS - JOB SET."

B. Preservation:

1. Consider number of occasions upon which Job Set must be taken out for new entries and for examination, and conditions under which these activities will be performed, devise a suitable method for protecting Job Set for approval of the Architect.
2. Do not use Job Set for any purpose except entry of new data and for review by the Architect, until start of transfer of data to Final Project Record Documents.
3. Maintain Job Set at site of Work as that site is designated by the Architect.

C. Making entries on Drawings

1. Using an erasable colored pencil (not ink or indelible pencil), clearly describe

change by graphic line and note as required.

2. Date entries.

3. Call attention to entry by a "cloud" drawn around area or areas affected.

4. In event of overlapping changes, use different colors for overlapping changes.

D. Make entries in pertinent other Documents as approved by the Architect.

E. Conversion of schematic layouts:

1. In some cases on Drawings, arrangements of conduits, circuits, piping, ducts, and similar items, are shown schematically and are not intended to portray precise physical layout.

a. Final physical arrangement is determined by Contractor, subject to the Architect's approval.

b. However, design of future modifications of facility may require accurate information as to final physical layout of items which are shown only schematically on Drawings.

2. Show on Job Set of Record Drawings, by dimension accurate to within one inch, the centerline of each run of items such as are described in subparagraph 3.1-E-1 above.

a. Clearly identify item by accurate note such as "cast iron drain," "galv. water," etc.

b. Show, by symbol or note, vertical location of item ("under slab," "in ceiling plenum," "exposed,"etc).

c. Make identification sufficiently descriptive that it may be related reliably to Specifications.

3. Architect may waive requirements for conversion of schematic layouts where, in Architect's judgment, conversion serves no useful purpose. However, do not rely upon waivers being issued except as specifically issued in writing by Architect.

3.2 Final Project Record Documents:

A. Approval of recorded data prior to transfer:

1. Following receipt of transparencies described above, and prior to start of transfer of recorded data thereto, secure the Architect's approval of recorded data.

2. Make required revisions.

B. Transfer of data to Drawings:

1. Carefully transfer change data shown on Job Set of Record Drawings to corresponding final record drawings, coordinating changes as required.

2. Clearly indicate at each affected detail and other Drawing a full description of changes made during construction, and actual location of items described above.

3. Call attention to each entry by drawing a "cloud" around area or areas affected.

4. Make changes neatly, consistently, and with proper media to assure longevity and clear reproduction.

C. Transfer of data to other Documents:

1. If Documents other than Drawings have been kept clean during progress of Work, and if entries thereon have been orderly to approval of the Architect, Job Set of those Documents other than Drawings will be accepted as final Record Documents.
2. If any such Document is not approved by the Architect, secure a new copy of that Document from Architect at Architect's usual charge for reproduction and handling, and carefully transfer change data to new copy to approval of the Architect.

D. Review and submittal:

1. Submit completed set of Final Project Record Documents to the Architect as described above.
2. Participate in review meetings as required.
3. Make required changes and deliver Final Project Record Documents to the Architect within 30 calendar days of substantial completion.
4. Submittal of Final Project Record Documents shall be in following formats:
   a. Final record drawings: One copy final record drawings in bond paper, and two in scanned digital format. The original pre-scanned documents shall be black print on bond paper.
   b. Specifications: One copy 20 lb bond white paper and scanned digital format.
   c. Submittal documents: Scanned digital format.
   d. O & M manual – Two copies 2016. bond white paper and two copies in scanned digital format.
   e. Mechanical video demonstration: three copies in DVD format.
5. Scanned digital formats shall comply with following:
   a. For drawings:
      1) File type: TIFF Version 6.0 with LZW Compression
      2) Automatic despeckling at 7-pixel settings, unless other settings provide better legibility with prior approval by MCPS.
      3) Deskewing, cropping and rotation (landscape view optimum right angles)
      4) Attended scanning with maximized readability adjustments performed per sheet.
   b. For specifications, submittals, and operating, maintenance and product data:
      1) File type: PDF version 1.7 (ISO 32000-1:2008) compatible with Adobe Acrobat 8.0 or higher
      2) Invert to be upright.
   c. Scanned images are to be stored in CD ROM disk (ISO 9660). Provide two copies.
   d. Prior to scanning, provide sample image of a typical sheet for approval by MCPS. Scanning service shall notify MCPS, Division of Maintenance of any probable illegible scans. Final file name format to be approved by MCPS, Division of Maintenance. For quantity, Contractor shall assume total number of Contract Drawings plus 10%. The final acceptable quality of scans shall be at the discretion of MCPS. It is intended that information on scans be legible.

e. Electronic directory structure shall include root directory with school name and subdirectories as follows:

1) school name\drawings\ (each drawing shall be a separate file and file name shall be named to match sheet number -with sheet title - i.e. C1 Site Plan.)

2) school name\specifications\ (entire specification shall be a single PDF file with a table of contents included with bookmarks to each specification section)

3) school name\submittals\ (all submittals shall be a single PDF file with a table of contents included with bookmarks to each specification section and individual submittal)

4) school name\om_manual\ (entire O&M manual shall be a single PDF file with a table of contents included with bookmarks to each specification section)

f. Organize specifications, submittals, and O&M manual documents as follows:

1) Specifications - set up with a table of contents in same order as CSI master format using specification section number and name in table of contents. (ie. Section 08520 - Aluminum Windows).

2) Submittals - set up with a table of contents in same order as CSI master format using specification section number, title of submittal, and submittal number in table of contents. (ie. Section 08520 - Aluminum Windows - Submittal No. 1).

3) O&M Manuals - set up with a table of contents in same order as CSI master format using specification section number and title of item described in table of contents. Also, list name of subcontractor (ie Section 08520 - Aluminum Windows - Frames, Subcontractor "Great Window Co.").

E. Retention Reduction:

1. Retention reduction from 5 percent will not be made until all of Record Documents have been received.

F. Changes Subsequent to Acceptance:

1. Changes to the Record Documents, including those resulting from Work performed under Warranty shall be provided in a Supplemental Submission. Contractor has no responsibility for recording changes in Work subsequent to Final Completion.

END OF SECTION 01 78 10

SECTION 01 78 20
OPERATING, MAINTENANCE AND PRODUCT DATA

PART 1 - GENERAL

1.1 Summary:

A. To aid continued instruction of operation and maintenance personnel, and to provide a positive source of information regarding the products incorporated into Work, furnish and deliver the described in this Section and in pertinent other Sections of these Specifications.

B. General Contractor shall organize all submissions into one organized set of Operations and Maintenance manuals in CSI format.

1.2 Related Sections:

A. Documents affecting Work of this Section include General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

B. Required contents of submittals also may be amplified in pertinent other Sections of these Specifications.

1.3 Quality Assurance:

A. In preparing data required by this Section, use only personnel who are thoroughly trained and experienced in operation and maintenance of described items, completely familiar with requirements of this Section, and skilled in technical writing to extent needed for communicating essential data.

1.4 Submittals:

A. Comply with pertinent provisions of Section 01 33 00 "Submittals".

B. Submit one copy of completed data in final form at time of Substantial Completion inspection.

Copy will be returned after final inspection or acceptance, with comments.

C. Submit three (3) copies of approved data in final form ten (10) working days before Final Application for Payment.

PART 2 - PRODUCTS

2.1 Where instruction Manuals are required to be submitted under other Sections of Specifications, prepare in accordance with provisions of this Section.

2.2 Format:

A.	Size:	8-1/2 inches x 11 inches
B.	Paper:	White bond, at least 20 lb weight
C.	Text:	Neatly written or printed at maximum of 12 cpi
D.	Drawings:	11 inches in height preferable; bind in with text; foldout acceptable but fold to fit within Manual and provide a drawing pocket inside rear cover or bind in with text.
E.	Flysheets:	Separate each portion of Manual with neatly prepared flysheets briefly describing contents of ensuing portion; flysheets may be in color.

F. Binding: Use commercial quality 3-ring binders with durable and cleanable plastic covers. Maximum ring size will be 2 inches. When multiple binders are used, correlate data into related consistent groupings.

G. Measurements: Provide measurements in U.S. standard units such as feet-and-inches, lbs, and cfm; where items may be expected to be measured within ten years in accordance with metric formulae, provide additional measurements in "International System of Units" (SI).

H. Digital Media: Provide two copies of Information in manual as scanned digital format as specified in Section 01 78 10 "Project Record Documents".

I. Provide front and back covers for each Manual, using durable material approved by the Architect, and clearly identified on or through cover with at least following information:

OPERATING AND MAINTENANCE INSTRUCTIONS
(
(name and address of Work)
(
(name of Contractor)
(
(general name of this Manual)
(
(space for approval signatures of the)
(Architect)
(and approval data)

J. Contents: Include the following:

1. Neatly typewritten index near front of Manual, giving immediate information as to location within Manual of emergency information regarding installation.
2. List of all Contractors, Subcontractors and suppliers with complete name of firm, subsidiary, etc.; address, telephone number, and principal contact person.
3. Complete instructions regarding operation and maintenance of mechanical and electrical systems equipment involved including lubrication, disassembly, and reassembly.
4. Complete nomenclature of mechanical and electrical system parts and equipment.
5. Complete nomenclature and part number of replaceable parts, name and address of nearest vendor, and other data pertinent to procurement procedures.
6. Complete operating, maintenance, cleaning and product data for every finish material and product contained in finished project, including the following:
   a. Roofing
   b. Windows & Doors
   d. Finish Hardware
   e. Resilient Flooring
   f. Painting
   g. Acoustical Treatment

h. Elevator Components and Equipment
i. Mechanical, Electrical, and Plumbing Equipment

7. Copy of guarantees and warranties issued.
8. Manufacturers' bulletins, cuts, and descriptive data, where pertinent, clearly indicating the precise items included in this installation and deleting, or otherwise clearly indicating, manufacturers' data with which this installation is not concerned.
9. Color Schedules.
10. Complete report of air and water balancing.
11. Such other data as required in pertinent Sections of these Specifications.

PART 3 - EXECUTION

3.1 Preliminary:

A. Prepare a preliminary draft of each proposed Manual.

B. Show general arrangement, nature of contents in each portion, probable number and size of drawings, and proposed method of binding, covering and digital format.

C. Secure Architect's approval prior to proceeding.

3.2 Final:

A. Complete Manuals in strict accordance with approved preliminary drafts and Architect's review comments.

3.3 Revisions

A. Following indoctrination and instruction of operation and maintenance personnel, review proposed revisions of the Architect.

B. If Contractor is required by the Architect to revise previously approved Manuals, compensation will be made as provided for under "Changes" in General Conditions.

END OF SECTION 01 78 20

SECTION 01 78 60
WARRANTIES AND BONDS

PART 1 – GENERAL:

1.1 Summary:

A. Compile specified warranties, bonds, and maintenance contracts and submit to the Architect. Warranties will commence no earlier than date of Substantial Completion.

1.2 Related Sections:

A. Documents affecting Work of this Section include General Conditions, other Sections of Division 1 and detailed requirements documented in each respective section of Divisions 2 through 26 of Specifications.

B. Certifications and other commitments and other agreements for continuing services to Owner as specified elsewhere in Contract Documents.

1.3 Definitions:

A. Standard project warranties are preprinted written warranties published by individual manufactures for particular products and are product and are specifically endorsed by manufacturer to Owner.

B. Special warranties are written warranties required by or incorporated in Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for Owner

1.4 Quality Assurance:

A. Use adequate care and diligence to thoroughly review Contract Documents to identify detailed requirements relating to warranties and bonds.

B. Verify that each item required for this submittal conforms with specified requirements.

1.5 Submittals:

A. Comply with pertinent provisions of Section 01 33 00 “Submittals” and part 3 below.

PART 2 - PRODUCTS:

2.1 Description of Warranty Requirements:

A. In addition to standard and special warranties described in Divisions 2 through 26, Contractor shall warrant Work included in this project, for a minimum period of two (2) year following acceptance of a Certificate of Substantial Completion by Owner, to cover performance, material, workmanship and compliance with Contract Documents.

B. Manufacturer’s disclaimers and limitations on product warranties do not relieve Contractor of warranty on Work that incorporates products, nor do they relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with Contractor.

