Yakima County Jail
Secure Elevator Replacement
Yakima, Washington

BID SET

DLR Group Project No. 73-10126-00
Combined Contract

November 14, 2012

DLR Group Inc., a Washington corporation
Architecture Engineering Planning Interiors
901 Fifth Avenue, Suite 700, Seattle, WA 98164-1006
tel 206/481-6000 fax 206/481-6049
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NOTICE TO BIDDERS

You are invited to bid on a lump sum contract to include general, mechanical and electrical work for the following project:

PROJECT NO.  PW10-004A
TITLE :  Yakima County Jail Secure Elevator Replacement
AGENCY:  Yakima County Facilities Services

SUBMITTAL TIME/DATE/LOCATION:
Prior to 11:00 AM December 11, 2012
Yakima County Facilities Services
18 E Lincoln Avenue
Yakima, WA 98901

Public Bid Opening and reading at 11:00 A.M. or as soon thereafter as possible at
Yakima County Facilities Services, 18 E Lincoln Avenue, Yakima, WA 98901. Bidders
and other interested parties are invited to attend.

This project consists of replacement of two existing elevators in the Yakima County Jail located
at 111 North Front Street Yakima, WA. Work includes general, mechanical, and electrical work
in accordance with plans and specifications prepared by DLR Group. A single lump sum bid is
requested for all general, mechanical and electrical work.

Each bid must be sealed and clearly marked with the project name and “Do not open prior to Bid
Opening Time.” Bids must be submitted on a non-watermarked Form of Proposal. All bidders
must be on Yakima County’s Plan Holder List. Purchasing plan sets from Yakima County will
automatically place your name on the Plan Holder List and provide non-watermarked Form of
Proposal. Bids received after the aforementioned time will not be considered.

All bid proposals shall be accompanied by a bid proposal deposit by certified check, cashier’s
check or surety bond payable to Yakima County Treasurer in an amount equal to five percent
(5%) of the total amount bid. Should the successful bidder fail to enter into such contract and
furnish a satisfactory performance bond within the time stated in the specifications, the bid
proposal deposit shall be forfeited to Yakima County.

Pre-bid walk-through: A pre-bid site visit has been scheduled for 10:00 AM, Tuesday,
December 4, 2012 for any interested parties. Meet promptly at 10:00AM at the flag pole at the
main entrance to the Yakima County Jail located at 111 North Front Street, Yakima,
Washington.

This is a secure jail facility and therefore has unusual circumstances that impact the work. Due to
the need to maintain the level of safety and security within the occupied jail facility during the
pre-bid walk through tour, all attendees will need to schedule their attendance by emailing Erica
Loynd at eloynd@dlrgroup.com.
Bid documents may be obtained at the Public Services Office on the 4th floor of the Yakima County Courthouse, 128 N. 2nd Street, Yakima, WA or by calling 509-574-2300. Specifications and 24”x36” full size drawings are available for $30.00 per set (non-refundable). Checks should be made payable to Yakima County Treasurer. Specifications are available for viewing on our website at www.co.yakima.wa.us/publicservices. For security reasons, drawings are only available in hard copy at the aforementioned Public Services Office.

The Board of County Commissioners expressly reserves the right to reject any and all bids or parts thereof and waive informalities or irregularities in a bid received, and to accept the bid which, in the Owner’s judgment, is in the Owner’s best interest.

Dated this 20th day of November, 2012.

ATTEST: Tiera Girard
Clerk of the Board

PUBLISH: Yakima Herald Republic – November 21, 2012

Bill to: Account No. PW10-004A
Yakima County Facilities Services Accounting
128 North 2nd Street, Room 232
Yakima, WA 98901
SECTION 002100 – INSTRUCTIONS TO BIDDERS

1.1  CONSIDERATIONS

A. To be considered, Bids must be made in accordance with these Instructions to Bidders.

1.2  DOCUMENTS

A. Prime bidders may obtain sets of documents as stipulates in the “Notice To Bidders”. Incomplete, partial or single-page copies will not be issued.

1.3  DEFINITIONS

A. All definitions set forth in the General Conditions and in other parts of the Contract Documents are applicable to the Bidding Documents.

B. Addenda are written or graphic instruments issued by the Architect prior to execution of the Contract for Construction, which interpret or modify the Bidding Documents by additions, deletions, clarifications or corrections.

C. A Bid is a complete and properly executed proposal to do the Work or designated portion thereof for the sums stipulated therein. To be valid Bids must be submitted in accordance with Bidding Document requirements.

D. “Bidding Documents” include the Bidding Requirements and the proposed Contract Documents. The Bidding Requirements consist of the Instructions to Bidders and other sample bidding and contract forms. The “Contract Documents” consist of the Agreement Between Owner and Contractor, which include the Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, and all Addenda issued prior to execution of the Contract.

E. A Bidder or “Bonafide Bidder” is a person or entity who submits a Bid.

F. A Sub-bidder is a person or entity who submits a bid to a Bidder for materials, labor or services for a portion of the Work.

1.4  BIDDER’S REPRESENTATIONS

A. Bidders shall carefully examine the documents and the site of the work to obtain first-hand knowledge of existing conditions. Contractors will not be given extra payments for conditions that can be determined by examining the site, existing structures, and documents

1. The Owner, in making documents available for bidding, confers no license or grant for any other use.

B. By submitting his Bid each Bidder represents that:

1. The Bidder has carefully examined the project site and the documents and understands the documents and the bid is made in accordance therewith.
2. The bid includes all costs to perform the work required by the contract documents considering all observable existing site and local conditions.

3. The Bidder is familiar with local labor conditions and state, local and federal regulations affecting the Work and has considered these factors in the preparation of his Bid.

4. The bidder is satisfied that the proposed contract Documents are adequate for purposes of providing and successfully completed the Work.

5. The Bidder/the Bidding Firm has adequate financial resources and will employ adequate numbers of qualified personnel to coordinate, schedule, supervise and perform the work in conformance with Contract Document requirements.

C. Asbestos-Free Materials: Bidder, if awarded a contract, hereby certifies and guarantees to the Owner that any products or materials sold, used or installed under the terms of the contract, will not contain any asbestos. In the event the product sold does not conform to the above standards, the Owner may return the product for correction or replacement at Bidder’s option and at Bidder’s expense. Services performed by the seller that do not conform to the above standards must be corrected by seller at seller’s expense or make the appropriate correction within a reasonable time.

1.5 SITE VISITS

A. PRE-BID WALK-THROUGH: As stipulated in the Notice To Bidders

1.6 QUESTIONS

A. Submit questions about Contract Documents to Architect in writing to email address eloynd@dlrgroup.com. Replies will be Addenda issued to all prime bidders and plan holders of record. Owner and Architect will not be responsible for oral clarification. Questions received after December 6, 2012 will not be answered. The final addenda is scheduled to be issued on December 7, 2012. No later addenda will be issued except for Addenda announcing a bid opening time extension.

1.7 SUBSTITUTIONS:

A. Specified materials, products and equipment indicated in the Bidding Documents establish a standard of required function, dimensions, appearance and quality to be met by any proposed substitution.

B. Where specified products and manufacturers are specified for any portion of the Work, such products and manufacturers shall be the basis for the Bid unless prior approval is granted by the Architect for substitution of products and/or manufacturer.

C. Bidders shall comply with the provisions of the project manual in requesting prior approval for proposed substitutions.

D. Requests for substitutions not in compliance with submittal requirements and not received by the Architect by December 6, 2012 will not be considered.
E. If the Architect approves, subject to limitations stated in the Project Manual, any proposed substitution, such approval will be set forth in an Addendum. Approvals made in any other manner shall not be valid.

F. No substitutions will be considered after the contract award except as specifically provided for in the Project Manual.

1.8 ADDENDA:

A. Addenda will be mailed, telephoned, faxed, emailed or delivered to all who have obtained complete sets of Contract Documents from the Owner and are plan holders of record. Bidding Documents and copies of Addenda will be made available for inspection wherever documents are on file for bidding purposes. Addenda will be prepared and transmitted by the Architect. The Architect may elect to issue addenda by use of facsimile (fax) or email, followed by a printed copy.

1. Bidders are responsible for informing their sub-bidders of pertinent addenda provisions. Each Bidder is responsible for determining that he has received all addenda prior to submitting his Bid, and their receipt shall be acknowledged on the bid form.

B. Receipt of Addenda must be acknowledged on the Bid Form.

1.9 PREPARATION OF BID

A. Submit bid on form furnished by Architect in the Bidding Documents, without alterations or recapitulation of work to be done. Fill in blank spaces on form. Sign in longhand. If bidder is a partnership or co-partnership, each partner must sign, if a corporation, print name of state of incorporation and legal signature of an officer authorized to bind corporation to a contract.

1. Fill in all blanks in the bid forms by typewriter or manually with ink. Where indicated, express sums in both words and numerals. In case of a discrepancy the amount written in words shall govern.

2. Any modification or erasures on the bid forms must be initialized by the Bidder.

B. Include all cost breakdowns requested on Bid Form. Failure to comply may be cause for rejection. No segregated bids or assignments will be considered.

C. Registrations: All firms bidding this project shall be licensed by the State of Washington in conformance with RCW 18.27 and shall furnish state registration number.

D. Receipt of Documents: The failure or omission of a bidder to receive or examine any form, instrument, addendum, or other document shall in no way relieve any bidder from obligations with respect to the bid or to the contract.

E. Bidder’s attention is directed to the insurance requirements in Supplementary General Conditions Section 005213a. It is highly recommended that bidders confer with their respective insurance carriers or brokers to determine in advance of bid submission the availability of insurance policies and endorsements as prescribed and provided herein. If an apparent low bidder fails to comply strictly with the insurance requirements, that bidder may be disqualified from award of the contract.
1.10 BID SUBMITTAL

A. Submit bid, bid security and any other required submittals in a sealed opaque envelope. Identify envelope with the name of the project and the name of the Bidder. Submit bid in accordance with Notice To Bidders. Delivery of bid opening to place of bid is the responsibility of the Bidder. Facsimile transmission of the Bid will not be accepted.

1.11 MODIFICATIONS OR WITHDRAWAL OF BID

A. Modifications of bids already received will be considered only if modification is made prior to scheduled closing time for receipt of bid. Modifications must be over signature of the bidder. Telegraphic, telephone facsimile or other means of modifications will not be accepted. Delivery of modifications is the responsibility of the Bidder. Withdrawal of bids may be accomplished at any time prior to schedule closing time for bid opening in manner set forth herein for modification.

B. Should a bidder submit a bid form with all spaces not filled, the Owner at its sole discretion may consider such bid irregular and may reject the bid. The bidder agrees to hold the Owner harmless if the bid is rejected.

1.12 AWARD OF CONTRACT

A. It is the intent of the Owner to award a Contract to the lowest responsible bidder as defined in RCW 43.19.1911, provided the bid has been submitted in accordance with Bidding Document Requirements.

B. The Owner reserves the right to reject any and/or all bids or to make further calls for bids in the same manner as the original call, or to waive any informalities.

1.13 APPEAL OF INTENDED AWARD

A. Unsuccessful bidders may protest the intended award of the contract to the Owner. The protest shall be submitted in writing within 5 days after the determination of the Owner of the apparent lowest responsible bidder. The protest shall clearly state all of the facts upon which the protest is based. The Owner will respond in writing to the protest prior to the award of the Contract by the Owner. The response shall be the final decision of the Owner.

1.14 POST BID INFORMATION

A. A bidder whose proposal is under consideration shall, upon request, promptly furnish satisfactory evidence of his financial resources, his experience, and the organization and equipment he has available for the performance of the contract, and shall submit to the Owner, if requested, a properly executed AIA Document A305, Contractor’s Qualification Statement.

B. Within seven (7) days of notification of selection for the award of a contract for the work, the bidder shall submit the following information to the Owner:
   1. A designation of the work to be performed by the Bidder with his own forces.
2. The proprietary names and suppliers of principal items or systems of materials and equipment proposed for the work.
3. A list of names of the subcontractors or other persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the work.

C. The Bidder will be required to establish to the satisfaction of the Owner the reliability and responsibility of the persons or entities proposed to furnish and perform the work described in the bidding documents.

D. Prior to the award of the contract, the Owner will notify the Bidder in writing if the Owner has reasonable objection to any such proposed person or entity. If the Owner has a reasonable objection to any such proposed person or entity, the Bidder may, at his option: (1) withdraw his bid, or (2) submit an acceptable substitute person or entity with an adjustment in his bid price which is equal to or less than the original bid price. If the Bidder fails or refuses to promptly submit an acceptable substitute person or entity with an adjustment in his bid price which is equal to or less than the original bid price, his bid shall be deemed withdrawn, and the Owner shall consider the next low bidder. In the event of either withdrawal or disqualification under this subparagraph, bid security will not be forfeited, notwithstanding other provisions of the bidding documents.