C. Related Damages and losses: When correcting warranted work that has failed, remove and replace other Work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of Warranted Work

D. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate warranty by written endorsement. Reinstated warranty shell be equal to original warranty with an equitable adjustment for depreciation.

E. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of Contract Documents. Contractor is responsible for cost of replacing or rebuilding defective Work regardless of whether Owner has benefited from use of Work through a portion of its anticipated useful service life.

F. Owner's Recourse: Written warranties made to Owner are in addition to implied warranties, and shall not be limit duties, obligations, rights and remedies otherwise available un- der law, nor shall warranty periods be interpreted as limitations on time in which Owner can enforce such other duties, obligations, rights, or remedies.

1. Rejection of Warranties: Owner reserves right to reject warranties and to limit selections of products with warranties not in conflict with requirements of contract Documents.

G. Owner reserves right to refuse to accept Work for project where a special warranty, certification, of similar commitment is required on such Work or part of Work, until evidence is presented that entities required to countersign such commitments are willing to do so.

PART 3 – EXECUTION:

3.1 Warranties and Bonds:

A. Assemble warranties bonds and service and maintenance contracts, executed by each respective manufacturer, supplier and contractor.

B. Submit written warranties to the Architect prior to date established for Substantial Completion. If Certificate of Substantial Completion designates a commencement date for warranties other than date of Substantial Completion, or a designated portion of Work, submit written warranties upon request of the Architect.

C. When a designated portion of Work is completed and occupied or used by Owner, by separate agreement with Contractor during construction period, submit properly executed warranties to Architect within fifteen days of completion of that designated portion of Work.

D. When a special warranty is required to be executed by Contractor, or Contractor and a subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by required parties. Submit a draft to Owner to the Architect for approval prior to final execution.

3.2 Form of Submittals:

A. At Final Completion compile two copies of each required warranty and bond properly executed by Contractor, subcontractor, supplier, or manufacturer. Organize warranty documents into an orderly sequence based on table of contents of Project Manual.

B. Bind warranties and bonds in heavy-duty, commercial quality, durable 3-ring vinyl covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 81/2" by 11" paper.

C. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark tab to identify product or installation. Provide a typed description of product or installation, including name of product, and name, address and telephone number of installer.

D. Identify each binder on the front and the spine with typed or printed title "WARRANTIES AND BONDS," Project title or name, and name of Contractor.

E. When operating and maintenance manuals are required for warranted construction, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

F. Digital Media: Provide one copy scanned digital format as specified in Section 01 78 10 "Project Record Documents".

3.3 End of Warranty Inspection:

A. Each warranty shall include a provision to allow for extension at Contractor's expense if end of warranty inspection is not scheduled before end of warranty period.

END OF SECTION 01 78 60

SECTION 02 41 19
SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Demolition and disposal of existing site and building elements as specified in the Contract Documents.

1.2 RELATED SECTIONS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.3 DEFINITIONS

A. Remove & Dispose: Remove to and approved off site facility and legally dispose of any items noted as such in the contract documents, except those items indicated otherwise.

B. Remove and Salvage: Items indicated to be removed and salvaged remain the Owner's property. Remove, clean, and pack or crate items to protect against damage. Identify contents of containers and deliver to Owner's designated storage area.

C. Remove and Reinstall: Remove items indicated; clean, service, and otherwise prepare them for reuse; store and protect against damage. Reinstall items in the same locations or in locations indicated.

D. Existing to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by the Architect, items may be removed to a suitable, protected storage location during selective demolition and then cleaned and reinstalled in their original locations.

1.4 SUBMITTALS FOR REVIEW

A. Proposed dust-control measures.

B. Proposed noise-control measures.

C. Schedule of selective demolition activities indicating the following:

1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity.

D. Photographs or videotape, sufficiently detailed, of existing conditions of adjoining construction and site improvements that might be misconstrued as damage caused by selective demolition operations.

E. Landfill records indicating receipt and acceptance of all wastes by a landfill facility licensed to accept such wastes.

1.5 REGULATORY REQUIREMENTS

A. Conform to applicable code for demolition work and dust control.

B. Obtain required permits from authorities.

C. Do not close or obstruct egress width to any building or site exit. Do not close or obstruct roadways.

D. Conform to procedures applicable when hazardous or contaminated materials are discovered.

E. Conform to applicable code for demolition of structures, safety of adjacent structures, dust control, runoff control, and disposal.

1.6 QUALITY ASSURANCE

A. Demolition Firm Qualifications: Engage an experienced firm that has successfully completed selective demolition Work similar to that indicated for this Project.

B. Regulatory Requirements: Comply with governing EPA notification regulations before starting selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

C. Pre-demolition Conference: Conduct conference at Project site to comply with pre-installation conference requirements of Division 1 Section "Project Meetings."

1.7 PROJECT CONDITIONS

A. Owner assumes no responsibility for actual condition of buildings to be selectively demolished.

B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

C. Storage or sale of removed items or materials on-site will not be permitted unless agreed upon in advance by the Owner.

D. Conduct demolition to minimize interference with adjacent and occupied building areas.

E. Cease operations immediately if structure appears to be in danger and notify Architect/Engineer. Do not resume operations until directed.

F. Existing Utilities: Locations of existing utilities are approximate. Locations have been determined from field survey, public utility records and Owner records.
   1. Contractor shall be responsible for contacting "Miss Utility", Owner or controlling agencies of existing utilities within construction area for verification of locations and marking of utilities, prior to beginning of work.

   2. Contractor shall be responsible for coordination of utility relocation or removal by others with phases of construction activities.

PART 2 - NOT USED

PART 3 - EXECUTION

3.1 EXAMINATION

A. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

B. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.

C. When unanticipated mechanical, electrical, or structural elements that conflict with the intended function or design are encountered, investigate and measure the nature and extent of the conflict. Promptly submit a written report to the Architect.

D. Survey the condition of the building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of the structure or adjacent structures during selective demolition.

E. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.3 PREPARATION

A. Provide, erect, and maintain temporary barriers as required for phasing and to maintain occupancy of building during construction.

B. Erect and maintain weatherproof closures for exterior openings.

C. Erect and maintain temporary partitions to prevent spread of dust, odors, and noise.

D. Protect existing materials and which are not to be demolished.

E. Prevent movement of structure; provide bracing and shoring.

F. Provide appropriate temporary signage including signage for exit or building egress.

G. Protect existing landscaping materials which are not to be demolished.

H. Conduct demolition operations and remove debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.

I. Conduct demolition operations to prevent injury to people and damage to adjacent buildings and facilities to remain. Ensure safe passage of people around selective demolition area.

1. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction. Install temporary barriers between work areas and occupied areas of the building to prevent the spread of dust.

2. Protect existing site improvements, appurtenances, and landscaping to remain.

3. Protect walls, ceilings, floors, and other existing finish work that are to remain and are exposed during selective demolition operations.

4. Cover and protect equipment that has not been removed.

3.4 DEMOLITION REQUIREMENTS

A. Conduct demolition to minimize interference with adjacent structures.

B. Cease operations immediately if adjacent structures appear to be in danger. Notify Architect/Engineer. Do not resume operations until directed.

C. Conduct operations with minimum interference to public or private access points. Maintain egress and access at all times.

D. Obtain written permission from adjacent property owners when demolition equipment will traverse, infringe upon or limit access to their property.

E. Sprinkle Work with water to minimize dust as appropriate. Provide hoses and water for this purpose.

F. Demolish in an orderly and careful manner. Protect existing supporting structural members and utilities to remain. Maintain weathertight and secure enclosure of existing building at all times.

G. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain the Owner's property, demolished materials shall become the Contractor's property and shall be removed from the site with further disposition at the Contractor's option. Do not burn or bury materials on site. Leave site in clean condition.

H. Remove materials as Work progresses. Upon completion of Work, leave areas in clean condition, and in orginal configuration unless directed otherwise by the owner.

I. Remove temporary Work and restore existing building to its original condition unless directed otherwise by the owner.

3.5 POLLUTION CONTROLS

A. Use water mist, temporary enclosures, and other suitable methods to limit the spread of dust and dirt. Comply with governing environmental protection regulations.

1. Do not use water when it may damage existing construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.

B. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

1. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level.

C. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before start of selective demolition.

3.6 SELECTIVE DEMOLITION

A. Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete Work within limitations of governing regulations and as follows:

1. Dispose of demolished items and materials promptly.

2. Return elements of construction and surfaces to remain to condition existing before start of selective demolition operations.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.8 CLEANING

A. Sweep the building broom clean on completion of selective demolition operation.

- END OF SECTION 02 41 19 -

SECTION 07 84 13

PENETRATION FIRESTOPPING

PART 1 – GENERAL

1.1 SUMMARY

A. This Section includes through-penetration firestop systems for penetrations through fire-resistance-rated walls, horizontal assemblies and smoke barriers including both empty openings and openings containing penetrating items.

B. Related Sections include the following:

1. Division 22 and 23 Sections specifying duct and piping penetrations.

2. Division 26 Sections specifying cable and conduit penetrations.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. Applicable Codes:

1. International Building Code: Current approved edition per AHJ

2. NFPA 101 Life Safety Code: Current approved edition per AHJ

1.3 DEFINITIONS

Firestopping: A process whereby materials are used to resist (or stop) the spread of fire and its byproducts through openings made to accommodate penetrations in fire-rated walls, floors and floor/ceiling assemblies. Typical firestopping system comprised of 3 components: Wall or floor; Penetrating item; and, Firestopping material.

Assembly: A wall, floor, or other partition. It may include such things as receptacles, outlet boxes, recessed lighting fixtures, or penetrations.

System: The combination of the assembly, the penetrant(s), and the firestop materials. All of these items, together, constitute the system, and the system is the only basis for the classification.

Intumescent: A class or type of firestop materials that will swell or expand upon exposure to elevated temperatures. Material will also form an insulating char.

Fire Barrier: A fire resistance rated vertical or horizontal assembly of materials designed to restrict the spread of fire in which openings are protected.

Fire Wall: A wall separating buildings or subdividing a building to prevent the spread of fire and having a fire resistance rating. Fire walls a structurally stable such that collapse of construction on either side will not cause the wall to collapse.

Smoke Barrier: A continuous membrane, either vertical or horizontal, that is designed and constructed to restrict the movement of smoke.

Engineering Judgements:

A. Engineering judgements (EJ's) are used when a tested, UL classified system is not available.

B. The EJ is based on existing technology and available tested systems.

C. EJ's must be conducted by the manufacturer’s technical or engineering group. The installing contractor cannot write their own EJ!

D. A third-party review of the EJ is required.

E. EJ's can only be applied to the specific application for which they were written.

Qualified Contractor Programs:

This category covers Contractor firms who have demonstrated knowledge and a comprehensive management system that specifically focus on the selection and installation of firestop systems or spray-applied fire-resistive materials (SFRMs). The audited Contractor firm systems under UL's Qualified Contractor Programs provide an integrated approach to controlling the processes in addressing architectural, Authorities Having Jurisdiction and customer requirements.

1.4 PERFORMANCE REQUIREMENTS

A. General: For penetrations through the following fire-resistance-rated constructions, including both empty openings and openings containing penetrating items, provide through-penetration firestop systems that are produced and installed to resist spread of fire according to requirements indicated, resist passage of smoke and other gases, and maintain original fire-resistance rating of construction penetrated.

1. Fire-resistance-rated walls including fire walls.
2. Fire-resistance-rated horizontal assemblies including floors.

B. Rated Systems: Provide through-penetration firestop systems with the following ratings determined per UL 1479:

1. F-Rated Systems: Provide through-penetration firestop systems with F-ratings indicated, but not less than that equal or exceed fire-resistance rating of constructions penetrated.
2. T-Rated Systems: For the following conditions, provide through-penetration firestop systems with T-ratings indicated, as well as F-ratings, where systems protect penetrating items exposed to potential contact with adjacent materials in occupiable floor areas:
    a. Penetrations located outside wall cavities.
    b. Penetrations located outside fire-resistance-rated shaft enclosures.

C. For through-penetration firestop systems exposed to view, traffic, moisture, and physical damage, provide products that, after curing, do not deteriorate when exposed to these conditions both during and after construction.