E. Persons and entities proposed by the bidder and to whom the Owner and the Architect have made no reasonable objection must be used for the work for which they were proposed and shall not be changed except with the written consent of the Owner and the Architect.

1.15 PERFORMANCE AND PAYMENT BONDS

A. The successful bidder shall file with the Owner a performance and payment bond, in the full amount of the contract, including Washington State Sales Tax, on form(s) acceptable to the Owner, as security for faithful performance of the Contract and the payment of all persons supplying labor and materials for construction and to cover all guarantees against defective workmanship or materials, or both, as required by the Contract Documents. The surety furnishing these bonds shall have a sound financial standing and a record of service satisfactory to the Owner and shall be authorized to do business in the State of Washington.

B. All bonds required in this invitation or under the contract documents shall be issued by a state authorized bonding company, licensed to transact business in Yakima County and the State of Washington.

C. The attorney-in-fact (Resident Agent) who executes the bonds on behalf of the surety must attach a notarized copy of his power of attorney as evidence of his authority to bind the surety on the date of execution of the bonds.

D. Time of Delivery and Form of Bonds: The Bidder shall deliver the required bonds to the Owner within seven (7) days after the date of execution of the Contract and prior to commencing operations at the site.
1.16 MISCELLANEOUS PROVISIONS AND CONDITIONS

A. Taxes, Permits, Fees:
   1. Bid amounts, and the Contract sum, and any agreed variations thereof shall include all taxes imposed by law. Sales Tax shall be collected from the Owner and will be paid to the State by the Contractor in conformance with the law. Contractor shall furnish proof of payment of all taxes required by law.
   2. Bid amounts, and the Contract sum, shall include all fees for inspections required by public authorities including electrical permits, hook-up fees, temporary facility costs, fees and use charges, and licenses, except the building permit and plan check fees, which will be paid by the Owner.

B. Non-Discrimination:
   1. As a condition of submitting a bid for the project, bidders and sub bidders, as applicable, agree to comply fully with requirements for nondiscrimination and employment of minorities per the laws of the State of Washington and other applicable State and Federal laws.

END OF SECTION 002100
SECTION 003000 – AVAILABLE INFORMATION TO BIDDERS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes:
   1. Documents and other information available to the contractor providing additional information pertinent to this project.

1.2 DOCUMENTS INCLUDED IN THIS MANUAL

   1. Yakima County Department of Corrections Contractor Application.
   2. Yakima County Department of Corrections, “Policies and Procedures for Tool Control.”

1.3 Application of “Policies and Procedures for Tool Control”

   A. Tool controls outside the secured jail perimeter and within the external site, materials and tools shall be secured during non-work hours including breaks.

   B. Tool controls inside the secured jail perimeter and within the secured internal temporary contractor work areas which are accessed from the exterior of the building, materials and tools shall be secured during non-work hours including breaks, in lock boxes.

   C. Tool controls inside the secured jail perimeter and outside the secured internal temporary contractor work areas which are accessed from the exterior of the building, materials and tools control shall fully comply with Yakima County Department of Corrections, “Policies and Procedures for Tool Control”.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 003000
Contractor Application

(Every question must be answered fully or application may be denied.)

Name: ________________________________ Date: ______________________
(last name) (first name) (middle name)

SEX: ___________ DOB: ___________ Soc. Sec. #: ___________ Home Phone: ___________
(Date of Birth) (Social Security)

Home Address: ________________________________________________________________
(Street) (City) (State) (Zip Code)

Occupation: ________________ Employer: ________________ Business Phone: ________________

Business Address: ________________________________________________________________
(Street) (City) (State) (Zip Code)

Age: ________________ Height: ________________ Weight: ________________

What will you be working on within the facility? (example: replacing locks door in housing unit) ________________
________________________________________________________________________________

Have you ever been arrested? Yes/No If yes, please explain what for and where time was served? ________________
________________________________________________________________________________

Have you been arrested in the last year? Yes/No If yes, please explain what for and where time was served: ________________
________________________________________________________________________________

In what capacity will you serve? (example: foreman, lead worker etc.) ____________________________

Contractor’s Signature: _______________________________________________________________________
__________________________________________________________________________________________

Approved: ____________________________________________________________________________ Disapproved: _______________________________________________________________________

Date Started: ______________________ Date Terminated: ________________________

Reason for Termination: ____________________________________________________________________

Acknowledgment of Contractor Standings

Yakima County staff is aware of the need for contractors to assist in accomplishing important objectives. It is essential that contractors function in accordance with institutional rules. As a contractor at the Yakima County Department of Corrections, I acknowledge by my signature the following.

1. I recognize that while on institution grounds, I am subject to search for contraband.

2. Contraband is defined as any article not issued or purchased through official channels, or any article brought into the institution without proper authority. Examples of contraband include alcohol, opaque pens, drugs, weapons, explosives, cigarettes (lighters or matches), and sharp objects. To bring such items into the institution may result in criminal prosecution. Tools needed in the performance of contractor’s duties are exempt, BUT must, at all times, be accounted for.

3. State law makes it a gross misdemeanor to give any gifts to inmates, to receive any gifts from an inmate or to have barter or dealing with an inmate.

4. Messages to and from inmates must be sent by way of approved channels. Do not bring any messages intended for inmates nor take any letters or messages out of the institution from an inmate.

5. Individuals who show evidence of having imbibed in alcohol or drugs will not be admitted into the institution.

6. Everyone entering the institution shares responsibility for maintaining safety in the institution. You are to report, without delay, unusual behavior or any conditions that appear to be dangerous or potentially hazardous to inmates, volunteers, contractors, or staff.

7. ID badges must be securely fastened and kept on one’s person in clear view well above the waistline. Badges must never be left on a garment that has been taken off.

8. Avoid undue familiarity. Remember, strive to employ fairness, openness and consistency in your relationship with the inmates.

9. No smoking is allowed anywhere in the facility.

10. All tools brought into the facility must be approved by the Security Supervisor, and kept in a locked container (Job Box) when not being used.

11. Each contractor is responsible for his own possessions. Any loss will not be reimbursed.

I will abide by the rules indicated above.

Contractor’s Signature ________________________________ Date ____________

Contractor, please retain a copy of the rules for your reference.
Yakima County Dept. of Corrections  
Policies and Procedures

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<tr>
<th>Chapter:</th>
<th>6  Operations</th>
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<tbody>
<tr>
<td>Title:</td>
<td>Tool Control</td>
</tr>
<tr>
<td>Number:</td>
<td>6.49</td>
</tr>
<tr>
<td>Date Approved:</td>
<td>03/19/08</td>
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I. **Policy:**
   
   A. It is the policy of the Yakima County Department of Corrections that tools and tool carts shall be secured at all times when in the secured areas of all facilities, or in any areas where inmates traffic or where inmates are present.

   B. With regard to tools and other accessories being used within the YCDOC facilities, the Yakima County Facilities Services Department shall create a method for the documented monthly inventory of all tools kept or stored in/on tool carts.

II. **Authority/Background:** None

III. **Definitions:** None

IV. **Link to:** None

V. **Attachments:** None

VI. **Procedure:**

A. Types of Tools: Class #1: Non-Hazardous Tools and Class #2: Hazardous Tools

B. Tool control and security general orders:
   
   1. Normally, no inmate(s) will be issued tools or will have authorized possession of tools within a YCDOC facility.

   2. When service work is being conducted inside a housing unit, all inmates must either be removed from the unit or locked down in their individual cells.

   3. When work is being conducted in secured areas, but not inside of housing units, Corrections Officers shall keep inmates from the work site as long as tools are unsecured. Facilities Services personnel shall ensure that their tool carts are secured when/if inmates are present.

   4. Tool carts must remain locked:
      
      a) Whenever in the secured areas of the facilities or where inmates are present.

      b) Until inmates are removed from the housing units or locked down in their cells.

   5. Tools shall not be transported outside of the tool cart, but shall remain locked inside until used whenever practical.

   6. Facilities Service personnel and approved contractors are responsible for the control and custody of all tools being brought into and then out of the secured areas of the facilities. County departments arranging for contracted services are responsible to inform contractors of these requirements.

   7. When work has been completed in an area, Facilities Service personnel and/or contractors shall inspect and search the work site to ensure no tools, contraband or other items have been left behind and notify YCDOC staff when complete.
Yakima County Dept. of Corrections  
Policies and Procedures  

8. Once Facilities Service personnel or contractors have completed work, Corrections Officers shall inspect and search those locations where tools have been used, ensuring that no tools, contraband or other items have been left behind.

Adopted this date by the Director/Deputy Director:

<table>
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<tr>
<th>Effective Date</th>
<th>Director/Deputy Director</th>
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Operational Procedure  
Facilities Services Department  
Yakima County, Washington  

Title: Tool and Equipment Inventory and Control  

This procedure applies whenever employees of Yakima County Facilities Services are performing work in/on Yakima County Department of Corrections facilities for in-custody adult offenders.  

Accountability and Control  
Employees are responsible to maintain custody and control of tools, equipment and materials at all times.  

Employees are required to follow the most current revision of Department of Corrections (DOC) procedures when working in DOC facilities. Refer to DOC Policies and Procedure:  

Chapter 6 Operations  
Title: Tool Control  
Number 6.51  
Date Approved: 02-14-08  

Note: Contractors employed by Facilities Services (FS) are required to follow this procedure in areas pertaining to Accountability and Control.  

Inventory Control and Reporting  
It is the responsibility of individual employees working in DOC facilities to ensure with absolute certainty that all tools, equipment and materials are promptly removed from the work site at the completion of the project and at other times when not under complete control. When work is complete employees must use the utmost diligence when inspecting work areas to ensure with absolute certainty, and to avoid creating a dire health and safety risk, that no tools, equipment or materials have been inadvertently left or abandoned at the work site.  

If it is determined that tools equipment or materials have been left or abandoned, employees must immediately notify the DOC officer located at the nearest duty station and then immediately notify his/her supervisor; supervisors must immediately report this to their department manager.  

Inventory of tools will be maintained in accordance with DOC tool control procedures and Facilities Services procedures. A monthly tool cart inventory will be conducted with reporting to FS management.  

See FS Forms: Tool inventory Form, Tool Cart Inventory Log, Lost tool Form
SECTION 004100 FORM OF PROPOSAL

TO: Clerk of the Board of County Commissioners
   Yakima County
   Yakima County Courthouse, Room 232
   128 North Second Street, Yakima, WA 98901

FOR: YAKIMA COUNTY JAIL SECURE ELEVATOR REPLACEMENT,
     PROJECT No. PW10-004A.

BID OFFER

We have carefully examined and are fully familiar with all of the provisions of the Contract Documents
and addenda thereto, as well as the site conditions affecting the work.

We agree to perform all the Work and to provide all labor, material, supervision, management, tools and
equipment, incidental field design, goods and services and necessary incidentals to complete the Work in
accordance with the Contract Documents.

Undersigned shall perform such Work for the Costs indicated on this FORM OF PROPOSAL: BASE
BID PRICE FORM.

Costs include Overhead, Profit, Bonds and Insurance and other expenses required to complete Work,
including all local sales tax and Washington State Sales Tax (WSST) and other applicable taxes. Cost
shall include Basic wage rates based on L&I Intent to Pay Prevailing Wages or union agreement.

ACCEPTANCE

This offer shall be open to acceptance and is irrevocable for 30 days from Bid Date. If this Bid is
accepted by the Owner within the time stated above, we will execute the Agreement within 7 days of
receipt of Notice of Intent to Award. We will provide all other contract submittals such as Performance
Bond, Certificates of Insurance, Retained Percentage and Escrow Forms, Prevailing Wage Certificates
and Safety Submittals as required by Contract Documents.

THE OWNER MAY DECLINE TO ENTER INTO THE CONTRACT, WITHHOLD ITS “NOTICE TO
PROCEED,” AND / OR WITHHOLD PAYMENT TO THE CONTRACTOR UNTIL SURETY BOND
IS RECEIVED.
CONTRACT TIME

We will complete the contract within the time constraints established as follows: As stipulated in the Agreement. Agreement shall include 14 days of Float as defined below.

Float is defined as the difference between the earliest start date and the latest start date of activities on the Critical Path Method (CPM) construction schedule. Extensions of time for contract performance will be granted only to the extent that equitable time adjustments to affected activities exceed the total float time along the affected paths of the current CPM at the time of the Notice to Proceed was issued for the change. Should the Contractor submit CPM or change order schedules showing early completion of the project or affected activities, the Contractor is not entitled to claim the float between the early completion and the contract scheduled completion or the affected paths of the current CPM for any compensation purposes whatsoever, including, without limitation, the assertion of delay and damages.

The Owner shall have exclusive right to the Float Time. It shall be available to accommodate changes in the work and unforeseen conditions as the Owner sees fit.

We acknowledge that the liquidated damages established in the contract documents represents a reasonable estimate of the damages that the Owner will suffer if the project is not completed within the time constraints established in the contract. Liquidated damages shall be $2,500.00 per day after scheduled final completion.

ADDENDUM

The following Addenda have been received:

Addendum No. _____, Dated _________  Addendum No. _____, Dated _________
Addendum No. _____, Dated _________  Addendum No. _____, Dated _________

FORM OF PROPOSAL – LUMP SUM BASE BID

The following represents the Cost to perform the Base Bid Work described in the Yakima County Jail Facility Upgrade Contract Documents. Amounts shall be shown in both words and figures. In case of discrepancies, the amount shown in words shall govern. Failure to fill in all lines shall mean the bid is non-responsive.
TOTAL LUMP SUM BASE BID
The following represents the cost to perform the Base Bid Work defined in the Contract Documents.

Basic Bid: $__________
W.S.S.T. @ 8.2% $__________
Total Bid for Base Bid Work Including W.S.S.T.:

Words: _________________________________________________________
Figures: $________________________________________________________

BIDDER

Submitted on (date): __________________________________
Legal name of Bidder: __________________________________
Mailing address of Bidder: __________________________________

Telephone No: __________________________
Facsimile No: __________________________
WA state contractors license No: __________________________
License expiration date: __________________________
WA state Excise Tax Registration No: __________________________
Federal I.D. No: __________________________
Name of Person Authorized to sign: __________________________
Signature of Person Authorized to sign: __________________________
Title of Person Authorized to sign: __________________________

SUB-CONTRACTORS PER RCW 39.30.060

Mechanical Contractor: __________________________
Electrical Contractor: __________________________

END OF SECTION 004100
SECTION 005213a – SUPPLEMENTARY GENERAL CONDITIONS

Supplemental instructions to AIA107 Abbreviated Standard Form of Agreement Between Owner and contractor for Construction Projects of Limited Scope where the basis of payment is a STIPULATED SUM

Article 16 – INSURANCE

Add the following after Article 16.1:

16.1.1 PROJECT MANAGEMENT PROTECTIVE LIABILITY INSURANCE

16.1.2 INSURANCE REQUIREMENTS FOR CONTRACTORS: Contractor shall procure and maintain for the duration of the contract insurance against claims for injuries or damages to persons or property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or subcontractors. The cost of such insurance shall be included in the Contractor’s bid.

16.1.3 MINIMUM SCOPE OF INSURANCE
   A. Coverage shall be at least as broad as:
      1. Insurance Services Office form number GL0404 covering Broad Form Comprehensive General Liability; or Insurance Services Office Commercial General Liability coverage (“occurrence” form CG0025).
      2. Insurance Services Office form number CAS001 (Ed 178) covering Automobile Liability code 1 “any auto” and endorsement CA0025.
      3. Workers’ Compensation insurance as required by the State of Washington.

The Contractor’s insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer’s liability.

The Contractor shall cause the Owner, its officers, and employees to be named as additional insured in all policies called for herein. The Contractor shall provide the Owner with a copy of said additional insured endorsement and certified copy of the Contractor’s insurance policy or policies at the time of execution of a contract with the Owner. The procuring of such insurance shall not be construed to fulfill the indemnification provisions and requirements of this Contract.

16.1.4 MINIMUM LIMITS OF INSURANCE:
   A. Contractor shall maintain limits no less than:
      1. General Liability: $1,000,000 combined single limit per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.
      2. Automobile Liability: $1,000,000 combined single limit per occurrence for bodily injury and property damage.
      3. Worker’s Compensation; limits as required by the State of Washington.
16.1.5 DEDUCTIBLES AND SELF-INSURED RETENTIONS:
   A. Any deductibles or self-insured retentions must be declared to and approved by the Owner. At the option of the Owner, either: the insured shall reduce or eliminate such deductibles or self-insured retentions as respects the Owner, its officers, officials, employees and volunteers; or the Contractor shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

16.1.6 OTHER INSURANCE PROVISIONS:
   A. The general liability and automobile liability policies are to contain, or be endorsed to contain, the following provisions:
      1. The Owner, its officer, officials, and employees are to be covered as insured as respects: liability arising out of activities performed by or on behalf of the Contractor; products and completed operations of the Contractor; premises owned, occupied or used by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the Owner, its officers, officials, and employees.
   B. The Contractor’s insurance coverage shall be primary insurance as respects the Owner, its officers, officials, employees and volunteers. Any insurance or self-insurance maintained by the Owner, its officers, officials, employees and volunteers shall be in excess of the Contractor’s insurance and shall not contribute to it.
   C. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the owner, its officers, officials, employees or volunteers.
   D. The Contractor’s insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer’s liability.
   E. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits, except after 445 days prior written notice by certified mail, return receipt requested, has been given to the Owner.

16.1.7 ACCEPTABILITY OF INSURERS:
   A. Insurance is to be placed with insurers with a Best’s rating of no less than A:VII.

16.1.8 VERIFICATION OF COVERAGE:
   A. Contractor shall furnish the Owner with a copy of all insurance policies and endorsements as required and a worker’s compensation status letter affecting required coverage. The policy(ies), certificates and policy forms are to be signed by a person authorized by that insurer to bind coverage on its behalf. All policies, certificates, policy forms and letters are to be received and approved by the Owner before the contract will be signed by Owner.

16.1.9 SUBCONTRACTORS
   A. Contractor shall include all subcontractors as additional insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverage for subcontractors shall be subject to all the requirements stated herein.

END OF SECTION 005213A
SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Work by Owner.
4. Access to site.
5. Coordination with occupants.
6. Work restrictions.
7. Specification and drawing conventions.
8. Miscellaneous provisions.
10. Watertight and Weathertight.
11. Commissioning and Closeout.

B. Related Requirements:

1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.3 PROJECT INFORMATION

A. Project Identification: Yakima County Jail Secure Elevator Replacement – DLR Group Project Number 73-10126-00

1. Project Location: Yakima County Jail – 111 North Front Street, Yakima, WA 98901

B. Owner: Yakima County Public Service Department, 128 North Second Street, Yakima, WA 98901

1. Owner's Representative: Ron Rieker, Project Manager - 18 E. Lincoln, Yakima, WA 98901, (509) 574-2402
C. Architect: DLR Group  
   901 5th Avenue, Suite 700  
   Seattle, WA  98104  
   Contact: Bill Valdez  
   Phone: (206) 461-6000  
   Fax: (206) 461-6049

D. Architect's Consultants: The Architect has retained the following design professionals who have prepared designated portions of the Contract Documents:  
      19515 North Creek Parkway Suite 304  
      Bothell, WA  98011  
      Contact: Mike Mutal  
      Phone: (425) 205-2205

E. Project Web Site: A project Web site administered by the Contractor will be used for purposes of managing communication and documents during the construction stage.  
   1. See Division 01 Section "Project Management and Coordination" for Contractor's requirements for establishing, administering, and utilizing the Project Web site.

1.4 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of Project is defined by the Contract Documents and consists of the following:  
   1. All material, labor, tools, expendable equipment, utility and transportation services, and all incidental items necessary to perform and complete in a workmanlike manner, the Work required for the Combined Construction, including, General and Electrical Work.  
   2. Work under this contract is limited to the “Minimum Work Area Limits” identified on the plans. No work shall occur outside of these limits. Any damage to the grounds outside this area shall be fully restored to its natural conditions prior to project closeout, which may include, but not be limited to, grading, import of topsoil, and landscaping.  
   3. Work will be performed within a fully operational Correctional Facility and planning for such work environment shall be accommodated.  
   4. Phasing required overview.

B. Type of Contract:  
   1. Project will be constructed under a single prime contract.

1.5 PHASED CONSTRUCTION

A. The Work shall be conducted in 2 phases where one phase is completed for each elevator. One elevator must be operational for the facility at all times. Separation of inmate traffic from elevator to secure areas may not be impeded by work performed by the contractor.
B. Before commencing Work of each phase, submit an updated copy of Contractor's construction schedule showing the sequence, commencement and completion dates and move-out and -in dates of Owner's personnel for all phases of the Work.

1.6 WORK BY OWNER

A. General: Cooperate fully with Owner so work may be carried out smoothly, without interfering with or delaying work under this Contract or work by Owner. Coordinate the Work of this Contract with work performed by Owner.
   1. No work by owner.

B. Subsequent Work: Owner may perform additional work on site after Substantial Completion. Completion of that work will depend on successful completion of preparatory work under this Contract.

1.7 ACCESS TO SITE

A. General: Contractor shall have full use of the Work Area Limit of the Project site for each phase of construction. Contractor's use of Project site is limited only by Owner's right to perform work or to retain other contractors on portions of Project.

B. General: Contractor shall have limited use of portions of building for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.

C. Use of Site: Limit use of Project site to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
   1. Limits: Night time and/or weekend mobilization of construction is possible within either phase when a previously approved work plan has been submitted by contractor and approved by the County.
   2. Driveways, Walkways and Entrances: Keep driveways, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
      a. Schedule deliveries to minimize obstruction of driveways and entrances by construction operations.
      b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
      c. Coordinate deliveries and usage of site with ongoing construction of road closures expected on N. Front Street for construction of future underpass.

D. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.
1.8 COORDINATION WITH OCCUPANTS

A. Full Owner Occupancy: Owner will occupy site and existing and adjacent building(s) during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.

1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.
2. Notify Owner not less than 7 days in advance of activities that will affect Owner's operations.
3. The Contractor shall submit a work plan acknowledging the procedural requirements to maintain secure operations on the jail site and within the jail. This will entail adherence to the following essential security provisions as well as daily meetings and joint oversight of construction operations with designated County Jail security staff and Facilities Department staff.
   a. Daily Coordination Meetings with Jail Security Staff.
   b. Bi-Weekly Project Meeting with County and County’ project staff.
   c. Adherence to approved lay-down yard space and parking and delivery zones.
   d. Entry to Jail by approved routes only.
   e. Lifting equipment and lift schedule per prior approved County schedule and means.
   f. Secure construction of temporary security barriers
   g. Dust and odor protection/ enclosures and HVAC duct stops to not affect other operating building areas.

B. Contractor shall identify an on-site “Security Liaison Superintendent” who will meet daily with jail staff to coordinate work requirements and security arrangements.

C. Arrangements for and cost of jail personnel security details. The work that is performed inside the jail security perimeter, but such work that is not enclosed in the temporary secure contractor areas which are accessed from the exterior of the building may require full or part time observation by jail security personnel. The contractor need for such supervision must be identified to the designated jail security staff 48 hours in advance of performing the work. Arrangements are to be discussed as to scope of the work, location of the work, and supervision needs in the daily coordination meeting with the jail security staff. The cost of these jail staff security supervision details will be borne by Yakima County. The contractor is to present work plans which consolidate work into distinct areas and work cycles from start to completion so as not to create repetition and non-sequential activity which creates excessive jail staff supervision time.

D. Owner Limited Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed portions of the Work, prior to Substantial Completion of the Work, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and limited occupancy shall not constitute acceptance of the total Work.
1. Obtain a Certificate of Occupancy from authorities having jurisdiction before limited Owner occupancy.
2. Before limited Owner occupancy, electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of Work.
3. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of Work.

1.9 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.
   1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.

B. On-Site Work Hours: Limit work to normal business working hours of 6:00 a.m. to 6:00 p.m., Monday through Friday, and 6:00 a.m. to 6:00 p.m. weekends and holidays, except as otherwise indicated. Limit noise during court hours.
   1. Hours for Utility and Emergency Power System Shutdowns: To be coordinated with Owner not less than 48 hours in advance of activities.

C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
   1. Notify Owner not less than 48 hours in advance of proposed utility interruptions.
   2. Obtain Owner's written permission before proceeding with utility interruptions.

D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.
   1. Notify Owner not less than 48 hours in advance of proposed utility interruptions.
   2. Obtain Owner's written permission before proceeding with utility interruptions.

E. Nonsmoking Building: Smoking is not permitted within the building or within 25 feet of entrances, operable windows, or outdoor-air intakes.

F. Controlled Substances: Use of tobacco products and other controlled substances on Project site is not permitted.

G. Employee Identification: Owner will provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.

H. Employee Screening: Comply with existing jail security screening requirements for drug and background screening of Contractor personnel working on Project site. The time required for submittal and processing must be accommodated in the contractor’s work plan and fit within the phase time limits.
1. Maintain list of approved screened personnel with Owner's representative.

1.10 SPECIFICATION AND DRAWING CONVENTIONS

A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
3. Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.

B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:

1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
2. Abbreviations: Materials and products are identified by abbreviations. Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.

1.11 MISCELLANEOUS PROVISIONS

A. Stored Products

1. Assume full responsibility for the protection and safekeeping of products under this Contract, stored on and off the site.
2. Obtain and pay for the use of additional storage or work areas needed for operations.