1. For piping penetrations for plumbing, provide moisture-resistant through-penetration firestop systems.
2. For floor penetrations with annular spaces exceeding 4 inches in width and exposed to possible loading and traffic, provide firestop systems capable of supporting floor loads involved, either by installing floor plates or by other means.
3. For penetrations involving insulated piping, provide through-penetration firestop systems not requiring removal of insulation.

D. For through-penetration firestop systems exposed to view, provide products with flame-spread and smoke-developed indexes of less than 25 and 450, respectively, as determined per ASTM E 84.

1.5 SUBMITTALS

A. Product Data: For each type of product indicated from single manufacturer.

B. Product Schedule: For each penetration firestopping system. Include location and design designation of qualified testing and inspecting agency. See UL Directory or FM Global.

C. Shop Drawings: For each through-penetration firestop system, show each type of construction condition penetrated, relationships to adjoining construction, and type of penetrating item. Include

firestop design designation of qualified testing and inspecting agency that evidences compliance with requirements for each condition indicated.

1. Submit documentation, including illustrations, from a qualified testing and inspecting agency that is applicable to each through-penetration firestop system configuration for construction and penetrating items.
2. Where Project conditions require modification to a qualified testing and inspecting agency's illustration for a particular penetration firestopping condition, submit illustration, with modifications marked, approved by penetration firestopping manufacturer's fire-protection engineer as an engineering judgment or equivalent fire-resistance-rated assembly. A third-party review of the Engineering Judgement is required.

D. Qualification Data: For a single source qualified Installer.

E. Installer Certificates: From Installer indicating penetration firestopping has been installed in compliance with requirements and manufacturer's written recommendations.

F. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for penetration firestopping.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: A firm that has been approved by FM Global according to FM Global 4991, "Approval of Firestop Contractors," or been evaluated by UL and found to comply with its "Qualified Firestop Contractor Program Requirements."

B. Installer Qualifications: A firm experienced in installing penetration firestopping similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful performance. Qualifications include having the necessary experience, staff, and training to install manufacturer's products per specified requirements. Manufacturer's willingness to sell its penetration firestopping products to Contractor or to Installer engaged by Contractor does not in itself confer qualification on buyer.

C. Source Limitations: Obtain through-penetration firestop systems, for each kind of penetration and construction condition indicated, through one source from a single manufacturer.

D. Fire-Test-Response Characteristics: Penetration firestopping shall comply with the following requirements:

1. Penetration firestopping is identical to those tested per testing standard referenced in "Penetration Firestopping" Article. Provide rated systems complying with the following requirements:
    a. Penetration firestopping products bear classification marking of qualified testing and inspecting agency.
    b. Classification markings on penetration firestopping correspond to designations listed by the following:
        1. UL in its "Fire Resistance Directory."

E. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section “Project Management and Coordination.”

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver through-penetration fire-stop system products to Project site in original, unopened containers or packages with intact and legible manufacturers’ labels identifying product and manufacturer, date of manufacture, lot number, shelf life if applicable, qualified testing and inspecting agency’s classification marking applicable to Project, curing time, and mixing instructions for multicomponent materials.

B. Store and handle materials for through-penetration firestop systems to prevent their deterioration or damage due to moisture, temperature change, contaminants, or other causes.

1.8 PROJECT CONDITIONS

A. Environmental Limitations: Do not install penetration firestopping when ambient or substrate temperatures are outside limits permitted by penetration firestopping manufacturers or when substrates are wet because of rain, frost, condensation, or other causes.

B. Install and cure penetration firestopping per manufacturer's written instructions using natural means of ventilations or, where this is inadequate, forced-air circulation.

1.9 COORDINATION

A. Coordinate construction of openings and penetrating items to ensure that penetration firestopping is installed according to specified requirements.

B. Coordinate sizing of sleeves, openings, core-drilled holes, or cut openings to accommodate penetration firestopping.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Hilti Construction Chemicals Division of Hilti Inc.
2. Specified Technologies Inc.
3. 3M Fire Protection Products.

2.2 PENETRATION FIRESTOPPING

A. Provide penetration firestopping that is produced and installed to resist spread of fire according to requirements indicated, resist passage of smoke and other gases, and maintain original fire-resistance rating of construction penetrated. Penetration firestopping systems shall be compatible with one another, with the substrates forming openings, and with penetrating items if any.

B. Penetrations in Fire-Resistance-Rated Walls: Provide penetration firestopping with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg (2.49 Pa).

1. F-Rating: Not less than the fire-resistance rating of constructions penetrated.

C. Penetrations in Horizontal Assemblies: Provide penetration firestopping with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg (2.49 Pa).

1. Horizontal assemblies include floors.

D. Penetrations in Smoke Barriers: Provide penetration firestopping with ratings determined per UL 1479.

2.3 FIRESTOPPING, GENERAL

A. Compatibility: Provide through-penetration firestop systems that are compatible with one another; with the substrates forming openings; and with the items, if any, penetrating through-penetration firestop systems, under conditions of service and application, as demonstrated by through-penetration firestop system manufacturer based on testing and field experience.

B. Accessories: Provide components for each through-penetration firestop system that are needed to install fill materials and to comply with Part 1 "Performance Requirements" Article. Use only components specified by through-penetration firestop system manufacturer and approved by

qualified testing and inspecting agency for firestop systems indicated. Accessories include, but are not limited to, the following items:

1. Permanent forming/damming/backing materials, including the following:
    a. Slag-/rock-wool-fiber insulation.
    b. Sealants used in combination with other forming/damming/backing materials to prevent leakage of fill materials in liquid state.
    c. Fire-rated form board.
    d. Fillers for sealants.
2. Temporary forming materials.
3. Substrate primers.
4. Collars.
5. Steel sleeves.

2.4 FILL MATERIALS

A. General: Provide through-penetration firestop systems containing the types of fill materials indicated in the Through-Penetration Firestop System Schedule at the end of Part 3 by referencing the types of materials described in this Article. Fill materials are those referred to in directories of referenced testing and inspecting agencies as "fill," "void," or "cavity" materials.

B. Cast-in-Place Firestop Devices: Factory-assembled devices for use in cast-in-place concrete floors and consisting of an outer metallic sleeve lined with an intumescent strip, a radial extended flange attached to one end of the sleeve for fastening to concrete formwork, and a neoprene gasket.

C. Latex Sealants: Single-component latex formulations that after cure do not re-emulsify during exposure to moisture.

D. Firestop Devices: Factory-assembled collars formed from galvanized steel and lined with intumescent material sized to fit specific diameter of penetrant.

E. Intumescent Putties: Nonhardening dielectric, water-resistant putties containing no solvents, inorganic fibers, or silicone compounds.

F. Intumescent Wrap Strips: Single-component intumescent elastomeric sheets with aluminum foil on one side.

G. Mortars: Prepackaged dry mixes consisting of a blend of inorganic binders, hydraulic cement, fillers, and lightweight aggregate formulated for mixing with water at Project site to form a non-shrinking, homogeneous mortar.

H. Pillows/Bags: Reusable heat-expanding pillows/bags consisting of glass-fiber cloth cases filled with a combination of mineral-fiber, water-insoluble expansion agents, and fire-retardant additives.

I. Silicone Sealants: Single-component, silicone-based, neutral-curing elastomeric sealants of grade indicated below:

    1. Grade: Pourable (self-leveling) formulation for openings in floors and other horizontal surfaces, and non-sag formulation for openings in vertical and other surfaces requiring a nonslumping, gunnable sealant, unless indicated firestop system limits use to non-sag grade for both opening conditions.

2.4 MIXING

A. For those products requiring mixing before application, comply with through-penetration firestop system manufacturer's written instructions for accurate proportioning of materials, water (if

required), type of mixing equipment, selection of mixer speeds, mixing containers, mixing time, and other items or procedures needed to produce products of uniform quality with optimum performance characteristics for application indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for opening configurations, penetrating items, substrates, and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning: Clean out openings immediately before installing penetration firestopping to comply with manufacturer's written instructions and with the following requirements:

1. Remove from surfaces of opening substrates and from penetrating items foreign materials that could interfere with adhesion of penetration firestopping.

2. Clean opening substrates and penetrating items to produce clean, sound surfaces capable of developing optimum bond with penetration firestopping. Remove loose particles remaining from cleaning operation.

3. Remove laitance and form-release agents from concrete.

B. Priming: Prime substrates where recommended in writing by manufacturer using that manufacturer's recommended products and methods. Confine primers to areas of bond; do not allow spillage and migration onto exposed surfaces.

C. Masking Tape: Use masking tape to prevent penetration firestopping from contacting adjoining surfaces that will remain exposed on completion of the Work and that would otherwise be permanently stained or damaged by such contact, or by cleaning methods used to remove stains. Remove tape as soon as possible without disturbing firestopping's seal with substrates.

3.3 INSTALLATION

A. General: Install penetration firestopping to comply with manufacturer's written installation instructions and published drawings for products and applications indicated.

B. Install forming materials and other accessories of types required to support fill materials during their application and in the position needed to produce cross-sectional shapes and depths required to achieve fire ratings indicated.

1. After installing fill materials and allowing them to fully cure, remove combustible forming materials and other accessories not indicated as permanent components of firestopping.

C. Install fill materials for firestopping by proven techniques to produce the following results:

1. Fill voids and cavities formed by openings, forming materials, accessories, and penetrating items as required to achieve fire-resistance ratings indicated.

2. Apply materials so they contact and adhere to substrates formed by openings and penetrating items.

3. For fill materials that will remain exposed after completing the Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

3.6 CLEANING AND PROTECTION

A. Clean off excess fill materials adjacent to openings as the Work progresses by methods and with cleaning materials that are approved in writing by penetration firestopping manufacturers and that do not damage materials in which openings occur.

B. Provide final protection and maintain conditions during and after installation that ensure that penetration firestopping is without damage or deterioration at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, immediately cut out and remove damaged or deteriorated penetration firestopping and install new materials to produce systems complying with specified requirements.

3.7 THROUGH-PENETRATION FIRESTOP SYSTEM SCHEDULE - Note that the following schedule is to be used as a guide only and is not intended to include every solution that may be required due to field conditions. See UL listings for system details and applicability. Additional or alternative systems shall be proposed by the contractor as required to satisfy field conditions in order to maintain specified fire ratings. Where UL-classified systems are indicated, they refer to alpha-alpha-numeric designations listed in UL's "Fire Resistance Directory" under product Category XHEZ.

A. Firestop Systems with No Penetrating Items (for circular openings in concrete floors or CMU walls to 6-inch diameter):

1. UL-Classified Systems: C-AJ-0060.

B. Firestop Systems with No Penetrating Items (for square or rectangular openings in concrete slabs or CMU walls of up to 36 square feet):

1. UL-Classified Systems: C-AJ-0004.

C. Firestop Systems for Insulated Ducts:

1. UL-Classified Systems (CMU walls): W-J-7030 or W-J-7114.

2. UL-Classified Systems (framed gypsum walls): W-J-7051 or W-J-7195.

D. Firestop Systems for Combination Penetrations:

1. UL-Classified Systems (concrete slab or CMU walls): C-AJ-8087, C-AJ-8088, C-AJ-8123, or C-AJ-8135.

2. UL-Classified Systems (framed gypsum walls): C-AJ-8018, C-AJ-8021, or C-AJ-8039.

E. Firestop Systems for Metallic Pipes, Conduit, or Tubing:

1. UL-Classified Systems (concrete slab or CMU walls): C-AJ-1001, C-AJ-1427, or C-AJ-1551.

2. UL-Classified Systems (framed gypsum walls): W-L-1003 or W-L-1296.

F. Firestop Systems for Multiple Metallic Pipes, Conduit, or Tubing:

1. UL-Classified Systems (concrete slab or CMU walls): C-AJ-1429.

2. UL-Classified Systems (framed gypsum walls): W-L-1287.

G. Firestop Systems for Nonmetallic Pipe, Conduit, or Tubing:

1. UL-Classified Systems: (concrete slab or CMU walls): C-AJ-2001.

2. UL-Classified Systems (framed gypsum walls): W-L-2162.

H. Firestop Systems for Insulated Pipes:

1. UL-Classified Systems (concrete slab or CMU walls):

a. Insulated Metal Pipe: C-AJ-8072.

b. Glass Fiber Insulated Metal Pipe: C-AJ-5210.

c. Insulated Metal Pipe (AB/PVC Flexible Foam): C-AJ-5211.

2. UL-Classified Systems (framed gypsum walls):
    a. Insulated Metal Pipe: W-L-5011 or W-L-8010.
    b. Glass Fiber Insulated Metal Pipe: W-L-5168.
    c. Insulated Metal Pipe (AB/PVC Flexible Foam): W-L-5169.

I. Firestop Systems for Electrical Cables:
1. UL-Classified Systems (concrete slab or CMU walls): C-AJ-3021 or C-AJ-3310.
2. UL-Classified Systems (framed gypsum walls): W-L-3347 or W-L-3371.

J. Firestop Systems for Insulated Electrical Cables via Device:
3. UL-Classified Systems (concrete slab or CMU walls): C-AJ-3250.
4. UL-Classified Systems (framed gypsum walls): W-L-3289.

K. Firestop Systems for Cable Trays:
1. UL-Classified Systems (framed gypsum walls): W-L-4037.

L. Firestop Systems for Multiple Conduit:
1. UL-Classified Systems (framed gypsum walls): W-L-1228 or W-L-1255.

- END OF SECTION 07 84 13-

SECTION 07 92 00

JOINT SEALANTS

PART 1– GENERAL

1.1 SECTION INCLUDES

A. Preparing substrate surfaces.

B. The required applications of sealants include, but are not limited to, the following general locations in new work, or in areas disturbed by the work of this project:

1. Interior:

a. Metal Door and window frames.

b. Joints at all surfaces to receive opaque finish.

c. Perimeter of elevator hoistway wrap to adjacent wall surfaces.

d. Other as indicated.

1.2 RELATED SECTIONS

A. Section 14 24 10: Modernization of Hydraulic Elevator.

1.3 REFERENCES

A. ASTM C790 - Use of Latex Sealing Compounds.

B. ASTM C804 - Use of Solvent-Release Type Sealants.

C. ASTM C834 - Latex Sealing Compounds.

D. ASTM C920 - Elastomeric Joint Sealants.

E. ASTM D1565 - Flexible Cellular Materials - Vinyl Chloride Polymers and Copolymers.

F. SWRI (Sealant, Waterproofing and Restoration Institute) - Sealant and Caulking Guide Specification.

1.4 SUBMITTALS

A. Submit under provisions of Division 1.

B. Product Data: Provide data indicating sealant chemical characteristics, performance criteria, substrate preparation, limitations and color availability.

C. Samples: Submit two samples illustrating sealant colors for selection.

D. Manufacturer's Installation Instructions: Indicate special procedures, surface preparation and perimeter conditions requiring special attention.

E. Submit manufacturer’s certification that field-applied joint sealants installed in building interior meet testing and product requirements of California Department of Health Services Standard Practice for The Testing Of Volatile Organic Emissions From Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda.

1. At minimum, products need to comply with VOC limits specified in LEED-for Schools if alternatives tested to CA protocol are not available.

1.5 QUALITY ASSURANCE

A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

B. Specified work shall be installed by skilled tradesmen, experienced in the application of the types of materials.

1.6 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum five years documented experience.

B. Applicator: Company specializing in performing the work of this section with minimum five years documented experience., including installation of products by chosen manufacturer.

C. Manufacturer shall provide qualified technical representative at project site when required for purpose of rendering advice concerning proper installation.

1.7 ENVIRONMENTAL REQUIREMENTS

A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation. Apply compound prior to final coat of paint.

1.8 PRODUCT DELIVERY, HANDLING AND STORAGE

A. Deliver all materials to job site in factory sealed and labeled containers; label shall show: Manufacturer, Type, Date of Manufacture, Shelf Life, Curing Time at 70 degrees F, Color and Manufacturer’s Instructions.

1.9 COORDINATION

A. Coordinate the work with all sections referencing this section.

1.10 WARRANTY

A. Provide five-year warranty under provisions of Division 1.

B. Warranty: Include coverage for installed sealants and accessories which fail to achieve air tight seal, water tight seal and exhibit loss of adhesion or cohesion, or do not cure.

C. Products shall provide a minimum 30-year performance guarantee.

1.11 MAINTENANCE DATA

A. Provide under the provisions of Division 1.

PART 2 – PRODUCTS

2.1 MANUFACTURERS:

A. Sika Corporation

B. Pecora Corporation

C. Tremco, Inc.

D. Bostik Construction Products

2.2 SEALANTS

A. Back-up Materials: Flexible closed cell, expanded polystyrene or polyethylene round rodding, with diameter 1.333 times width of joint

B. Interior Sealant: Acrylic Emulsion Latex Type C: ASTM C834, single component; color as selected by the Architect. Pecora AC-20, Tremco 834, or Bostik Chem-Calk 600.

C. Interior Walls/Floors (Ceramic Tile): Basis-of-Design - Pecora Urexpan NR-201, one part, self-leveling, moisture curing polyurethane sealant, designed for horizontal joints, Fed. Spec. TT-5-00230C, Type I, ASTM C920, color as selected by the Architect

D. Primers, Cleaners and Bond Breaker Tape: Provide as recommended by sealant manufacturer's installation instructions for the conditions and locations indicated on the drawings.

E. All sealants and sealant primers must meet or exceed Bay Area Air Quality Management District Reg. 8, Rule 51.

2.3 ACCESSORIES

A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.

B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.

C. Joint Backing: ASTM D1056; round, closed cell polyethylene foam rod; oversized 30 percent larger than joint width; manufactured by Dow Chemical, Sonneborn or approved equivalent.

D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Verify that substrate surfaces and joint openings are ready to receive work.

B. Verify that joint backing and release tapes are compatible with sealant.

3.2 PREPARATION

A. Remove loose materials and foreign matter which might impair adhesion of sealant.

B. Clean and prime joints in accordance with manufacturer's instructions.

C. Perform preparation in accordance with ASTM C804 for solvent release and ASTM C790 for latex base sealants.

D. Protect elements surrounding the work of this section from damage or disfiguration.

3.3 INSTALLATION

A. Perform installation in accordance with ASTM C804 for solvent release and ASTM C790 for latex base sealants.

B. Measure joint dimensions and size materials to achieve required 2:1 width/depth ratios.

C. Install joint backing to achieve a neck dimension no greater than 1/3 of the joint width.

D. Install bond breaker where joint backing is not used.

E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.

F. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.

G. Tool joints concave.

3.4 CLEANING

A. Clean adjacent soiled surfaces.

3.5 PROTECTION OF FINISHED WORK

A. Protect finished installation under provisions of Division 1.

B. Protect sealants until cured.

- END OF SECTION 07 92 00 -

SECTION 08 31 00

ACCESS DOORS AND FRAMES

PART 1– GENERAL

1.1 SUMMARY

A. Section Includes:

1. Access doors into pipe and utility spaces, or as required for access to mechanical, plumbing, and electrical components installed in concealed spaces.

1.2 RELATED SECTIONS

A. Division 22 – Plumbing.

B. Division 26 – Electrical.

1.3 SUBMITTALS

A. Submit under provisions of Division 1.

B. Product Data: Indicate product configuration, sizes and anchorages, and materials.

C. Manufacturer's Installation Instructions: Indicate special installation instructions.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Located in Gypsum Drywall:

1. Milcor Style DW.

2. JL Industries WB Series.

3. Nystrom NW Series.

B. Fire-rated or Smoke-rated Access – Provide with flange/trim to match style for substrates listed above:

1. Milcor UFR Fire-rated Access Door.

2. JL Industries FD Series.

3. Nystrom I Series.

2.2 MATERIALS

A. Sizes: As indicated on Drawings or as required to properly service mechanical or electrical equipment.

B. Locking Devices: Key-operated cam locks.

C. Materials: Provide Steel products with recycled content so that postconsumer recycled content plus one-half of pre-consumer recycled content is not less than 25% combined recycled content.

2.3 FINISHES

A. Finish: Prime for painted finish under Section 09 90 00.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Mechanical or Electrical Access: Access doors required for access to mechanical or electrical equipment shall be furnished under Divisions 22, 23, or 26 and installed by the trade responsible for the material in which door is located.

B. General Access: Furnish access doors indicated on Drawings for general access to be installed by trade responsible for material in which door is located.

- END OF SECTION 08 31 00 -

SECTION 09 65 19

RESILIENT FLOOR TILE

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Resilient tile flooring, including rubber tile.

1.2 RELATED SECTIONS

A. Section 14 21 10: Modernization of Existing Traction Elevators.

1.3 REFERENCES

A. ASTM E84 - Surface Burning Characteristics of Building Materials.

B. ASTM F1344 - Standard Specification for Rubber Floor Tile.

C. FS SS-W-40 - Wall Base: Rubber and Vinyl Plastic.

1.4 SUBMITTALS

A. Submit under provisions of Division 1.

B. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns and colors available.

C. Samples: Submit two sets of samples illustrating color and pattern for vinyl tile and rubber tile for color selection by the Architect.

D. Manufacturer's Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention.

E. Submit MSDS for any applicable products used.

F. Submit manufacturer’s certification that resilient flooring and field-applied adhesives meet testing and product requirements of California Department of Health Services Standard Practice for The Testing of Volatile Organic Emissions From Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda.

1.5 REGULATORY REQUIREMENTS

A. Conform to applicable code for flame/smoke rating requirements.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, protect and handle products to site under provisions of Division 1.

1.7 ENVIRONMENTAL REQUIREMENTS

A. Store materials for three days prior to installation in area of installation to achieve temperature stability.

B. Maintain ambient temperature required by adhesive manufacturer three days prior to, during, and 24 hours after installation of materials.

1.8 MAINTENANCE DATA

A. Submit under provisions of applicable Division 1 sections.

B. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

1.9 EXTRA MATERIALS

A. Furnish under provisions of Division 1.

B. Provide one box of each type of tile per 50 boxes of tile per color/pattern used.

1.10 WARRANTY

A. Provide manufacturer's standard 5-year warranty on all tile flooring products.

PART 2 - PRODUCTS

2.1 MATERIALS – RUBBER TILE FLOORING

A. Rubber Tile: ASTM F 1344, Class 1 – B Standard Specification for Rubber Floor Tile
   1. Size: 24 x 24 inch
   2. Thickness: 0.125 inch
   3. Design: Resilient MicroTone Rubber Floor Tiles, Hammered Texture
   4. Manufacturers:
      a. Johnsonite (Basis-of-Design)
      b. Flexco Co.
      c. Mercer Products
      d. Burke Flooring Products, Burke Industries
      e. Alternate: Freudenberg Building Systems: (Noraplan commercial flooring only)
   5. Pattern: Single color will be selected for use.

2.2 ACCESSORIES

A. Subfloor Filler: White premix latex; type recommended by adhesive material manufacturer.
   1. Armstrong MC #808 liquid latex patch
   2. Gibson Homans Co. #801 Redy Mastic
   3. Ardex Latex Patch

B. Leveling (larger areas):
   1. Ardex cement leveling
   2. Plani/patch by Mapei

C. Edge (transition) Strips: Flooring material manufactured by Mercer, Johnsonite, or equal, color to match vinyl base color adjacent to strip.

2.3 ADHESIVES (must be approved by Tile manufacturer and MCPS's Division of Safety & Environmental Health Unit)

A. Water resistant, Non-flammable, Low odor/odorless when dry, No asbestos content, Antimicrobial protection.

B. Adhesives used in flooring installation shall meet testing and product requirements of California Department of Health Services Standard Practice for The Testing Of Volatile Organic Emissions From Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda.

1. At minimum, products need to comply with VOC limits specified in LEED-for Schools, version 2.2, EQc4. if alternatives tested to the CA protocol are not available.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify concrete floors are dry to a maximum moisture content of 7 percent and exhibit negative alkalinity, carbonization or dusting.

B. Verify floor and lower wall surfaces are free of substances that may impair adhesion of new adhesive and finish materials.

C. Do not bridge building expansion joints with flooring.

3.2 PREPARATION

A. Remove sub-floor ridges and bumps. Fill minor or local low spots, cracks, joints, holes, and other defects with sub-floor filler to achieve smooth, flat, hard surface.