B. Notify subcontractors to become familiar with requirements of Division 00, Division 01 and the work of Sections related to their own work. Instruct them that these conditions and requirements apply to their work in each Section of the technical specifications.
C. Contractors and Subcontractors submitting bids for this Project are required to thoroughly familiarize themselves with specified products and installation procedures. Submit any objections or substitution requests for the products and procedures specified in accordance with Product Requirements. Submittal of Bid constitutes acceptance of products and procedures specified.

D. Conflicts & Omissions in Contract Documents

1. Bring immediately to A/E’s attention any conflicts and omissions between the Drawings and Specifications and between the Drawings or specifications and actual site conditions. In the event of a conflict or discrepancy among or in the Contract Documents, interpretation shall be governed as indicated in the General Conditions.

2. Where conflicts and omissions have not been brought to A/E’s attention, it is understood that Contractor has figured the most costly method or methods.

E. It is the Contractor’s responsibility to verify all field measurements and conditions. No allowance will be made for any items incorrectly fabricated or installed due to failure to perform such verification prior to commencing the work.

1.12 PERMITS AND FEES

A. General

1. The Contractor shall obtain all permits, licenses and inspections as set forth in the General Conditions, and as necessary for the execution of the work, with the exception of the following permits which the Owner is procuring:
   a. General Building Permit from the City of Yakima

2. All fees paid by the Contractor shall be reimbursed by the Owner at direct cost without Contractor markups, except the building permit and plan check fees, which will be paid by the Owner.

3. The Contractor shall coordinate and schedule all work with respective permitting agencies and utility companies necessary for completion of the work.

4. Contractor shall be responsible for providing all information, documents, and fees to the permitting agencies and utility companies within 30 days after issuance of the Notice to Proceed as necessary to obtain and coordinate permits and utility connections.

1.13 WATERTIGHT – WEATHERTIGHT

A. Content of the Contract Documents notwithstanding, the Contractor accepts the responsibility of constructing a watertight, weathertight project.

B. Discovery of Fungi (Mold): In accordance with Subparagraph A of this article above, Contractor is responsible for providing labor, material, products, equipment and services to install insulation, air/vapor barrier, and ventilation systems that maintain effective control of air, moisture, and heat transfer within the building envelope.
1. Should Contractor proceed to install insulation, ceiling tiles, gypsum wallboard or similar products having paper, cardboard and other cellulose surfaces prior to the building’s being enclosed and weatherproof (including ambient conditions of temperature and humidity being continuously maintained at values near those indicated for final occupancy), the Contractor is at risk for mold contamination of the building components.

2. Ductwork sections shall be sealed in a clean condition until connections to other ductwork occurs as the work progresses.

3. During the course of construction of the Project, Contractor shall perform continuous visual inspection/verification of building components and ventilation systems (particularly for damp filters) for possible contamination by mold.

4. If the presence of mold is suspected, detected or found, visible water damage observed or musty odors detected, immediate remediation action shall be initiated by the Contractor. In all instances, any source(s) of water shall be stopped and the extent of water damage determined. Water-damaged materials shall be immediately removed and replaced with new materials at the Contractor’s expense. The Contractor shall provide an approved independent test report documenting the completed environmental status.

   a. Mold-damaged materials shall be remedied in accordance with Contractor’s Mold Remediation Plan.
   b. Contractor shall submit his Mold Remediation Plan, which outlines and describes in detail the procedures and policies to be followed for this Project.

1.14 COMMISSIONING AND CLOSEOUT

   A. General: The Contractor shall appoint a representative who will be responsible to coordinate, assist in the planning and participate in all closeout meetings and activities. The Contractor will operate all equipment, electrical, etc. to meet requirements at Contractor cost.
SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

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

1.2 SUMMARY
   A. Section includes administrative and procedural requirements for substitutions.
   B. Related Requirements:
      1. Section 016000 "Product Requirements" for requirements for submitting comparable
         product submittals for products by listed manufacturers.

1.3 DEFINITIONS
   A. Substitutions: Changes in products, materials, equipment, and methods of construction from
      those required by the Contract Documents and proposed by Contractor.
      1. Substitutions for Cause: Changes proposed by Contractor that are required due to
         changed Project conditions, such as unavailability of product, regulatory changes, or
         unavailability of required warranty terms.
      2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not
         required in order to meet other Project requirements but may offer advantage to
         Contractor or Owner.

1.4 ACTION SUBMITTALS
   A. Substitution Requests: Submit three copies of each request for consideration. Identify product
      or fabrication or installation method to be replaced. Include Specification Section number and
      title and Drawing numbers and titles.
      1. Substitution Request Form: Use CSI Form 13.1A
      2. Documentation: Show compliance with requirements for substitutions and the following,
         as applicable:
         a. Statement indicating why specified product or fabrication or installation cannot be
            provided, if applicable.
         b. Coordination information, including a list of changes or revisions needed to other
            parts of the Work and to construction performed by Owner and separate
            contractors, that will be necessary to accommodate proposed substitution.
         c. Detailed comparison of significant qualities of proposed substitution with those of
            the Work specified. Include annotated copy of applicable Specification Section.
Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.

d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.

e. Samples, where applicable or requested.

f. Certificates and qualification data, where applicable or requested.

g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.

h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.

i. Research reports evidencing compliance with building code in effect for Project, from ICC-2009.

j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.

k. Cost information, including a proposal of change, if any, in the Contract Sum.

l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.

m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor through Construction Manager of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.


b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.6 PROCEDURES

A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.
PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.

1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
   a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
   b. Requested substitution provides sustainable design characteristics that specified product provided.
   c. Substitution request is fully documented and properly submitted.
   d. Requested substitution will not adversely affect Contractor's construction schedule.
   e. Requested substitution has received necessary approvals of authorities having jurisdiction.
   f. Requested substitution is compatible with other portions of the Work.
   g. Requested substitution has been coordinated with other portions of the Work.
   h. Requested substitution provides specified warranty.
   i. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

B. Substitutions for Convenience: Not allowed.

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500
SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

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

1.2 SUMMARY
   A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
      1. General coordination procedures.
      2. Coordination drawings.
      3. Requests for Information (RFIs).
      4. Project Web site.
      5. Project meetings.
   B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.
   C. Related Requirements:
      1. Section 013200 "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
      2. Section 017300 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.

1.3 DEFINITIONS
   A. RFI: Request from Contractor seeking information from A/E during construction.

1.4 GENERAL COORDINATION PROCEDURES
   A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.
      1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
      2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.
4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.

B. Coordination: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with operations, included in different Sections that depend on each other for proper installation, connection, and operation.

   1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
   2. Coordinate installation of different components with other contractors to ensure maximum performance and accessibility for required maintenance, service, and repair.
   3. Make adequate provisions to accommodate items scheduled for later installation.

C. Coordination: Coordinate construction activities included under various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections of the Specifications that are dependent upon each other for proper installation, connection, and operation.

   1. Where installation of one part of the Work is dependent on installation of other components, either before or after its own installation, schedule construction activities in the sequence required to obtain the best results.
   2. Where availability of space is limited, coordinate installation of different components to assure maximum accessibility for required maintenance, service and repair.
   3. Make adequate provisions to accommodate items scheduled for later installation.

D. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

   1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

E. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

   1. Preparation of Contractor's construction schedule.
   2. Preparation of the schedule of values.
   3. Installation and removal of temporary facilities and controls.
   4. Delivery and processing of submittals.
   5. Progress meetings.
   6. Preinstallation conferences.
   7. Project closeout activities.
   8. Startup and adjustment of systems.
   9. Project closeout activities.
F. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

1.5 COORDINATION DRAWINGS

A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.

1. The General Contractor and/or subcontractors shall prepare and submit coordination drawings in a format that complies with Section 013300 – Submittals.

2. Note that Contract Drawings shall not be considered as fabrication or installation drawings. In some cases they only indicate intent; they may be diagrammatic, and they may show only typical conditions; they do not indicate every item required to complete the Work.

3. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:

   a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.

   b. Coordinate the addition of trade-specific information to the coordination drawings by multiple contractors in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.

   c. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.

   d. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.

   e. Show location and size of access doors required for access to concealed dampers, valves, and other controls.

   f. Indicate required installation sequences.

   g. Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
B. Coordination Drawing Organization: Organize coordination drawings as follows:

1. Floor Plans: Show architectural and structural elements, and mechanical, plumbing, fire-protection, fire-alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.

2. Mechanical Rooms: Provide coordination drawings for mechanical rooms showing plans and elevations of mechanical, plumbing, fire-protection, fire-alarm, and electrical equipment.

3. Mechanical and Plumbing Work: Show the following:
   a. Sizes and bottom elevations of ductwork, piping, and conduit runs, including insulation, bracing, flanges, and support systems.
   b. Dimensions of major components, such as dampers, valves, diffusers, access doors, cleanouts and electrical distribution equipment.
   c. Fire-rated enclosures around ductwork.

4. Electrical Work: Show the following:
   a. Runs of vertical and horizontal conduit 1-1/4 inches (32 mm) in diameter and larger.
   b. Light fixture, exit light, emergency battery pack, smoke detector, and other fire-alarm locations.
   c. Panel board, switch board, switchgear, transformer, busway, generator, and motor control center locations.
   d. Location of pull boxes and junction boxes, dimensioned from column center lines.

5. Fire-Protection System: Show the following:
   a. Locations of standpipes, mains piping, branch lines, pipe drops, and sprinkler heads.

6. Review: Architect will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility. If Architect determines that coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, Architect will so inform Contractor, who shall make changes as directed and resubmit.

7. Coordination Drawing Prints: Prepare coordination drawing prints in accordance with requirements of Division 01 Section "Submittal Procedures."
   a. Sheet Size: At least 8-1/2 by 11 inches but no larger than 30 by 42 inches.
   b. Number of Copies: Submit one digital copy of each submittal. Architect will return to the General Contractor, who will provide additional copies to the subcontractors and Owner as required.
      1) Submit one copy where Coordination Drawings are required for operation and maintenance manuals. Architect will return 1 copy. General contractor will provide additional copies for the number of required copies of operation and maintenance manuals.
8. Refer to individual Sections for Coordination Drawing requirements for Work in those Sections.

C. Coordination Digital Data Files: Prepare coordination digital data files according to the following requirements:
   1. File Preparation Format: Same digital data software program, version, and operating system as original Drawings.
   2. File Submittal Format: Submit or post coordination drawing files using Portable Data File (PDF) format.
   3. Architect will furnish Contractor digital data files of the Drawings for use in preparing coordination digital data files in accordance with requirements of Division 01 Section "Electronic Drawings".
      a. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to the Drawings.

1.6 KEY PERSONNEL

A. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and email addresses. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

   1. Post copies of list in project meeting room, in temporary field office, on Project Web site, and by each temporary telephone. Keep list current at all times.

B. Administrative and Supervisory Personnel: Provide administrative and supervisory personnel as required for proper performance of the Work. At minimum, the Contractor shall have on site:

   1. Project Manager – Part time.
   2. Project Site Superintendent – Full time.

1.7 REQUESTS FOR INFORMATION (RFIs)

A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.

   1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
   2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
1. Project name.
2. Project number.
3. Date.
4. Name of Contractor.
5. Name of Architect
6. RFI number, numbered sequentially.
7. RFI subject.
8. Specification Section number and title and related paragraphs, as appropriate.
9. Drawing number and detail references, as appropriate.
10. Field dimensions and conditions, as appropriate.
11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
12. Contractor's signature.
13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
   a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.

C. RFI Forms: Software-generated form with substantially the same content as indicated above, acceptable to Architect.
   1. Attachments shall be electronic files in Adobe Acrobat PDF format.

D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
   1. The following Contractor-generated RFIs will be returned without action:
      a. Requests for approval of submittals.
      b. Requests for approval of substitutions.
      c. Requests for approval of Contractor's means and methods.
      d. Requests for coordination information already indicated in the Contract Documents.
      e. Requests for adjustments in the Contract Time or the Contract Sum.
      f. Requests for interpretation of Architect's actions on submittals.
      g. Incomplete RFIs or inaccurately prepared RFIs.
   2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
   3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 012600 "Contract Modification Procedures."
      a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 days of receipt of the RFI response.
E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log monthly. Use software log that is part of Project Web site. Software log with not less than the following:

1. Project name.
2. Name and address of Contractor.
3. Name and address of Architect.
4. RFI number including RFIs that were dropped and not submitted.
5. RFI description.
6. Date the RFI was submitted.
7. Date Architect's response was received.
8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.

1.8 PROJECT WEB SITE

A. Provide, administer, and use Project Web site for purposes of hosting and managing project communication and documentation until Final Completion. Project Web site shall include the following functions:

1. Project directory.
2. Project correspondence.
3. Meeting minutes.
5. RFI forms and logs.
6. Task and issue management.
7. Photo documentation.
8. Schedule and calendar management.
10. Payment application forms.
11. Drawing and specification document hosting, viewing, and updating.
13. Reminder and tracking functions.

B. Provide up to seven Project Web site user licenses for use of the Owner, Owner's Commissioning Authority, Architect, and Architect's consultants. Provide software training either on-line or at Architect's office for Project Web site users.

C. Upon completion of Project, provide one complete archive copy of Project Web site files to Owner and to Architect in a digital storage format acceptable to the Architect.

D. Project Web site software packages that may be used include, but are not limited to the following:

1. Autodesk, Buzzsaw.
2. Autodesk, Constructware.

E. Contractor, subcontractors, and other parties granted access by the Contractor to project Web site shall execute a data licensing agreement in the form of an Agreement acceptable to the Owner and Architect.

1.9 PROJECT MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.

2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.

3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three days of the meeting.

B. Preconstruction Conference: Schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, as stipulated in the General and Supplementary Conditions, but no later than 15 days after execution of the Agreement.

1. Hold the conference at Project Site or another convenient location.

2. Conduct the conference to review responsibilities and personnel assignments.

3. Attendees: Authorized representatives of Owner, Owner's Commissioning Authority, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.

4. Agenda: Discuss items of significance that could affect progress, including the following:

   a. Tentative construction schedule.
   b. Phasing.
   c. Critical work sequencing and long-lead items.
   d. Designation of key personnel and their duties.
   e. Communication procedures and points of contact.
   f. Procedures for processing field decisions and Changes in the Work as defined in Division 01 Section “Contract Modification Procedures” including but not limited to ASI’s, PR’s, COP’s, CCD’s, FA’s and Change Orders.
   g. Procedures for RFI’s.
   h. Procedures for testing and inspecting.
   i. Procedures for processing Applications for Payment.
   j. Distribution of the Contract Documents.
   k. Submittal procedures.
   l. Preparation of record documents.
   m. Use of the premises.
   n. Work restrictions (Including due to noise and facility operations).
   o. Working hours.
p. Owner's occupancy requirements.
q. Responsibility for temporary facilities and controls.
r. Procedures for moisture and mold control.
s. Procedures for utility disruptions and shutdowns.
t. Construction waste management and recycling.
u. Parking availability.
v. Office, work, and storage areas.
w. Equipment deliveries and priorities.
x. Safety and First aid.
y. Security.
z. Progress cleaning.
aa. Permits
bb. Discussion of regular meeting days and time and site visit schedule.

5. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
   a. Record, produce, and distribute copies of the minutes to the Owner and General Contractor within seven (7) days of the meeting.
   b. The General Contractor shall be responsible to distribute copies to all other Contractor attendees.

C. Subcontractor Mobilization Meetings: Conduct a coordination meeting with each subcontractor prior to their mobilization on site.
   1. Agenda: Same as for Preconstruction conference.
   2. Minutes: Record meeting minutes and distribute to the Owner’s team.

D. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.
   1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect, and Owner's Commissioning Authority, of scheduled meeting dates.
   2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
      b. Options.
      c. Related RFIs.
      d. Related Change Orders.
      e. Purchases.
      f. Deliveries.
      g. Submittals.
      h. Review of mockups.
      i. Possible conflicts.
      j. Compatibility problems.
      k. Time schedules.
      l. Weather limitations.
      m. Manufacturer's written recommendations.
n. Warranty requirements.

o. Compatibility of materials.

p. Acceptability of substrates.

q. Temporary facilities and controls.

r. Space and access limitations.

s. Regulations of authorities having jurisdiction.

t. Testing and inspecting requirements.

u. Installation procedures.

v. Coordination with other work.

w. Required performance results.

x. Protection of adjacent work.

y. Protection of construction and personnel.

z. Commissioning scope, tasks, schedule, deliverables and implementation of the commissioning plan.

3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.

4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.

5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

6. Inform Architect and Owner if any discussion of coordination items at the pre-installation meeting is in conflict with the Contract Documents. It is assumed, without this notice that the Work, after discussion of the items at the meeting, will be in accordance with the Contract Documents.

E. Project Closeout Conference: Schedule and conduct a Project closeout conference, at a time convenient to Owner and Architect, but no later than 90 days prior to the scheduled date of Substantial Completion.

1. Conduct the conference to review requirements and responsibilities related to Project closeout.

2. Attendees: Authorized representatives of Owner, Owner's Commissioning Authority, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.

3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:

   a. Preparation of record documents.

   b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.

   c. Submittal of written warranties.

   d. Requirements for preparing sustainable design documentation.

   e. Requirements for preparing operations and maintenance data.

   f. Requirements for demonstration and training.

   g. Preparation of Contractor's punch list.

   h. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
i. Submittal procedures.

j. Coordination of separate contracts.

k. Owner's partial occupancy requirements.

l. Installation of Owner's furniture, fixtures, and equipment.

m. Responsibility for removing temporary facilities and controls.

4. Minutes: Entity conducting meeting will record and distribute meeting minutes.

   a. Record, produce, and distribute copies of the minutes to the Architect, Owner, and all other Attendees and those parties who should have been present but were not in attendance.

   b. Distribute within seven (7) days of the meeting.

F. Progress Meetings: Conduct progress meetings at intervals as agreed by Owner.

   1. Coordinate dates of meetings with preparation of payment requests.

   2. Attendees: In addition to representatives of Owner, Owner's Commissioning Authority and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.

   3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

      a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

         1) Review schedule for next period.

         2) Review should include critical path updates as well as a regular three-week look ahead short term schedule.

      b. Review current Submittal Schedule: Updated as necessary for each meeting.

      c. Review Project Record Documents: Current and updated for each meeting.

      d. Review present and future needs of each entity present, including the following:

         1) Interface requirements.

         2) Sequence of operations.

         3) Status of submittals.

         4) Deliveries.

         5) Off-site fabrication.

         6) Access.

         7) Site utilization.

         8) Temporary facilities and controls.

         9) Work hours.

         10) Hazards and risks.

         11) Progress cleaning.
12) Quality and work standards.
13) Status of correction of deficient items.
14) Field observations.
15) Status of RFI's.
16) Status of proposal requests.
17) Pending changes.
18) Status of Change Orders.
19) Pending claims and disputes.
20) Documentation of information for payment requests and dates of review for pay request/pay application, and review and approval of Owner of pay applications.
21) On site owner issues and community issues.
22) Commissioning coordination when applicable.

4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.

a. Record, produce, and distribute copies of the minutes to the Architect, Owner, and all other Attendees and those parties who should have been present but were not in attendance.

b. Distribute within three (3) working days of the meeting.

c. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

G. Coordination Meetings: Conduct Project coordination meetings at regular intervals but not less than biweekly intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.

1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meetings shall be familiar with Project and authorized to conclude matters relating to the Work.

2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to combined Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

b. Schedule Updating: Revise combined Contractor's construction schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.

c. Review present and future needs of each contractor present, including the following:
1) Interface requirements.
2) Sequence of operations.
3) Status of submittals.
4) Deliveries.
5) Off-site fabrication.
6) Access.
7) Site utilization.
8) Temporary facilities and controls.
9) Work hours.
10) Hazards and risks.
11) Progress cleaning.
12) Quality and work standards.
13) Change Orders.
14) Commissioning.

3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.
   a. Include action items and date assignments for outstanding items that are critical to maintaining the schedule.

H. Subcontractor Meetings: Conduct weekly subcontractor meetings.
   1. Attendees: Contractor’s on site management team plus all subcontractors currently engaged in work activities on the site.
   2. Agenda: Same as for Progress meetings.
   3. Minutes: Contractor shall record and distribute minutes to attendees and the Owner’s team.

I. Risk Assessment Meetings: The Contractor shall participate with the Owner, A/E and the Owner’s Project Manager in executive level risk assessment meetings on a monthly basis to identify potential risks to schedule, cost and scope. Joint reports will be generated each month. These are separate from the weekly Owner / Architect / Contractor meetings. The responsibility of the Contractor will be to participate in the meeting, provide supporting documentation for potential risks to be discussed, and follow up documentation as may be necessary for the monthly report.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100
SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

1. Preliminary construction schedule.
2. Contractor's construction schedule.

B. Related Sections:

1. Division 01 Section “Payment Procedures” for submitting the Schedule of Values.
2. Divisions 01 Section “Project Management and Coordination” for submitting and distributing meeting and conference minutes.
3. Division 01 Section "Submittal Procedures" for submitting schedules and reports.
4. Division 01 Section "Quality Requirements" for submitting a schedule of tests and inspections.

1.3 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.

1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
2. Predecessor Activity: An activity that precedes another activity in the network.
3. Successor Activity: An activity that follows another activity in the network.

B. Cost Loading: The allocation of the schedule of values for the completion of an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum, unless otherwise approved by Architect.

C. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.

D. Event: The starting or ending point of an activity.
Float: Float in the schedule is identified as the number of unassigned days with unassigned tasks in the critical path schedule.

1. The aggregate float to be provided in the critical path schedule is 14 days of unassigned days in the “critical path” chain of activities.
2. The aggregate float is owned by the Owner.
3. The Contractor may apply for use of portions of the aggregate float and, if approved, that portion will be assigned to the Contractor by a change order at no cost to the Owner.
4. Applications for the portions of the float time shall be based upon legitimate, specific delays in the conduct of the work.
5. Extensions of time for contract performance will be granted only to the extent that equitable time adjustments to affected activities exceed the total float time along the affected paths of the current CPM at the time of the Notice to Proceed was issued for the change.
6. Should the Contractor submit CPM or change order schedules showing early completion of the project or affected activities, the Contractor is not entitled to claim the float between the early completion and the contract scheduled completion or the affected paths of the current CPM for any compensation purposes, including, without limitation, the assertion of delay and damages.

Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

1.4 SUBMITTALS

A. Format for Submittals: Submit required submittals in the following format:
   1. PDF electronic file.

B. Preliminary construction schedule.
   1. Approval of cost-loaded start-up construction schedule will not constitute approval of schedule of values for cost-loaded activities.

C. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
   1. Submit a working electronic copy of schedule, using software indicated, and labeled to comply with requirements for submittals. Include type of schedule (initial or updated) and date on label.

D. Submittals Schedule: For coordination drawings and shop drawings.
   1. Arrange the following information in a tabular format:
      a. Scheduled date for first submittal.
      b. Specification Section number and title.
      c. Submittal category.
      d. Name of subcontractor or supplier.
      e. Description of the Work covered.
f. Requested date for Architect’s final release or approval.

1.5 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.

B. Coordinate Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from entities involved.
2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Time Frame: Extend schedule from date established for commencement of the Work to date of final completion.

1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

B. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:

1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
3. Submittal Review Time: Include review and resubmittal times indicated in Division 01 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
4. Startup and Testing Time: Include not less than 15 days for startup and testing.
5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
6. Punch List and Final Completion: Include not more than 15 days for punch list and final completion.

C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
1. Phasing: Arrange list of activities on schedule by phase.
2. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
3. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Division 01 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
4. Owner-Furnished Products: Include a separate activity for each product or group of products. Include delivery dates required or obtained from the Owner. Delivery dates indicated stipulate the earliest possible delivery date.
5. Work Restrictions: Show the effect of the following items on the schedule:
   a. Coordination with existing construction.
   b. Limitations of continued occupancies.
   c. Uninterruptible services.
   d. Use of premises restrictions.
   e. Provisions for future construction.
   f. Seasonal weather variations as documented by approved regional weather data.
   g. Environmental control.
6. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
   a. Subcontract awards.
   b. Submittals.
   c. Purchases.
   d. Mockups.
   e. Fabrication.
   f. Sample testing.
   g. Deliveries.
   h. Installation.
   i. Tests and inspections.
   j. Adjusting.
   k. Curing.
   l. Startup and placement into final use and operation.
7. Construction Areas: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
   a. Structural completion.
   b. Permanent space enclosure.
   c. Completion of electrical installation.
   d. Completion of security electronics and detention installation.
   e. Substantial Completion.

D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion.

E. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working
hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.

F. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.

2.2 PRELIMINARY CONSTRUCTION SCHEDULE

A. Bar-Chart Schedule: Submit start-up horizontal bar-chart-type construction schedule within fourteen (14) days of date established for commencement of the Work.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for 90 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's construction schedule within 30 days of date established for commencement of the Work. Base schedule on the start-up construction schedule and additional information received since the start of Project.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

1. Save Schedule with a Baseline.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before the regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.

2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.

3. As the Work progresses, indicate final completion percentage for each activity.

4. Each monthly schedule update shall bear the signature of the Contractor and each subcontractor affected by that month’s activities indicating they agree to the schedule update.
B. Distribution: Distribute copies of approved schedule to Architect Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

1. Post copies in Project meeting rooms and temporary field offices.
2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

C. Short Interval Schedule: Throughout the progress of the Work, the Contractor shall prepare and maintain a three-week bar chart field schedule reflecting the Construction Schedule of Work activities accomplished for current week and the Work scheduled for the upcoming two weeks. This field schedule shall be updated weekly. Three week schedule shall not have non-actual dates that are prior to the status date and shall accurately reflect work that is expected to be accomplished on the dates noted. The Contractor and affected subcontractors shall sign the Short Interval Schedule indicating they agree with the scheduled activities.