B. Prohibit traffic until filler is cured.

C. Vacuum clean substrate.

3.3 INSTALLATION – FLOORING

A. Install in accordance with manufacturer's instructions. See drawings for patterns.

B. Mix tile from container to ensure shade variations are consistent when tile is placed.

C. Spread only enough adhesive to permit installation of materials before initial set.

D. Set flooring in place, press as recommended by manufacturer to attain full adhesion.

E. Lay flooring with joints and seams parallel to building lines to produce symmetrical tile pattern.

F. Install tile to turn block pattern. Allow minimum 1/2 full size tile width at room or area perimeter.

G. Terminate flooring at centerline of door openings where adjacent floor finish is dissimilar.

H. Install resilient edge strips at unprotected or exposed edges, and where flooring terminates.

I. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.

J. Install feature strips and floor markings where indicated. Fit joints tightly.

K. Rubber installation should be rolled and protected.

3.4 CLEANING

A. Rubber Flooring

1. 72 hours after installation is completed, initial maintenance procedures should be implemented in accordance with manufacturer's instructions.

3.5 PROTECTION OF FINISHED WORK

A. Protect finished Work. Entire floor to be protected with red rosin paper, taped.

B. Prohibit traffic on floor finish for 48 hours after installation.

- END OF SECTION 09 65 19 -

SECTION 09 90 00

PAINTING AND COATING

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:

1. Paint or natural finish all interior surfaces not specifically excluded. Includes:

a. All areas indicated on the drawings and included in the schedule noted to be painted.

b. Exposed mechanical and electrical items in areas to be painted.

2. Paint exposed surfaces not factory finished on exterior and interior materials as determined necessary by project Architect to achieve required material protection and desired project esthetics.

B. Exclusions: In addition to material obviously not requiring paint such as stainless steel, plastic laminate, glass, flooring, tile, etc. Do not paint or finish:

1. Surfaces indicated by finish schedule to remain unfinished.

2. Factory finished surfaces indicated to be factory finished.

a. Aluminum with anodized or baked-on finish.

b. Finish hardware, except hardware with USP finish.

c. Electrical devices, fixtures, and trim.

3. Equipment such as mechanical and electrical equipment located inside equipment rooms.

1.2 RELATED SECTIONS

A. Section 04 20 00 – Unit Masonry

B. Section 09 26 00 – Gypsum Board Systems

C. Section 08 31 00 – Access Doors and Frames

1.3 REFERENCES

A. NPCA (National Paint and Coatings Association) - Guide to U.S. Government Paint Specifications.

B. PDCA (Painting and Decorating Contractors of America) - Painting - Architectural Specifications Manual.

1.4 SYSTEM DESCRIPTION

A. Performance Requirements: Indoor Air Quality: Provide products which will not adversely affect indoor air quality through emission of toxic gasses or vapors. If possible, do not use materials with residual of formaldehyde, epoxy resin, or urea-based materials.

B. Existing oil base surfaces that are to be painted with latex paint shall first be primed with a primer recommended by paint manufacturer to ensure 100 percent bonding of the new paint.

C. Where existing areas with lead-based paints are disturbed, air borne particle, water shall be avoided. Paint containing lead shall be wet scraped (No sanding) and shall comply with COMAR 09.12.32 and 26.02.07 Occupational Exposure to Lead in Construction publications, as administered by Maryland Occupational Safety and Health (MOSH) Public Sector and OSHA.

D. In renovation projects, proper procedures per paint manufacturer's recommendations shall be exercised to ensure 100 percent bonding of paint to surfaces that have weathered a season or more without heat or in adverse environmental conditions.

1.5 SUBMITTALS

A. Submit under provisions of Division 1.

B. Product Data: Provide data on all finishing products and special coatings.

C. Samples: Submit two samples, 6 x 6 inch in size illustrating selected colors and textures for each color selected.

D. Manufacturer's Instructions: Indicate special surface preparation procedures, and substrate conditions requiring special attention.

E. Verify in writing that the products specified will be used as directed or submit for approval a list of comparable materials of another listed approved manufacturer, including full identification of all products by name, color and catalogue number adjacent to those specified, with a statement of equality by the proposed manufacturer.

F. Submit Manufacturer's certification (MSDS Sheet) for each paint and coating.

1.6 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum five (5) years' experience.

B. Applicator: Company specializing in performing the work of this section with minimum five (5) years' experience and approved by manufacturer.

1.7 REGULATORY REQUIREMENTS

A. Conform to applicable code for flame and smoke rating requirements for finishes.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container label to include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, VOC content, and instructions for mixing and reducing.

C. Store paint materials at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions. Storage space shall be designated by the Contractor and approved by the Architect.

1.9 ENVIRONMENTAL REQUIREMENTS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.

C. Minimum Application Temperatures for Latex Paints: 45 degrees F (7 degrees C) for interiors; 50 degrees F (10 degrees C) for exterior; unless required otherwise by manufacturer's instructions.

1.10 EXTRA MATERIALS

A. Provide 1 gallon of each color and surface texture used in the facility to the Owner at the completion of the project.

B. Contractor shall label each container with color, type, texture, and room locations in addition to the manufacturer’s label.

1.11 MAINTENANCE

A. Provide under the provisions of Division 1.

B. Provide maintenance data including information regarding cleaning instructions.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers: Best quality materials as manufactured by one of following manufacturers will be acceptable:

1. For Brush, Roller (no spraying is permitted):

a. Sherwin Williams (basis-of-design, unless otherwise noted)

b. Duron

c. McCormick

d. Benjamin Moore

B. Quality: All products not specified by name shall be “best grade” or “first line” products of acceptable manufacturers. See 2.3 Finishes for materials required for this project. Where possible, provide materials of single manufacturer.

2.2 MATERIALS

A. Coatings: Ready mixed. Process pigments to a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating; good flow and brushing properties; capable of drying or curing free of streaks or sags.

B. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve the finishes specified, of commercial quality.

2.3 FINISHES

A. See finish drawings for quantity of colors and accent paint locations. Note – where scope includes painting over existing previously painted surfaces, contractor is responsible for working with paint manufacturer to verify that products listed are compatible with the existing materials.

1. Interior Surfaces:

a. Interior Wall Paint (CMU):

1) 2 coats latex block filler – S-W PreRite Block Filler, B25W25

2) 2 coats interior latex semi-gloss – S-W ProMar 200 Zero VOC Interior Latex Semi-Gloss, B31 Series

b. Interior Wall Paint (Gypsum Board):

1) 1 coat primer – S-W ProMar 200 Zero VOC Interior Latex Primer, B28 Series

2) 2 coats interior latex eg-shel – S-W ProMar 200 Zero VOC Interior Latex Eg-Shel, B20 Series

c. Interior Ceiling Paint (Gypsum Board):

1) 1 coat primer – S-W ProMar 200 Zero VOC Interior Latex Primer, B28 Series

2) 2 coats interior latex flat – S-W ProMar Ceiling Paint Flat, A27 Series

d. Interior Paint (Ferrous Metal):

1) 1 coat primer - Pro Industrial Pro-Cryl Universal Acrylic Primer Off White

2) 2 coats semi-gloss epoxy - Pro Industrial PreCatalyzed Waterbased Semi-Gloss Epoxy, K46 Series

PART 3 – EXECUTION

3.1 EXAMINATION

A. Verify that substrate conditions are ready to receive work as instructed by the product manufacturer.

B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application to the Architect and General Contractor.

C. Test shop applied primer for compatibility with subsequent cover materials.

D. Allow masonry work to cure for at least 30 days before coating. Gypsum board shall be allowed to dry for 15 days before coating.

3.2 PREPARATION

A. Remove or mask electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.

B. Correct defects and clean surfaces which affect work of this section. Remove existing coatings that exhibit loose surface defects.

C. Seal with shellac and seal marks which may bleed through surface finishes.

D. Impervious Surfaces: Remove mildew by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

E. Gypsum Board Surfaces: Fill minor defects with filler compound. Spot prime defects after repair.

F. Galvanized Surfaces: Clean per SSPC-SP1 using detergent and water or a degreasing cleaner to remove greases and oils. Apply a test area, priming as required. Allow the coating to dry at least one week before testing. If adhesion is poor, Brush Blast per SSPC-SP7 is necessary to remove these treatments.

G. Concrete and Unit Masonry Surfaces Scheduled to Receive Paint Finish: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with a solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.

H. Uncoated Steel and Iron Surfaces: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by hand power tool wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Spot prime paint after repairs.

I. Shop Primed Steel Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Prime metal items including shop primed items.

J. Metal Doors Scheduled for Painting: Seal top and bottom edges with primer.

K. Interior Wood Items Scheduled to Receive Paint Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats.

3.3 APPLICATION

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

B. Painting shall be in accordance with industry standards in reference to preparation of surfaces, environmental conditions, and applications.

C. Scheduling of painting shall be coordinated to precede installation of finished materials such as flooring, casework, etc. Any finished material installed prior to painting shall be properly protected.

D. Do not apply finishes to surfaces that are not dry.

E. Apply each coat to uniform finish to eliminate possibility of laps, skips and brush marks.

F. Apply each coat of paint slightly darker than preceding coat unless otherwise approved.

G. Sand surfaces lightly between coats to achieve required finish.

H. Vacuum clean surfaces free of loose particles. Use tack cloth just prior to applying next coat.

I. Allow applied coat to dry before next coat is applied.

J. Prime concealed surfaces of interior woodwork with primer paint.

K. Full wall shall be painted where paint is scheduled, including but not limited to portions of wall concealed by casework.

L. Finished work is to be adequately covered with uniform color and finish. The number of coats herein specified being a minimum, this contract shall provide any additional coats to produce a first-class job. Architect may select accent colors or deeptone colors (contrasting bright colors) for interior painted walls or ceilings. Where bright colors are selected, apply extra coats of paint

where required to obtain completely opaque surface. Make allowances for 10 percent deep tones in bid. Additional labor or materials used for this purpose not allowable as extra cost.

M. Allow the following minimum drying time between coats:

1. Interior work-24 hours.

3.4 FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT

A. Refer to Mechanical, Plumbing, and Electrical specifications for schedule of color coding and identification banding of equipment, duct work, piping, and conduit.

B. Paint shop primed equipment.

C. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

D. Prime and paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, except where items are prefinished.

E. Paint interior surfaces of air ducts, and convector and baseboard heating cabinets that are visible through grilles and louvers with one coat of flat black paint, to visible surfaces. Paint dampers exposed behind louvers, grilles, and convector and baseboard cabinets to match face panels.

F. Paint exposed conduit and electrical equipment occurring in finished areas.

G. Paint both sides and edges of plywood backboards for electrical and telephone equipment before installing equipment.

H. Color code equipment, piping, conduit, and exposed duct work in accordance with requirements indicated. Color band and identify with flow arrows, names and numbering.

I. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.5 PROTECTION AND CLEANING

A. Protection: Protect floors and adjacent surfaces from paint smears, spatters and droppings.

1. Cover fixtures not to be painted. Mask off areas as required.

2. Finish Hardware: Ensure hardware is removed prior to starting painting operations and that it is replaced only after painting operations have been completed.

a. Hardware Removal and Replacement: Section 08 71 00.

B. Damage to Other Work: Be responsible for damage done to adjacent work. Repair damaged work to satisfaction of Architect. Replace materials damaged to extent that they cannot be restored to their original condition.

C. Cleaning: Daily clean-up of empty cans, rags, rubbish and other discarded paint materials shall be removed from site by Contractor, in accordance with Federal, State and Local regulations.

D. Upon completion, clean glass and paint spattered surfaces.

- END OF SECTION 09 90 00 -

SECTION 10 14 23

SIGNAGE

PART 1 – GENERAL

1.1 SECTION INCLUDES

A. Requirements of the General Conditions, Supplementary Conditions and Division 1 of these specifications apply to this Section.

B. Interior ADA-compliant Room Signage.

1.2.1 RELATED SECTIONS

A. Section 14 24 10 - Modernization of Existing Hydraulic Elevators

1.3 REFERENCES

A. Publications listed below form a part of this specification to extent referenced. Publications are referenced in text by basic designation only.

1. American National Standards Institute (ANSI): ANSI A117.1 – Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People.

2. Architectural and Transportation Barriers Compliance Board (ATBCB): Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)

3. American Society for Testing & Materials (ASTM)

4. Uniform Sign Code

1.4 SUBMITTALS

A. Manufacturer's Data: Submit manufacturer's descriptive literature and specifications, including color samples of material for selection, as well as installation and maintenance instructions.