END OF SECTION 013200
SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

B. Related Sections:

1. Division 01 Section “Project Management and Coordination” for submitting and distributing meeting and conference minutes and for submitting Coordination Drawings.
2. Division 01 Section “Construction Progress Documentation” for submitting schedules and reports, including Contractor's construction schedule.
3. Division 01 “Closeout Procedures” for submitting warranties.
4. Division 01 Section "Operation and Maintenance Data" for submitting operation and maintenance manuals.
5. Division 01 Section "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
6. Divisions 14 Section “Machine Roomless (MRL) Elevators” for specific requirements for submittals in those sections.

1.3 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as action submittals.

B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as informational submittals.

C. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.

1.4 SUBMITTAL SCHEDULE

A. The Contractor will prepare a complete Schedule of Submittals. Submit the schedule within 30 days after written Notice to proceed, and incorporated into the master CPM.

B. Coordinate submittal schedule with the list of subcontracts, Schedule of Values, and the list of products as well as the Construction Schedule.

C. Prepare the Submittal Schedule in chronological order. Provide the following information:
   1. Scheduled date for the first submittal.
   2. Related Section number.
   3. Submittal category.
   4. Name of subcontractor.
   5. Description of the part of the Work covered.
   6. Scheduled date for re-submittal (as necessary).
   7. Scheduled date the Architect’s final release or approval.

D. Distribution: Following response to initial submittal, the Contractor shall print and distribute copies to the Owner, A/E and subcontractors and other parties required to comply with submittal dates indicated. Post copy in the Contractor’s field office.

E. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.

F. Schedule Updating: Revise the schedule after each meeting or activity, where revisions have been recognized or made. Issue the updated schedule concurrently with report of each meeting.

1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. Architect's Digital Data Files: Electronic copies of CAD Drawings of the Contract Drawings can be provided by Architect for Contractor's use in preparing submittals.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
   1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
   2. Submittals required by separate Specification Sections are to be submitted as separate packages under separate transmittals.
   3. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Resubmittal Review: Allow 15 days for review of each resubmittal.
4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.
5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 15 days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.

D. Identification and Information: Place a permanent label or title block on each paper copy submittal item for identification.

1. Indicate name of firm or entity that prepared each submittal on label or title block.
2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
3. Include the following information for processing and recording action taken:

   a. Project name.
   b. Date.
   c. Name of Architect.
   d. Name of Contractor.
   e. Name of subcontractor.
   f. Name of supplier.
   g. Name of manufacturer.
   h. Submittal number or other unique identifier, including revision identifier.

1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).

i. Number and title of appropriate Specification Section.
j. Drawing number and detail references, as appropriate.
k. Location(s) where product is to be installed, as appropriate.
l. Other necessary identification.

E. Identification and Information: Identify and incorporate information in each electronic submittal file as follows:
1. Assemble complete submittal package into a single indexed file with links enabling navigation to each item.
2. Name file with submittal number or other unique identifier, including revision identifier.
   a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., YAKIMA-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., YAKIMA-061000.01.A).
3. Provide means (e.g., a blank sheet immediately following the submittal cover sheet) for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
4. Include the following information on an inserted cover sheet:
   a. Project name.
   b. Date.
   c. Name and address of Architect.
   d. Name of Contractor.
   e. Name of subcontractor.
   f. Name of supplier.
   g. Name of manufacturer.
   h. Number and title of appropriate Specification Section.
   i. Drawing number and detail references, as appropriate.
   j. Location(s) where product is to be installed, as appropriate.
   k. Related physical samples submitted directly.
   l. Other necessary identification.

F. Options: Identify options requiring selection by the Architect.

G. Deviations: Identify deviations from the Contract Documents on submittals.

H. Additional Paper Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.

1. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Architect.

I. Transmittal: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return submittals, without review, received from sources other than Contractor.

2. Transmittal shall cover only one specification section.
   a. Transmittals that combine submittal items from more than one specification section will be returned without review.

1. Transmittal number or other unique identifier, including revision identifier.
a. Transmittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).

J. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.
2. Note date and content of revision in label or title block and clearly indicate extent of revision.
3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.

K. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

L. Use for Construction: Use only final submittals that are marked with approval notation from Architect's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

1. Post electronic submittals as PDF electronic files directly to Project Web site specifically established for Project.
   a. If Project Web site is not used for submittals, submit electronic submittals via e-mail.

2. Action Submittals: Submit three paper copies of each submittal, unless otherwise indicated. Architect will return two copies.

3. Informational Submittals: Submit two paper copies of each submittal, unless otherwise indicated. Architect will not return copies.

4. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Division 01 Section "Closeout Procedures."

5. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
   a. Provide a digital signature with digital certificate on electronically-submitted certificates and certifications where indicated.
b. Provide a notarized statement on original paper copy certificates and certifications where indicated.

6. Test and Inspection Reports Submittals: Comply with requirements specified in Division 01 Section "Quality Requirements."

7. The Commissioning Authority will require copies of standard equipment submittals and may request additional documentation necessary for the commissioning process. The Contractor will be provided with a written request for specific equipment or system information.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:
   a. Manufacturer's catalog cuts.
   b. Manufacturer's product specifications.
   c. Standard color charts.
   d. Statement of compliance with specified referenced standards.
   e. Testing by recognized testing agency.
   f. Application of testing agency labels and seals.
   g. Notation of coordination requirements.
   h. Availability and delivery time information.

4. For equipment, include the following in addition to the above, as applicable:
   a. Wiring diagrams showing factory-installed wiring.
   b. Printed performance curves.
   c. Operational range diagrams.
   d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

5. Submit Product Data before or concurrent with Samples.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal based upon Architect's digital data drawing files is otherwise permitted.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
   a. Identification of products.
   b. Schedules.
   c. Compliance with specified standards.
   d. Notation of coordination requirements.
   e. Notation of dimensions established by field measurement.
   f. Relationship and attachment to adjoining construction clearly indicated.
g. Seal and signature of professional engineer if specified.

2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 42 inches.

3. Submit Shop Drawings in one of the following formats:
   a. PDF electronic file.
   b. Three opaque copies of each submittal. Architect will retain one copy; remainder will be returned.

D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.

2. Identification: Attach label on unexposed side of Samples that includes the following:
   a. Generic description of Sample.
   b. Product name and name of manufacturer.
   c. Sample source.
   d. Number and title of applicable Specification Section.

3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
   a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
   b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
   a. Number of Samples: Submit three full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
      1) Architect will retain one copy of the selected samples.

5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
a. Number of Samples: Submit three sets of Samples. Architect will retain one Sample sets; remainder will be returned.
   1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
   2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
   1. Type of product. Include unique identifier for each product.
   2. Manufacturer and product name, and model number if applicable.
   3. Number and name of room or space.
   4. Location within room or space.
   5. Submit product schedule in one of the following formats:
      a. PDF electronic file.
      b. Three paper copies of product schedule or list, unless otherwise indicated. Architect will return two copies.

F. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation."

G. Application for Payment: Comply with requirements specified in Division 01 Section "Payment Procedures."

H. Schedule of Values: Comply with requirements specified in Division 01 Section "Payment Procedures."

I. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
   1. Name, address, and telephone number of entity performing subcontract or supplying products.
   2. Number and title of related Specification Section(s) covered by subcontract.
   3. Drawing number and detail references, as appropriate, covered by subcontract.
   4. Submit subcontract list in one of the following formats:
      a. PDF electronic file.
      b. Number of Copies: Three paper copies of subcontractor list, unless otherwise indicated. Architect will return two copies.

J. Coordination Drawings: Comply with requirements specified in Division 01 Section "Project Management and Coordination."
K. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.


M. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

N. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

O. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

P. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

Q. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

R. Product Test Reports: Submit written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

S. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:

1. Name of evaluation organization.
2. Date of evaluation.
3. Time period when report is in effect.
4. Product and manufacturers' names.
5. Description of product.
6. Test procedures and results.
7. Limitations of use.

T. Schedule of Tests and Inspections: Comply with requirements specified in Division 01 Section "Quality Requirements."

U. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
V. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

W. Field Test Reports: Submit reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

X. Maintenance Data: Comply with requirements specified in Division 01 Section "Operation and Maintenance Data.”

Y. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.2 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally-signed PDF electronic file or three paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR’S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. Project Closeout and Maintenance/Material Submittals: Refer to requirements in Division 01 Section "Closeout Procedures."
C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT’S ACTION

A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action, as follows:

1. Reviewed: Where submittals are marked "Reviewed," that part of the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents; final acceptance will depend upon that compliance.
2. Reviewed – Additional Information Required: Where submittals are marked "Reviewed - Additional Information Required," the information submitted has been reviewed and approved as noted. However, additional information as noted and/or required by Contract Documents needs to be submitted.
3. Furnish As Corrected: When submittals are marked "Furnish As Corrected," that part of the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents; final acceptance will depend on that compliance.
4. Revise and Resubmit: When submittal is marked "Revise and Resubmit," do not proceed with that part of the Work covered by the submittal, including purchasing, fabrication, delivery of other activity. Revise or prepare a new submittal in accordance with the notations; resubmit without delay. Repeat if necessary to obtain a different action mark.
   a. Do not permit submittals marked "Revise and Resubmit" to be used at the Project site, or elsewhere where Work is in progress.
5. Rejected: When submittal is marked "Rejected," information submitted is not in compliance with Contract Documents. Resubmit submittal as required by Contract Documents.

C. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.

D. Incomplete submittals are not acceptable, will be considered nonresponsive, and will be returned without review.

E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 013300
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

B. Provide materials, labor, equipment and services necessary to furnish, deliver and install a completely functional integrated system.

C. All equipment and work shall comply with all applicable codes.

1.2 SUBMITTALS

A. General: Submittals shall be made in accordance with Conditions of Contract and Division 1 Sections.

B. Product Data: Mark each copy to show applicable choices and options where printed product data includes information on several products, some of which are not required, mark copies to indicate the applicable information.

C. Shop Drawings: Highlight, encircle, or otherwise indicate deviations from the Contract Documents.

D. Coordination Drawings: Prepare and submit Project-specific Coordination Drawings, drawn accurately to scale, for installation of detention work. Include the following information, as applicable:
   1. Show relationship of components shown on separate Shop Drawings.
   2. Show dimensions and clearances of interrelated detention work.
   4. Indicate required operation sequences of interrelated detention work.
   5. Indicate required installation sequences.

E. The submittal shall reflect the equipment and material as they are defined by the project plans and specifications, contract and signed/documente d clarifications, substitutions and changes to the above documents by the Architect.

F. The submittal documents shall be updated throughout the project construction. These documents shall be included with the operation and maintenance manuals to provide accurate as-built documentation of all installed equipment and material.

G. Other Informational Submittals:
   1. Examination reports documenting inspections of substrates, areas, and conditions.

H. Submittals not organized as specified shall be considered incomplete and will be rejected.
1.3 OPERATING/MAINTENANCE MANUALS

A. Contractor shall furnish three (3) copies of Operation and Maintenance Manuals for all items furnished under this specification. These manuals shall include:
   1. Instructions for the care and operation of the materials.
   2. Parts list with exploded views of material with moving parts to aid the Owner with ordering replacement parts.
   3. Telephone, Fax, Address, website and instructions for contacting the appropriate personnel during the warranty period as well as for service.
   4. Refer to division 1 specification for additional requirements.

B. Operation and Maintenance Manual shall include information for every mechanical item with moving parts and every electrical item submitted in the approved hardware schedule. This is to include all material in the related submittal.

C. Submittals shall be “AS BUILT” documents and shall include all changes from all approved submittal documents clearly noted on each sheet. The document type and the document number that initiated the final change shall be clearly noted on these As-Buils. This submittal shall also include the final approved key schedule including all changes and revisions for the facility.

D. The owner has the right to request an interactive Operation Manual in place of the printed hard copy manuals described above. The interactive manual will utilize the files described above as a basis for an interactive document utilizing a web browser. All manuals, files, and data sheets would be published in a format compatible with Internet Browsers equal to Microsoft Internet Explorer. Hyperlinks would link each item in a master table of contents to individual manuals, shop drawings, and files.

E. Submittals not organized as specified shall be considered incomplete and will be rejected.

1.4 SUBSTITUTIONS

A. No substitutions of equipment or material will be permitted where specific trade names or a manufacturer is listed, unless the architect adds them by an addendum.

B. Materials and products specified by name of manufacturer or brand trade name shall be the basis of the bids received unless changed by addendum prior to the bid dates.

C. In the event a contractor wishes to use any materials or products other than those specified he shall make a written request to the Architect, naming the proposed substitution.

D. All additional costs resulting from the use of an approved substitution shall be borne by the contractor without additional expense to the Owner. Such additional costs shall include necessary modifications and alterations to structures, equipment, raceways and furnishing of all additional materials required to affect the substitution.
1.5 COORDINATION

A. Coordinate work to ensure efficient and orderly installation of each part of detention work. Coordinate and schedule detention work that depends on other work for proper and timely installation, connection, and operation.
   1. Coordinate installation of different detention components to ensure maximum accessibility for required maintenance, service, and repair.
   2. Coordinate provisions to accommodate detention work scheduled for later installation.

B. Coordinate sequencing and scheduling of work. Secure time commitments for performing critical construction activities from separate entities responsible for work.
   1. Schedule construction operations in sequence required to obtain best results where installation of one part of detention work depends on installation of other components, before or after its own installation.
   2. Coordinate sequence of detention work activities to accommodate tests and inspections.

C. Coordinate installation of anchorages and embedments for detention work. Obtain and distribute, to parties involved, setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation so as not to delay progress of the Work.
   1. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing detention work to comply with indicated requirements.

D. Coordinate temporary facilities and controls required by detention work.
   1. Maintain an ongoing inventory of all material.
   2. Arrange for a secure, dry, locked storage area or room in the building for storing detention equipment products prior to installation.
   3. Receive, unload and distribute products to site storage location and/or installation locations. Minor scratches on painted surfaces shall be cleaned and touched-up with rust-inhibitive primer. Defective disfigured products shall be rejected.
   4. Tag all products with markings that show proper installation locations.

E. Coordinate protection of installed detention work.

F. Coordinate preparation of Project Record Documents for detention work and integrate information from entities responsible for detention work to form one combined record.

G. Coordinate preparation of operation and maintenance manuals for detention work and integrate information from entities responsible for detention work to form one combined record.

H. Defective Products: Items found to be defective, either through manufacturing, damage in transit or by field installation, shall be replaced prior to final completion. Contractor shall make special manufacturing and shipping arrangements to accomplish this replacement prior to completion.

I. Coordination Meetings: Conduct coordination meetings specifically for work at regular intervals. Coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and pre-installation conferences.
1.6  WARRANTY

A. The Contractor shall warrant the material and equipment and labor furnished by the Contractor under this Section to be free from defects in material and workmanship for a period of one (1) year after substantial completion. Should written notice be served on the Contractor during the warranty period of any such defect, the Contractor shall make good the defect at its own expense.

B. The Contractor must have full-time employees trained in and devoted to the maintenance and repair of systems and equipment furnished.

C. The Contractor shall provide warranty service throughout the warranty period in a timely manner.

1. Service response requirements shall include the following:

   a. Twenty-four (24) hour phone number.

   b. Contractor shall respond to warranty call within twenty-four (24) hours of notification.

   c. Response personnel shall be factory technicians trained by the manufacturers of the equipment, with five years experience, servicing equipment of the type included in this project.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1  INSTALLATION

A. Ensure quality of field welding of detention work and anchorages.

B. Verify that detention work is installed and connected according to the Contract Documents.

C. Verify that wiring installation complies with manufacturer's submittal and written installation requirements.

D. Observe startup service of work.

E. Observe installation and startup checks of detention work according to manufacturer's written instructions.

F. Inspect installed detention work to verify compliance with requirements. Prepare inspection reports and indicate compliance with and deviations from the Contract Documents.

1. Perform additional inspections to determine compliance of replaced or additional work.

2. Prepare field quality-control certification that states installed detention work and its installation complies with requirements in the Contract Documents.
G. Testing: After installing electrified work and after electrical circuitry has been installed, energized and is functional, test work for compliance with requirements.

1. When testing reveals detention work is not in compliance with requirements, perform additional random testing to determine extent of noncompliance.
2. Where test results indicate that detention work does not comply with specified requirements, retest after repairs or replacements are made.
3. Perform additional testing and inspecting, at Contractor's expense, to determine compliance of replaced or additional work.

3.2 INSPECTIONS AND TESTING

A. The General Contractor / Construction Manager shall be responsible for issuing a letter to the Architect confirming that the work is complete and ready for inspection and testing. As an attachment to the letter confirming the work is “complete” and ready for inspection, the Contractor must attach a self generated “field test” report for each device which confirms in detail that the Contractor has performed their own inspection and test prior to the inspection by the Architect / Consultant.

B. The inspection shall include control and monitoring of the hardware, as well as the installation and adjustments of the mechanical functions.

C. The Superintendent and Project Manager shall be present and assist in the inspection / testing of the Work.

1. If additional inspections are required because the Work is incomplete at the time of the scheduled inspection or if any portion of the system fails to function as designed, the Contractor shall be responsible for paying for the time and expenses for the Architect to re-schedule and re-inspect the Work. This cost shall include time and expense for all personnel of the Architectural. The “time” cost shall include an hourly rate of $190 per hour. This time will include travel time and inspection time. An estimated amount of this time and expense must be paid prior to re-scheduling the inspection.

3.3 SPARE PARTS

A. The Contractor shall deliver all spare parts at the completion of the project. The spare parts shall be clearly marked as to content and packaged for ease of handling by one (1) person without the use of forklifts or other equipment. The Contractor shall obtain a signature from the owner’s representative receiving the spare parts.

B. The Contractor shall furnish the parts described in each subsection of the specifications provided by the Contractor. Mark the specification section on the packaging for each device. Refer to individual specification sections for spare parts to be provided as a requirement for each section.

3.4 TRAINING

A. The Contractor shall provide without additional cost to the Owner, representatives specially trained in the operation of detention hardware and devices provided. The representatives shall
train the Owner’s personnel in operations, repair, and upkeep of all Detention Work. Coordinate dates for training sessions with the Owner prior to scheduling dates.

B. The inspection shall include Systems, Subsystems, Equipment, and Components. Where these terms are used together or separately, they shall be referred to as “the system”. The Contractor shall be prepared to test every point for each system.

C. On-Site Training: Provide qualified personnel for instruction and a training period involving the Owner’s designated personnel and the Contractor as designated by the user. Representatives must be capable of training Owner’s personnel in the adjustment, operation and repair of detention work, including pertinent safety requirements. Instruction shall be given during the first week after work has been accepted and turned over to the Owner for regular operation, except if adjustment and/or repairs are required for its use. In such case, training sessions are not to occur until such adjustments and/or repairs have been satisfactorily completed.

1. On-site instruction and training shall include a minimum of Two (2) consecutive eight (8) hour days.

D. During the warranty period, if significant changes or modifications take place in the equipment or system, additional instruction shall be provided at no cost to the Owner (unless such changes or modifications are Owner initiated) to acquaint the operating personnel with the changes or modifications.

E. Training Certification

1. Each facility employee shall receive at the conclusion of the security systems training program a certificate certifying his attendance of the total session or portion thereof.
2. Contractor shall maintain attendance records of each class. This attendance shall be submitted to the Architect at the completion of training.

END OF SECTION 013513.16
SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

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

1.2 SUMMARY
   A. Section includes requirements for temporary utilities, support facilities, and security and
      protection facilities.
   B. Related Requirements:
      1. Section 011000 "Summary" for work restrictions and limitations on utility interruptions.

1.3 USE CHARGES
   A. General: Installation and removal of and use charges for temporary facilities shall be included
      in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services
      and facilities without cost, including, but not limited to Architect, testing agencies, and
      authorities having jurisdiction.
   B. Sewer Service: Owner will pay sewer-service use charges for sewer usage by all entities for
      construction operations.
   C. Water Service: Owner will pay water-service use charges for water used by all entities for
      construction operations.
   D. Electric Power Service: Owner will pay electric-power-service use charges for electricity used
      by all entities for construction operations.

1.4 INFORMATIONAL SUBMITTALS
   A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for
      construction personnel.
   B. Moisture-Protection Plan: Describe procedures and controls for protecting materials and
      construction from water absorption and damage.
      1. Describe delivery, handling, and storage provisions for materials subject to water
         absorption or water damage.
      2. Indicate procedures for discarding water-damaged materials, protocols for mitigating
         water intrusion into completed Work, and replacing water-damaged Work.
3. Indicate sequencing of work that requires water, such as sprayed fire-resistive materials, plastering, and terrazzo grinding, and describe plans for dealing with water from these operations. Show procedures for verifying that wet construction has dried sufficiently to permit installation of finish materials.

C. Dust- and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust- and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Identify further options if proposed measures are later determined to be inadequate. Include the following:

1. Locations of dust-control partitions.
2. HVAC system isolation schematic drawing.
3. Location of proposed air-filtration system discharge.
5. Other dust-control measures.

1.5 QUALITY ASSURANCE

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

C. Accessible Temporary Egress: Comply with applicable provisions ICC/ANSI A117.1.

1.6 PROJECT CONDITIONS

A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Chain-Link Fencing: Minimum 2-inch (50-mm), 0.148-inch- (3.8-mm-) thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized-steel pipe posts; minimum 2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts.

B. Portable Chain-Link Fencing: Minimum 2-inch (50-mm), 0.148-inch- (3.8-mm-) thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized-steel pipe posts; minimum 2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts, with 1-5/8-inch- (42-mm-) OD top and bottom rails. Provide galvanized-steel bases for supporting posts.
C. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil (0.25-mm) minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.

D. Dust-Control Adhesive-Surface Walk-off Mats: Provide mats minimum 36 by 60 inches (914 by 1624 mm).

E. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.

2.2 TEMPORARY FACILITIES

A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.

B. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

1. Store combustible materials apart from building.

2.3 EQUIPMENT

A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

1. Locate facilities to limit site disturbance as specified in Section 011000 "Summary."

B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

C. Telephone Service: Provide temporary telephone service in common-use facilities for use by all construction personnel. Install one telephone line(s) for each field office.

1. Provide additional telephone lines for the following:
   a. Provide a dedicated telephone line for each facsimile machine in each field office.

2. At each telephone, post a list of important telephone numbers.
   a. Police and fire departments.
   b. Ambulance service.
c. Contractor's home office.
d. Contractor's emergency after-hours telephone number.
e. Architect's office.
f. Engineers' offices.
g. Owner's office.
h. Principal subcontractors' field and home offices.

3. Provide superintendent with cellular telephone or portable two-way radio for use when away from field office.

D. Electronic Communication Service: Provide a desktop computer in the primary field office adequate for use by Architect and Owner to access Project electronic documents and maintain electronic communications. Equip computer with not less than the following:

1. Processor: Intel Pentium D or Intel CoreDuo, 3.0 GHz processing speed.
2. Memory: 4 gigabyte.
4. Display: 22-inch (560-mm) LCD monitor with 256-Mb dedicated video RAM.
5. Full-size keyboard and mouse.
8. Productivity Software:
   a. Microsoft Office Professional, XP or higher, including Word, Excel, and Outlook.
   b. Adobe Reader 7.0 or higher.
   c. WinZip 7.0 or higher.

9. Printer: "All-in-one" unit equipped with printer server, combining color printing, photocopying, scanning, and faxing, or separate units for each of these three functions.
10. Internet Service: Broadband modem, router and ISP, equipped with hardware firewall, providing minimum 384 Kbps upload and 1 Mbps download speeds at each computer.
11. Internet Security: Integrated software, providing software firewall, virus, spyware, phishing, and spam protection in a combined application.

3.2 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:

1. Provide construction for temporary offices, shops, and sheds located within construction area or within 30 feet (9 m) of building lines that is noncombustible according to ASTM E 136. Comply with NFPA 241.
2. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

B. Traffic Controls: Comply with requirements of authorities having jurisdiction.
1. Protect existing site improvements to remain including curbs, pavement, and utilities.
2. Maintain access for fire-fighting equipment and access to fire hydrants.

C. Parking: Use designated areas of Owner's existing parking areas for construction personnel.

D. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.
1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.
2. Remove snow and ice as required to minimize accumulations.

E. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.
1. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.
   a. Provide temporary, directional signs for construction personnel and visitors.
2. Maintain and touchup signs so they are legible at all times.

F. Waste Disposal Facilities: Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."

G. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 017300 "Execution."

H. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

I. Existing Elevator Use: Use of Owner's existing elevators will be permitted on a very limited basis, provided elevators are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore elevators to condition existing before initial use, including replacing worn cables, guide shoes, and similar items of limited life.
1. Do not load elevators beyond their rated weight capacity.
2. Provide protective coverings, barriers, devices, signs, or other procedures to protect elevator car and entrance doors and frame. If, despite such protection, elevators become damaged, engage elevator Installer to restore damaged work so no evidence remains of correction work. Return items that cannot be refinished in field to the shop, make required repairs and refinish entire unit, or provide new units as required.

J. Existing Stair Usage: Use of Owner's existing stairs will be permitted on a limited basis, provided stairs are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore stairs to condition existing before initial use.
1. Provide protective coverings, barriers, devices, signs, or other procedures to protect stairs and to maintain means of egress. If stairs become damaged, restore damaged areas so no evidence remains of correction work.