B. Submit shop drawings for approval, including: sign styles, materials, artwork, lettering and locations, finishes, fabrication details, overall dimensions of each sign, and installation details.

C. Submit full size sample sign or letter of type, style and color specified including method of attachment.

D. Submit manufacturer's standard warranty information.

1.5 QUALITY ASSURANCE

A. Regulatory Requirements: Signage shall comply with applicable requirements of ADAAG and ANSI A117.1

1.6 DELIVERY, STORAGE, AND HANDLING

A. Package to prevent damage or deterioration during shipment, handling, storage, and installation.

B. Store products in dry location inside enclosed facilities and in accordance with manufacturer's requirements.

C. Maintain protective coverings in place and in good repair until removal is necessary.

1.7 PROJECT CONDITIONS

A. Environmental Requirements: Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.8 WARRANTY

A. Provide manufacturer's warranty against defect in materials. Warranty shall provide material and labor to repair or replace defective materials at the manufacturer's discretion. Damage caused by physical or chemical abuse or damage from excessive heat will not be warranted. Removal and reinstallation of existing signage is not warranted.

PART 2 – PRODUCTS

2.0 INTERIOR ROOM SIGNAGE

A. Manufacturers for interior signage systems shall be as follows, subject to compliance with requirements as specified in this section:

1. 2/90 Sign Systems - Used as the Basis of Design
2. Apco Signs
3. ASI

B. MATERIALS

1. Signs shall have the following characteristics:

a. Signs shall be of one-piece construction; added-on and/or engraved characters are unacceptable.

b. Interior sign plaque material shall consist of melamine plastic laminate, approximately 1/4-inch thick, with core painted a contrasting color and rated non-static, fire-retardant, and self-extinguishing. Plastic Laminate shall be impervious to most acids, alkalis, alcohol, solvents, abrasives, and boiling water.

c. Finish colors to be selected from all of manufacturer's available standard color options.

d. Numbers, letters, symbols, and braille shall be raised .032" from the background surface.

e. Lettering style shall be either Helvetica Medium, upper case, and 5/8-inch in height.

f. Text shall be accompanied by Grade 2 braille.

g. Braille dimension measurements shall comply with ADAAG 703.3.1.

h. All letters, number and/or symbols shall contrast with their background – either light characters on a dark background or dark characters on a light background. Characters and background shall have matte finish.

i. Provide signage for elevator machine room door and hoistway openings.

j. Provide code required “No Smoking” signage for elevator hoistway entrances.

k. Provide additional signage as required by local codes and ADA to designate the means of egress to exits.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine all surfaces to which the work of this Section will attach to determine that all finish work has been completed and is completely dry.

B. Do not begin installation until substrates have been properly prepared.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

A. Install in accordance with manufacturer’s instructions.

B. Locate signs in accordance with ADAAG requirements.

C. Install signs plumb and square.

3.4 PROTECTION

A. Protect installed products until completion of project.

B. Repair or replace damaged products before Substantial Completion.

3.5 SCHEDULES

A. Refer to signage types and locations on drawings.

3.6 CLEAN-UP

A. Remove all containers and packaging from the site at the completion of the work.

B. Clean all signage.

- END OF SECTION 10 14 23 -

SECTION 14 24 10
MODERNIZATION OF EXISTING HYDRAULIC ELEVATORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY OF WORK

A. Section includes modernization of two in-ground hydraulic passenger elevators at James Wootton High School.

ELEVATOR #1 is a single-jack elevator with three (3) stops: L (Lower), 1 (First Floor), and 2 (Second Floor).

ELEVATOR #2 is a twin-jack roped elevator with four (4) stops: LR (Lower Rear), L (Lower), 1 (First Floor), and 2 (Second Floor).

B. Related Requirements:
1. Section 09 65 19 "Resilient Flooring" for finish flooring in elevator cars.
2. Divisions 22, 23, and 26 Sections for coordination with plumbing, mechanical, and electrical work.

1.3 SCOPE OF WORK – **ELEVATOR #1**

A. The following is a comprehensive checklist of work items to be included in this contract. Where required, items identified as “Provide New” are further specified in Part 2 of this specification. Where items are not specified beyond this scope of work, Contractor shall supply materials compatible with existing conditions and meeting current industry standards.

B. MACHINE ROOM SYSTEMS AND COMPONENTS

1. Drive Machines:	
a. Hydraulic Pump Unit (pump, tank & valve)	Provide New
b. Sound isolation pads	Provide New
c. Hydraulic Fluid	Provide New
2. Hydraulic Jack Assembly:	
a. Jack assembly	Confirm if double bulkhead jack – Retain & Recondition (if yes) – Provide New (if no)
b. Piston seals	Provide New
3. Motion Controls:	
a. Motion Controllers	Provide New

b. Landing Devices and Selectors	Provide New
c. Positioning devices	Provide New

4. Electrical Wiring:

a. Traveling conductors and electrical field wiring	Provide New
b. Machine room conduit and trough work	Provide New
c. Hoistway raceway and fasteners	Provide New
d. Electrical door lock wiring	Provide New
e. GFCI electrical receptacles in elevator machine rooms and pits	Provide New
f. Electrical signal wiring	Provide New

C. HOISTWAY EQUIPMENT AND COMPONENTS

1. Hatch Equipment:

a. Car top inspection stations	Provide New
b. Hoistway leveling switches	Provide New
c. Digital landing devices	Provide New
d. Terminal limit switches	Provide New
e. Directional limit switches	Provide New
f. Hoistway junction boxes	Provide New

2. Car Door Equipment (Standard):

a. Car door hangers and tracks	Provide New
b. Neoprene car door rollers	Provide New
c. Closed Loop door operators	Provide New
d. Door arms and linkages	Provide New
e. Door relation cables	Provide New
f. Car door clutches	Provide New
g. Car door restrictors	Provide New
h. Infra-red detector curtains	Provide New
i. Car door sills	Retain and Recondition

3. Hoistway Door Components:

a. Hoistway door hangers and tracks	Provide New
b. Closed Loop door operators	Provide New
c. Hatch door rollers and hardware	Provide New
d. Hatch door tracks eccentrics	Provide New
e. Electrical interlocks	Provide New
f. Hatch door relating cables	Provide New
g. Hatch door engaging devices and pick-up rollers	Provide New
h. Hatch door sill closures	Provide New
i. Dust covers	Replace as warranted
j. Hatch door sills	Retain and Recondition

4. Door Panels & Entrances:

a. Stainless steel Hatch Door panels Entrance dimensions 36” wide x 84” height	Retain and Recondition
b. Escutcheon holes and Trim rings	Provide New
c. Lobby entrance frames	Retain and Recondition
d. Door stops and bumpers	Provide New

5. Shaft/Pit Equipment:

a. Car guide rails	Retain and Recondition
b. Car spring buffers	Retain and Recondition
c. Steel buffer channels and stands	Retain and Recondition
d. Steel pit channels	Retain and Recondition

e. Pit Stop Switches	Provide New
f. Pit Lighting	Provide New
g. Pit Ladder	Provide new to comply with current codes
h. Hoist Beam	Retain existing (G.C. to certify carrying capacity and stencil amount on beam with 4” letters)

6. Car Slings:

a. Platform	Retain/Recondition/Align
b. Cross head and side styles	Retain/Recondition/Align
c. Car guides (slide shoe type)	Provide New (roller type)
d. Car top steady plates	As Required
e. Sound isolation pads	Provide New
f. Mounting hardware	Replace as warranted

D. SIGNAL FIXTURES:

1. Car and Corridor Fixtures:

a. Main car operating panel	Provide New
b. Corridor call stations	Provide New
c. Fire emergency key switches	Provide New
d. Digital car position indicators	Provide New
e. Code compliant passing chimes	Provide New
f. Digital lobby positional indicator (Main Lobby)	Provide New
g. Corridor directional lanterns	Provide New
h. Code compliant arrival gongs	Provide New
i. Phone line monitoring	Provide New
j. Card Reader access at each floor	Provide New

2. Emergency Communication Devices:

a. Fire fighter’s emergency recall service	Provide New (at Main Floor)
b. Hands free emergency communication devices	Provide New
c. Braille jamb plates	Provide New
d. Emergency evacuation signage	Provide New
e. Inspection certificate frames	Provide New

E. ELEVATOR CABS:

a. Cab Shell Interior cab (stripped) shell approx. dimensions are 72 1/8” width x 51 1/8” depth	Retain and Recondition
b. Interior wall panels	Provide New
c. Suspended ceiling panels and grids	Provide New
d. Incandescent down-lighting fixtures	Provide New
e. Two speed cab exhaust fans	Provide New
f. Cab handrails	Provide New
g. Cab flooring	Provide New
h. Sub-flooring panels	Provide New
i. Clad all existing steel returns, reveals and transoms	Provide New

F. SPECIAL FEATURES:

a. Addressable firefighter's emergency recall systems (Recall to Main level)	Provide New

b. Two Way Communication with voice and video	Provide New
c. Lobby and machine room smoke detectors	Provide New
d. Battery descent unit	Provide New
e. Electrical feeders	Retain if viable
f. Dedicated ground wires	Provide if required
g. Hoistway ventilation	Provide if required
h. HVAC in elevator machine room	Provide New
i. Pit Sprinklers	Retain
j. Shunt trips, flow sensors and heat detectors	Provide New
k. Hoistway beveling	Not Required
l. Machine room lighting	Provide New

1.4 SCOPE OF WORK – **ELEVATOR #2**

A. The following is a comprehensive checklist of work items to be included in this contract. Where required, items identified as “Provide New” are further specified in Part 2 of this specification. Where items are not specified beyond this scope of work, Contractor shall supply materials compatible with existing conditions and meeting current industry standards.

B. MACHINE ROOM SYSTEMS AND COMPONENTS

1. Drive Machines:

a. Hydraulic Pump Unit (pump, tank & valve)	Provide New
b. Sound isolation pads	Provide New
c. Hydraulic Fluid	Provide New

2. Hydraulic Jack and Rope Assemblies:

a. Twin Jack assemblies	Retain & Recondition
b. Sheave and Pulley assemblies	Retain & Recondition
c. Governor assembly	Retain & Recondition
d. Rope assemblies	Provide New
e. Car guide rails	Retain & Recondition
f. Car guides (slide shoe type)	Provide New (roller type)
g. Piston seals	Provide New

3. Motion Controls:

a. Motion Controllers	Provide New
b. Landing Devices and Selectors	Provide New
c. Positioning devices	Provide New

4. Electrical Wiring:

a. Traveling conductors and electrical field wiring	Provide New
b. Machine room conduit and trough work	Provide New
c. Hoistway raceway and fasteners	Provide New
d. Electrical door lock wiring	Provide New
e. GFCI electrical receptacles in elevator machine rooms and pits	Provide New
f. Electrical signal wiring	Provide New

C. HOISTWAY EQUIPMENT AND COMPONENTS

1. Hatch Equipment:

a. Car top inspection stations	Provide New
b. Hoistway leveling switches	Provide New
c. Digital landing devices	Provide New

d. Terminal limit switches	Provide New
e. Directional limit switches	Provide New
f. Hoistway junction boxes	Provide New

2. Car Door Equipment (Standard):

a. Car door hangers and tracks	Provide New
b. Neoprene car door rollers	Provide New
c. Closed Loop door operators	Provide New
d. Door arms and linkages	Provide New
e. Door relation cables	Provide New
f. Car door clutches	Provide New
g. Car door restrictors	Provide New
h. Infra-red detector curtains	Provide New
i. Car door sills	Retain and Recondition

3. Hoistway Door Components:

a. Hoistway door hangers and tracks	Provide New
b. Closed Loop door operators	Provide New
c. Hatch door rollers and hardware	Provide New
d. Hatch door tracks eccentrics	Provide New
e. Electrical interlocks	Provide New
f. Hatch door relating cables	Provide New
g. Hatch door engaging devices and pick-up rollers	Provide New
h. Hatch door sill closures	Provide New
i. Dust covers	Replace as warranted
j. Hatch door sills	Retain and Recondition

4. Door Panels & Entrances:

a. Stainless steel Hatch Door panels Entrance dimensions 42” wide x 84” height	Retain and Recondition
b. Escutcheon holes and Trim rings	Provide New
c. Lobby entrance frames	Retain and Recondition
d. Door stops and bumpers	Provide New

5. Shaft/Pit Equipment:

a. Car guide rails	Retain and Recondition
b. Car spring buffers	Retain and Recondition
c. Steel buffer channels and stands	Retain and Recondition
d. Steel pit channels	Retain and Recondition
e. Pit Stop Switches	Provide New
f. Pit Lighting	Provide New
g. Pit Ladder	Provide new to comply with current codes
h. Hoist Beam	Retain existing (G.C. to certify carrying capacity and stencil amount on beam with 4” letters)

6. Car Slings:

a. Platform	Retain/Recondition/Align
b. Cross head and side styles	Retain/Recondition/Align
c. Car guides (slide shoe type)	Provide New (roller type)
d. Car top steady plates	As Required
e. Sound isolation pads	Provide New
f. Mounting hardware	Replace as warranted

D. SIGNAL FIXTURES:

1. Car and Corridor Fixtures:

a. Main car operating panel	Provide New
b. Corridor call stations	Provide New
c. Fire emergency key switches	Provide New
d. Digital car position indicators	Provide New
e. Code compliant passing chimes	Provide New
f. Digital lobby positional indicator (Main Lobby)	Provide New
g. Corridor directional lanterns	Provide New
h. Code compliant arrival gongs	Provide New
i. Phone line monitoring	Provide New
j. Card Reader access at each floor	Provide New

2. Emergency Communication Devices:

a. Fire fighter's emergency recall service	Provide New (at Main Floor)
b. Hands free emergency communication devices	Provide New
c. Braille jamb plates	Provide New
d. Emergency evacuation signage	Provide New
e. Inspection certificate frames	Provide New

E. ELEVATOR CABS:

a. Cab Shell	Retain and Recondition
Interior cab (stripped) shell approx. dimensions are 81 1/2" width x 65" depth	
b. Interior wall panels	Provide New
c. Suspended ceiling panels and grids	Provide New
d. Incandescent down-lighting fixtures	Provide New
e. Two speed cab exhaust fans	Provide New
f. Cab handrails	Provide New
g. Cab flooring	Provide New
h. Sub-flooring panels	Provide New
i. Clad all existing steel returns, reveals and transoms	Provide New

F. SPECIAL FEATURES:

a. Addressable firefighter's emergency recall systems (Recall to Main level)	Provide New
b. Two Way Communication with voice and video	Provide New
c. Lobby and machine room smoke detectors	Provide New
d. Battery descent unit	Provide New
e. Electrical feeders	Retain if viable
f. Dedicated ground wires	Provide if required
g. Hoistway ventilation	Provide if required
h. HVAC in elevator machine room	Provide New
i. Pit Sprinklers	Retain
j. Shunt trips, flow sensors and heat detectors	Provide New
k. Hoistway beveling	Not Required
l. Machine room lighting	Provide New

1.5 UNIT PRICES

A. At Elevator #1 - Base bid includes the reuse of existing jack hole and existing jacks and pistons (if jack is double bulkheaded).

B. At Elevator #2 – Base bid includes the reuse of existing jacks and pistons.

1.6 DEFINITIONS

A. Definitions in ASME A17.1 – 2022 Edition/CSA B44 “Safety Code for Elevators and Escalators” apply to work of this Section.

B. Service Elevator: A passenger elevator that is also used to carry freight.

1.7 ACTION SUBMITTALS

A. Product Data: Include capacities, sizes, performances, operations, safety features, finishes, and similar information. Include product data for car enclosures; hoistway entrances; and operation, control, and signal systems.

B. Shop Drawings:

1. Include plans, elevations, sections, and large-scale details indicating service at each landing; machine room layout; coordination with building structure; relationships with other construction; and locations of equipment.
2. Include large-scale layout of car-control station.
3. Indicate maximum dynamic and static loads imposed on building structure at points of support as well as maximum and average power demands. Existing conditions prevail.

C. Samples for Initial Selection: For finishes involving color selection.

D. Samples for Verification: For exposed car, hoistway door and frame, and signal equipment finishes, 3-inch- (75-mm-) square Samples of sheet materials and 4-inch (100-mm) lengths of running trim members.

1.6 INFORMATIONAL SUBMITIALS

A. Qualification Data: For Installer.

B. Sample Warranty: For special warranty.

1.7 CLOSEOUT SUBMITIALS

A. Operation and Maintenance Data: For elevators to include in emergency, operation, and maintenance manual.

1. Submit manufacturer’s/installer’s standard operation and maintenance manual, in accordance with ASME A17.1 – 2022 Edition/CSA B44.

B. Inspection and Acceptance Certificates and Operating Permits: As required by authorities having jurisdiction for normal, unrestricted elevator use.

1.8 QUALITY ASSURANCE

A. Installer Qualifications: Elevator manufacturer or an authorized representative who is

trained and approved by manufacturer.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle materials, components and equipment in manufacturer's protective packaging. Store materials, components, and equipment off of ground, under cover, and in a dry location.

1.10 COORDINATION

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

B. Coordinate locations and dimensions of other work specified in other Sections that relates to hydraulic elevators, including pit ladders, electrical service; and electrical outlets, lights, and switches in hoistways, pits, and machine rooms. Include other trades as necessary for a complete modernization.

1.11 WARRANTY

A. Manufacturer's Special Warranty: Manufacturer agrees to repair, restore, or replace elevator work that fails in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, operation or control system failure, including excessive malfunctions; performances below specified ratings; excessive wear; unusual deterioration or aging of materials or finishes; unsafe conditions; need for excessive maintenance; abnormal noise or vibration; and similar unusual, unexpected, and unsatisfactory conditions.
2. Warranty Period: 2 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 HYDRAULIC ELEVATOR CONTROL MANUFACTURERS

A. SmartRise Engineering, Inc.
B. Motion Control Engineering, Inc.
C. Elevator Controls, Inc.

2.2 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with ASME A17.1 – 2022 Edition/CSA B44 “Safety Code for Elevators and Escalators”.

B. Accessibility Requirements: Comply with Section 407 in the United States Access Board's 2010 ADA- ABA Accessibility Guidelines and with ICC A117.1.

2.3 **ELEVATOR #1** - DESCRIPTION

A. **Modernization of Existing Hydraulic Elevato**r: Includes the replacement of controller, pump unit, and associated piping and wiring. Existing jack assembly is to be examined and reconditioned. Existing elevator car and frame assemblies, hoistway steel and related car support structures are to be refurbished.

B. Elevator Description:

1. Type: In-ground hydraulic single cylinder.
2. Stops: 3 - L (Lower), 1 (First Floor), and 2 (Second Floor)
3. Travel Distance: 26'-8"
4. Rated Load: 3,500lb.
5. Rated Speed: 125 fpm.
6. Operation System: Single automatic operation.
7. Auxiliary Operations:
   a. Battery-powered lowering.
   b. Automatic operation of lights and ventilation fans.
8. Security Features: Keyswitch operation.

9. Car Enclosures:
   a. Existing cab is to be reused and refurbished. All finishes to be replaced.
      Interior cab (stripped) shell approx. dimensions are 72 1/8" width x 51 1/8" depth
      Existing cab (finished) clear dimensions are 71" width x 50 1/2" depth
      Note: Existing cab finished dimensions do not comply with ADAAG 407.4.1 and new cab finishes i.e; panel thicknesses shall be configured to provide the required "clear" dimensions of 68" width x 51" depth
   b. Car Fixtures: Satin applied stainless steel, No. 4 finish.
   c. Front Walls (Return Panels): Satin stainless steel, No. 4 finish
   d. Side Wall Panels: Plastic laminate.
   e. Rear Wall Panels: Satin stainless steel, No. 4 finish
   f. Reveals: Black.
   g. Door Faces (Interior): Retain and recondition existing.
   h. Door Sills: Retain and recondition existing.
   i. Ceiling: Stainless steel, see 2.7, B. below.
   j. Handrails: Rectangular satin stainless steel, located at sides of car, see 2.7, B. below.
   k. Floor prepared to receive resilient flooring (specified in Section 09 65 19 "Resilient Flooring").

10. Hoistway Entrances:
    a. Existing hoistway entrances are to be reused. Existing openings approximately 36" wide x 84" tall.
    b. Type: Single sliding.
    c. Doors: Retain and recondition existing stainless steel UL listed door.
    d. Frames: Retain and recondition existing stainless steel UL listed frame.
    e. Sills: Retain and recondition existing.

11. Hall Fixtures Satin stainless steel, No. 4 finish
    a. Hall fixtures are to be new, and replace existing floor push buttons, key switches, and fire emergency key switches.
    b. Provide new code compliant signage at all floors, including 4" tactile Braille jamb plates and emergency evacuation signage.

12. Additional Requirements:

a. Inspection certificate – provide mounted under acrylic cover with frame made from satin stainless steel, No. 4 finish.

b. Two Way Communications –

1) Connect existing telephone wiring in machine room to new two way communication system.

2) Owner responsible for providing 24/7 monitoring service of communication system for duration of elevator warranty.

3) County shall supply and maintain a dedicated phone line to the machine room.

2.4 **ELEVATOR #2** - DESCRIPTION

A. **Modernization of Existing Hydraulic Elevato**r: Includes the replacement of controller, pump unit, and associated piping and wiring. Existing jack assembly is to be examined and reconditioned. Existing elevator car and frame assemblies, hoistway steel and related car support structures are to be refurbished.

B. Elevator Description:

1. Type: Hydraulic Twin-Jack Roped.
2. Stops: 4 - LR (Lower Rear), L (Lower), 1 (First Floor), and 2 (Second Floor)
3. Travel Distance: 30’-0"
4. Rated Load: 3,500lb.
5. Rated Speed: 125 fpm.
6. Operation System: Single automatic operation.
7. Auxiliary Operations:
   a. Battery-powered lowering.
   b. Automatic operation of lights and ventilation fans.
8. Security Features: Keyswitch operation.

9. Car Enclosures:
   a. Existing cab is to be reused and refurbished. All finishes to be replaced. Existing cab (stripped) shell approx. dimensions are 81 1/2” width x 65” depth Existing cab (finished) clear dimensions are 80” width x 65” depth
   b. Car Fixtures: Satin applied stainless steel, No. 4 finish.
   c. Front Walls (Return Panels): Satin stainless steel, No. 4 finish
   d. Side Wall Panels: Plastic laminate.
   e. Rear Wall Panels: Satin stainless steel, No. 4 finish
   f. Reveals: Black.
   g. Door Faces (Interior): Retain and recondition existing.
   h. Door Sills: Retain and recondition existing.
   i. Ceiling: Stainless steel, see 2.7, B. below.
   j. Handrails: Rectangular satin stainless steel, located at sides of car, see 2.7, B. below.
   k. Floor prepared to receive resilient flooring (specified in Section 09 65 19 "Resilient Flooring").

10. Hoistway Entrances:
    a. Existing hoistway entrances are to be reused. Existing openings approximately 42" wide x 84" tall.
    b. Type: Single sliding.
    c. Doors: Retain and recondition existing stainless steel UL listed door.
    d. Frames: Reface existing with new. Stainless steel, No. 4 finish.
    e. Sills: Retain and recondition existing.

11. Hall Fixtures Satin stainless steel, No. 4 finish
    a. Hall fixtures are to be new, and replace existing floor push buttons, key switches, and fire emergency key switches.
    b. Provide new code compliant signage at all floors, including 4" tactile Braille jamb plates and emergency evacuation signage.

12. Additional Requirements:
    a. Inspection certificate – provide mounted under acrylic cover with frame made from satin stainless steel, No. 4 finish.
    b. Two Way Communications –
        1) Connect existing telephone wiring in machine room to new two way communication system.
        2) Owner responsible for providing 24/7 monitoring service of communication system for duration of elevator warranty.
        3) County shall supply and maintain a dedicated phone line to the machine room.

2.5 MACHINE ROOM SYSTEMS AND COMPONENTS

A. Pump Units (New): Remove and replace existing unit with new positive displacement type with a maximum of 10 percent variation between no load and full load and with minimum pulsations.

1. Pump shall be submersible type with submersible squirrel-cage induction motor (match existing H.P. at minimum) and shall be suspended inside oil tank from vibration isolation mounts. Provide appropriately sized AC pump motor, and pressure compensated hydraulic flow control valve.
2. Motor shall have wye-delta starting.
3. Motor shall have variable-voltage, variable-frequency control.
4. Remove and dispose of all existing hydraulic oil lines, mufflers. victaulic couplings and connectors.

B. Hydraulic Silencers (New): System shall have hydraulic silencer containing pulsation-absorbing material in blowout-proof housing at pump unit.

C. Piping (New): Provide new 2" or greater schedule 80 piping, flexible oil lines and tank hoses with 2" or greater Victaulic couplings, seals and connectors.

D. Hydraulic Fluid (New): Elevator manufacturer's standard fire-resistant fluid with additives as needed to prevent oxidation of fluid, corrosion of cylinder and other components, and other adverse effects.

E. Car Frame and Platform: Existing frame and platform assemblies are to be retained. Recondition and align existing car sling, platform, and car sill.
1. Replace missing car sling assembly hardware as required.
2. Provide new:
    a. 48" code compliant steel toe guards.
    b. Sound isolation, steady plates, and mounting hardware.
    c. Piston platen plates and steel bolster assemblies as required.
    d. Spring tension car roller guides (Basis of design Model B by Elsco).

F. Shaft/Pit equipment:

1. Provide new:
   a. Automatic oil recovery unit and related return line.
2. Recondition existing:
   a. Car and counterweight spring buffers.
   b. Steel pit channels and buffer stands.
3. Reuse existing:
   a. Hoist Beam - G.C. to certify carrying capacity and stencil amount on beam with 4” letters)

G. Hoistway Steel and related Car Support Structures
   1. Thoroughly clean and remove all debris
   2. Secure/tighten all existing fasteners. Replace missing mounting hardware as required.
   3. Clean and paint all:
      a. Existing steel fascias, toe guards and dust covers at all landings.
      b. Steel pit channels, buffer stands, pit ladders.
      c. All main rail sections and fishplate adapters.

2.5 OPERATION SYSTEMS

A. General: Provide new replacement computerized microprocessor operation system as required to provide type of operation indicated. Include computer based logic dispatching capabilities, interface software and factory wiring.
   1. Provide new lockable wall mounted NEMA class 1 controller cabinet enclosures.

B. Auxiliary Operations:
   1. Provide manual lowering devices
   2. Provide battery-powered emergency descent units: When power fails, car is lowered to the lowest floor, opens its doors, and shuts down. System includes rechargeable battery and automatic recharging system.

C. Security Features: Security features shall not affect emergency firefighters' service.
   1. Keyswitch Operation: Push buttons are activated and deactivated by security keyswitches at hall push-button stations. Key is removable only in deactivated position.

D. Card reader: Contractor shall install card reader using an authorized MCPS contractor.
   Contractor Name, Netcom Technologies Inc

Project Manager:	Security Director:
Anthony Martin amartin@netcomtec.com	Eddie Byrum ebyrum@netcomtec.com
M – 240-422-4794	M – 301-825-4713

   1. Provide a single-gang outlet box with blank cover plate for the access control system card reader at each location shown on the drawings with 2-1/8" depth and surface wall mount. Provide card reader by HID Part #40NKS-00-000000. Provide surface metal raceway from the box to an accessible ceiling space. Provide cabling for card reader from the box to the nearest MDF or telecom closet. DO NOT route cabling through the elevator shaft. Cabling shall comply with MCPS requirements. Coordinate with MCPS for termination of cabling within the MDF or telecom closet.

E. Emergency Communication System: Approved Manufacturer: K-Tech Connect. Provide new replacement two-way voice communication system, with visible signal, which dials pre-programmed number of monitoring station and does not require handset use. System is

contained in flush-mounted cabinet, with identification, instructions for use, and battery backup power supply.

1. Connect existing telephone wiring in machine room to new two-way communication system.
2. Owner responsible for providing 24/7 monitoring service of communication system for duration of elevator warranty.
3. County shall supply and maintain a dedicated phone line to the machine room.

F. Replace existing starter panel with new size 2 relay starter control panels with electronic "soft start" in-line Wye/Delta starters.

G. Provide associated transformers, overload protection devices, control fuses. All electrical wiring from fused main line disconnect switches is to be replaced, including all conduit, trough work and raceway throughout the elevator machine room and hoistway and from the controls to appropriate car, hoistway, and halt signal destinations. Provide junction boxes, terminal blocks and connectors as required.

2.6 DOOR-REOPENING DEVICES

H. Infrared Array: Provide door-reopening device with uniform array of 36 or more microprocessor- controlled, infrared light beams projecting across car entrance. Interruption of one or more light beams shall cause doors to stop and reopen.

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

2.6 CAR ENCLOSURES

A. General: Existing car enclosure is to be reused. Protect from damage during the modernization period. Cab interior finishes are to be replaced with new.

B. Materials and Finishes: Manufacturer's standards, but not less than the following:
   1. Floor Finish: Resilient flooring, as Specified in Section 09 65 19.
   2. Plastic-Laminate Wall Panels: Plastic laminate adhesively applied to 1/2-inch (13-mm) fire-retardant treated particleboard with manufacturer's standard protective edge trim. Panels have a flame-spread index of 25 or less, when tested according to ASTM E 84. Plastic-laminate color, texture, and pattern as selected by Architect from plastic-laminate manufacturer's full range. Basis-of-Design is Snap Cab Corporate I design using Wilsonart laminate with 2” flat bar handrail attached to stainless steel band. Equivalent designs from other manufacturers will be acceptable.
   3. Utilize car recesses and cutouts for signal equipment.
   4. Fabricate car door frame integrally with front wall of car.
   5. Doors:
      a. Retain and recondition existing stainless steel door panels.
      b. Car door components and related operating devices are to be replaced. Provide and install new:
         1) Car door tracks and hangers.
         2) Neoprene car door rollers, track eccentrics and oilers.
         3) Closed loop car door operators and motors.
         4) Door linkages, drive arms and door belts.

5) Zone-locking car door mechanical clutches.
6) Mechanical car door restrictors.
7) Electro-mechanical car door gate switches and assoc. elec. wiring.

6. Sight Guards: Provide sight guards on car doors.
7. Sills: Clean and refurbish existing sills.
8. Ceiling: Basis-of-Design is Snap Cab Island style modular downlight ceiling – six stainless steel panels with #4 finish and one downlight in each panel. Equivalent systems by other manufacturers will also be considered acceptable.

C. Replace existing Car Top Inspection Station and Positioning Selector. Provide new:
1. Digital landing device and positioning encoder.
2. Steel hoistway selector tape, car top reader and guides.
3. Code compliant car top inspection station equipped with 110 volt receptacle outlet and lighting.
4. Mechanical hoistway limit switches.
5. Mounting brackets, installation adaptors and associated hardware.

2.7 HOISTWAY ENTRANCES

A. General: Existing Hoistway Entrance Assemblies are to remain and be refurbished. Protect from damage during the modernization period.

B. Materials and Fabrication: Manufacturer's standards, but not less than the following:
1. Frames: Retain and recondition existing stainless steel door panels.
2. Doors: Retain and recondition existing stainless steel door panels.
3. Hoistway door components and related operated operating devices are to be replaced.
a. Provide and install new:
1) Hoistway door tracks and hangers.
2) Neoprene hoistway door rollers, track eccentrics and oilers.
3) Closed loop car door operators and motors.
4) Electrical interlocks, relating cables and engaging roller mechanisms.
5) Electrical door lock wiring, flexible conduit and associated connectors.
6) Mechanical door sill closures and/or spirator closers.
7) Nylon door gib inserts, brackets, fire rated door restrictor plates and door eccentrics.
b. Provide new floor identification stencils on interior surface of hoistway doors
c. Provide and install new Mechanical operating devices and mounting hardware as required to properly secure all door panels in strict compliance with approved industry standards and national ANSI code regulations.
4. Sight Guards: Provide sight guards on doors matching door edges.
5. Sills: Clean and refurbish existing sills.

2.8 SIGNAL EQUIPMENT

A. General: Provide hall-call and car-call buttons that light when activated and remain lit until call has been fulfilled. Provide vandal-resistant buttons and lighted elements illuminated with LEDs.

B. Car-Control Stations: Provide recessed car-control stations. Mount in return panel adjacent to car door unless otherwise indicated.

1. Mark buttons and switches for required use or function. Use both tactile symbols and

Braille.

2. Provide "No Smoking" sign matching car-control station, either integral with car-control station or mounted adjacent to it. with text and graphics as required by authorities having Jurisdiction.

C. Car Position Indicator: Provide illuminated, digital-type car position indicator, located above car door or above car-control station. Also, provide audible signal to indicate to passengers that car is either stopping at or passing each of the floors serviced. Include travel direction arrows if not provided in car-control station.

D. Hall Push-Button Stations: Provide one hall push-button station at each landing.

1. Provide new replacement jamb-mounted units.
2. Equip units with buttons for calling elevator and for indicating applicable direction of travel.

E. Hall Lanterns: Units with illuminated arrows; however, provide single arrow at terminal landings. Provide the following:

1. Replacement corridor directional lanterns.

F. Hall Annunciator: With each hall lantern, provide audible signals indicating car arrival and direction of travel. Signals sound once for up and twice for down.

1. At manufacturer's option, audible signals may be placed on cars.

G. Emergency Pictorial Signs: Fabricate from materials matching hall push-button stations, with text and graphics as required by authorities having jurisdiction, indicating that in case of fire, elevators are out of service and exits should be used instead. Provide one sign at each hall push-button station unless otherwise indicated.

2.9 FINISH MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, commercial steel, Type B, exposed, matte finish.

B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, commercial steel, Type B, pickled.

C. Stainless-Steel Sheet: ASTM A 240/A 240M, Type 304.

D. Stainless-Steel Bars: ASTM A 276, Type 304.

E. Stainless-Steel Tubing: ASTM A 554, Grade MT 304.

F. Aluminum Extrusions: ASTM B 221 (ASTM B 221M), Alloy 6063.

G. Nickel Silver Extrusions: ASTM B 151/B 151M, Alloy UNS No. C74500 or No. C77600.

H. Plastic Laminate: High-pressure type complying with NEMA LO 3, Type HGS for flat applications.

PART 3 • EXECUTION

3.1 EXAMINATION

A Examine elevator areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work. Verify critical dimensions and examine supporting structure and other conditions under which elevator work is to be installed.

B. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Examine exterior surface conditions of existing hydraulic jacks and pistons. Inspect piston seams for irregularities and repair same. Remove surface scars from piston exteriors and hone same.

B. 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 workmanship and welding operator qualification standards.

C. Sound Isolation: Mount rotating and vibrating equipment on vibration-isolating mounts to minimize vibration transmission to structure and structure-borne noise due to elevator system.

D. Install new oil piping above the floor.

E. Lubricate operating parts of systems as recommended by manufacturers.

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

G. Leveling Tolerance: 1/4 inch, up or down, regardless of load and travel direction.

H. Locate hall signal equipment for elevators as follows unless otherwise indicated:

1. At locations of existing removed hall signal equipment.

3.3 FIELD QUALITY CONTROL

A. Acceptance Testing: On completion of elevator installation and before permitting elevator use (either temporary or permanent), perform acceptance tests as required and recommended by ASME A17.1 – 2022 Edition/CSA B44 and by governing regulations and agencies.

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

3.4 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to operate elevator(s).

B. Check operation of elevator with Owner's personnel present before date of Substantial Completion and again not more than one month before end of warranty period. Determine that operation systems and devices are functioning properly.

3.5 MAINTENANCE

A. Initial Maintenance Service: Beginning at Substantial Completion, maintenance service shall include 24 months' full maintenance by skilled employees of elevator Installer. Include monthly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper elevator operation. Parts and supplies shall be manufacturer's authorized replacement parts and supplies.

1. Perform maintenance during normal working hours.
2. Perform emergency callback service during normal working hours with response time of two hours or less.
3. Include 24-hour-per-day, 7-day-per-week emergency callback service with response time of two hours or less.

B. Maintenance contract is to be executed independently from modernization contract. Within the elevator modernization bid, include a line item for maintenance costs. Maintenance contract will be executed based off cost submitted within Modernization bid.

END OF SECTION 14 24 10