3.3 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

B. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Perform control operations lawfully, using environmentally safe materials.

C. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates.

1. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations.
2. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Furnish one set of keys to Owner.

D. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each work day.

E. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

F. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.

G. Covered Walkway: Erect protective, covered walkway for passage of individuals through or adjacent to Project site. Coordinate with entrance gates, other facilities, and obstructions. Comply with regulations of authorities having jurisdiction.

1. Construct covered walkways using scaffold or shoring framing.
2. Provide overhead decking, protective enclosure walls, handrails, barricades, warning signs, exit signs, lights, safe and well-drained walkways, and similar provisions for protection and safe passage.

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

1. Where heating or cooling is needed and permanent enclosure is incomplete, insulate temporary enclosures.
I. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by Owner from fumes, noise and maintain security.

   1. Construct dustproof partitions with fire-retardant-treated plywood on both sides and expanded metal mesh inside of construction operations side, as per the wall type detail in the construction drawings.

3.4 MOISTURE AND MOLD CONTROL


B. Exposed Construction Phase: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:

   1. Protect porous materials from water damage.
   2. Protect stored and installed material from flowing or standing water.
   3. Keep porous and organic materials from coming into prolonged contact with concrete.
   4. Remove standing water from decks.
   5. Keep deck openings covered or dammed.

3.5 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal.

   1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

C. Operate Project-identification-sign lighting daily from dusk until 12:00 midnight.

D. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

E. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

   1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
   2. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."

END OF SECTION 015000
SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.

B. Related Sections:
   1. Division 01 Section "Substitution Procedures" for requests for substitutions.
   2. Division 01 Section “Closeout Procedures” for submitting warranties for Contract closeout.
   3. Division 14 Section for specific requirements for warranties on products and installations specified to be warranted.

1.3 DEFINITIONS

A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

   1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
   2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
   3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.
1.4 PRODUCT LIST

A. Product List is required as a condition of acceptance of Contractor’s initial Application for Payment. The submitted and reviewed product list may serve in lieu of product literature and samples when the following criteria are met for products incorporated in the work:

1. Contractor provides exact brand, model number finish and color specified or indicated on the drawings or schedules.
   a. Requests for color, finish or texture samples may be requested as indicated in individual specification sections.
   b. Submit product literature and samples for products specified or indicted on the drawings or schedules if required in the individual sections the specifications.
   c. Maintain samples on site for products indicated in the Product List.

B. Full submittal is required for shop drawings regardless of whether specified or indicated item included on the Product List and is provided by Contractor.

C. Full submittal is required for acceptable manufacturers, indicated in the documents, whose products may or may not have been indicated by exact make or model number.

D. Record relevant information on the Product List. Include specifications section article and paragraph number; and product manufacturer, name and model number. Include finishes and colors as applicable for products specified.

1. Provide list in tabular format, with individual columns indicating all of the items above. Include two blank columns for the use of the architect.

E. Review by the architect will not be performed for items supplied by the Contractor (such as product literature, etc.) for confirmation purposes only.

F. Review by the architect will not be performed for Product Literature and Samples for specified items indicated on the Product list unless review of such items is specified in the individual specification sections or on the drawings. Submittals of products that have been included on the Product List will be returned to the Contractor without review.

G. Full submittal (product literature samples, reports shop drawings) is required for specified items that have been discontinued and have been replaced by another item by the manufacturer, or which have been materially changed by the manufacturer, since the Contractor's bid was received or contract awarded. This includes, but is not limited to, discontinued finishes or colors.

H. At the request of the architect, full submittal may be required for items with critical dimensions or tolerances requiring coordination with other pieces of the work.

I. Submittal requirements for Product List: prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

1. Coordinate product list with Contractor's Construction Schedule and the Submittals Schedule.
2. Form: Tabulate information for each product under the following column headings:
   a. Specification Section number and title.
   b. Generic name used in the Contract Documents.
   c. Proprietary name, model number, and similar designations.
   d. Manufacturer's name and address.
   e. Supplier's name and address.
   f. Installer's name and address.
   g. Projected delivery date or time span of delivery period.
   h. Identification of items that require early submittal approval for scheduled delivery date.

1.5 SUBMITTALS

A. Product List: Submit Product List, in accordance with Part 1 article “Product List.” Include generic names of products required. Include manufacturer's name and proprietary product names for each product.

1. Initial Submittal: Within 30 days after date of commencement of the Work, but no later than the initial application for payment, submit 3 copies of initial product list. Include a written explanation for omissions of data and for variations from Contract requirements.

   a. At Contractor's option, initial submittal may be limited to product selections and designations that must be established early in Contract period.

2. Completed List: Within 60 days after date of commencement of the Work, but no later than the second application for payment, submit 3 copies of completed product list. Include a written explanation for omissions of data and for variations from Contract requirements.

3. Architect's Action: Architect will respond in writing to Contractor within 15 days of receipt of completed product list. Architect's response will include a list of unacceptable product selections and a brief explanation of reasons for this action. Architect's response, or lack of response, does not constitute a waiver of requirement to comply with the Contract Documents.

B. Pre-Bid and Post-Award Substitution Requests: Reference Instructions to Bidders for additional requirements prior to Contract award and the General Conditions of the Contract after Contract award. Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Substitution Request Form: Use facsimile of form provided at end of Section.

2. Pre-Bid Documentation: Show compliance with requirements for substitutions and the following, as applicable:

   a. Statement indicating why specified material or product cannot be provided.
   b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
e. Samples, where applicable or requested.
f. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
h. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
i. Bidder’s (if pre-bid) or Contractor's (if post-award) certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.

3. Post-Award Substitution requests: In addition to the information required above under “Pre-Bid Documentation,” provide the following for Post-Award substitutions:

a. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.
b. Cost information, including a proposal of change, if any, in the Contract Sum.
c. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

4. Architect’s Action for pre-bid substitution request: Architect will review substitution requests if received at the offices of the Architect before the number of days stipulated in the “Instructions to Bidders” prior to the date scheduled to receive bids, or, if not stipulated, no later than 10 days prior to the bid date. Substitution requests received after the date or number of days indicated will not be reviewed.

a. Substitutions that have been reviewed and accepted for the consideration of all bidders will be included in Addenda to the Bid Documents. Manufacturers or products indicated in substitution requests that are not included in the addenda for the project shall be considered as not accepted.

5. Architect's Action for Post-Award substitution request: If necessary, Architect will request additional information or documentation for evaluation within 7 days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of +proposed substitution within 15 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.

a. Form of Acceptance: Change Order.
b. Use product specified if Architect cannot make a decision on use of a proposed substitution within time allocated.
6. Substitution requests prior to bid date may originate directly from the General Contractor, or from a prospective supplier or subcontractor. Subsequent, post-bid substitution requests shall be submitted through the Contractor and will not be accepted through any other source.

7. Reference Part 2 Article “Product Substitutions” for acceptance criteria.

### 1.6 QUALITY ASSURANCE

A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.

2. If a dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

### 1.7 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.

B. Delivery and Handling:

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.

2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.

3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.

4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

C. Storage:

1. Store products to allow for inspection and measurement of quantity or counting of units.

2. Store materials in a manner that will not endanger Project structure.

3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.

4. Store cementitious products and materials on elevated platforms.

5. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.

6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.

7. Protect stored products from damage and liquids from freezing.
8. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.8 PRODUCT WARRANTIES

A. WARRANTIES SPECIFIED IN OTHER SECTIONS SHALL BE IN ADDITION TO, AND RUN CONCURRENT WITH, OTHER WARRANTIES REQUIRED BY THE CONTRACT DOCUMENTS. MANUFACTURER'S DISCLAIMERS AND LIMITATIONS ON PRODUCT WARRANTIES DO NOT RELIEVE CONTRACTOR OF OBLIGATIONS UNDER REQUIREMENTS OF THE CONTRACT DOCUMENTS.

1. MANUFACTURER'S WARRANTY: WRITTEN WARRANTY FURNISHED BY INDIVIDUAL MANUFACTURER FOR A PARTICULAR PRODUCT AND SPECIFICALLY ENDORSED BY MANUFACTURER TO OWNER.

2. SPECIAL WARRANTY: WRITTEN WARRANTY REQUIRED BY THE CONTRACT DOCUMENTS TO PROVIDE SPECIFIC RIGHTS FOR OWNER.

B. SPECIAL WARRANTIES: PREPARE A WRITTEN DOCUMENT THAT CONTAINS APPROPRIATE TERMS AND IDENTIFICATION, READY FOR EXECUTION.

1. MANUFACTURER'S STANDARD FORM: MODIFIED TO INCLUDE PROJECT-SPECIFIC INFORMATION AND PROPERLY EXECUTED.

2. SPECIFIED FORM: WHEN SPECIFIED FORMS ARE INCLUDED WITH THE SPECIFICATIONS, PREPARE A WRITTEN DOCUMENT USING INDICATED FORM PROPERLY EXECUTED.

3. REFER TO DIVISION 14 FOR SPECIFIC CONTENT REQUIREMENTS AND PARTICULAR REQUIREMENTS FOR SUBMITTING SPECIAL WARRANTIES.

1.9 PRODUCT SUBSTITUTIONS

A. TIMING: ARCHITECT WILL CONSIDER PRE-BID REQUESTS FOR SUBSTITUTION AS INDICATED IN THE INSTRUCTIONS TO BIDDERS AND PART 1 ARTICLE "SUBMITTALS." ARCHITECT WILL CONSIDER POST-AWARD REQUESTS FOR SUBSTITUTION IF RECEIVED WITHIN 60 DAYS AFTER THE NOTICE TO PROCEED. REQUESTS RECEIVED AFTER THAT TIME MAY BE CONSIDERED OR REJECTED AT DISCRETION OF ARCHITECT.

B. CONDITIONS: ARCHITECT WILL CONSIDER CONTRACTOR'S REQUEST FOR SUBSTITUTION WHEN THE FOLLOWING CONDITIONS ARE SATISFIED. IF THE FOLLOWING CONDITIONS ARE NOT SATISFIED, ARCHITECT WILL RETURN REQUESTS WITHOUT ACTION, EXCEPT TO RECORD NONCOMPLIANCE WITH THESE REQUIREMENTS:

1. REQUESTED SUBSTITUTION OFFERS OWNER A SUBSTANTIAL ADVANTAGE IN COST, TIME, ENERGY CONSERVATION, OR OTHER CONSIDERATIONS, AFTER DEDUCTING ADDITIONAL RESPONSIBILITIES OWNER MUST ASSUME. OWNER'S ADDITIONAL RESPONSIBILITIES MAY INCLUDE COMPENSATION TO ARCHITECT FOR REDISIGN AND EVALUATION SERVICES, INCREASED COST OF OTHER CONSTRUCTION BY OWNER, AND SIMILAR CONSIDERATIONS.

2. REQUESTED SUBSTITUTION DOES NOT REQUIRE EXTENSIVE REVISIONS TO THE CONTRACT DOCUMENTS.

3. REQUESTED SUBSTITUTION IS CONSISTENT WITH THE CONTRACT DOCUMENTS AND WILL PRODUCE INDICATED RESULTS.

4. SUBSTITUTION REQUEST IS FULLY DOCUMENTED AND PROPERLY SUBMITTED.

5. REQUESTED SUBSTITUTION WILL NOT ADVERSELY AFFECT CONTRACTOR'S CONSTRUCTION SCHEDULE.

6. REQUESTED SUBSTITUTION HAS RECEIVED NECESSARY APPROVALS OF AUTHORITIES HAVING JURISDICTION; OR IS REQUIRED FOR COMPLIANCE WITH FINAL CODE INTERPRETATION REQUIREMENTS, OR
the Owner’s insurance regulations. Provide written clarification, citing applicable portions of the code.

7. Requested substitution is compatible with other portions of the Work.
8. Requested substitution has been coordinated with other portions of the Work.
9. Requested substitution provides specified warranty.
10. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
11. The availability of local maintenance service for the requested substitution is equivalent or superior to the specified item.
12. The specified product has been discontinued or has been replaced by a superior product.
13. The specified product will not fit within the designated space.

C. Additional conditions for the consideration of post-award substitution requests: In addition to the condition indicated in Paragraphs “A & B” of this article above, the Architect will consider Contractor’s request for substitution only when the following additional conditions are satisfied. If the following conditions, along with those indicated in paragraphs “A & B” of this article above, are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements.

1. Requested substitution will not adversely affect Contractor’s construction schedule.
2. The substitution may be requested when subsequent information discloses the inability of the specified product to perform properly or to fit in the designated space.
3. The substitution may be due to the manufacturer’s or fabricator’s refusal to certify or guarantee performance of the specified product as required.
4. The specified product cannot be delivered without delay to the project.
5. Specified product is unavailable through no fault of the Contractor. Contractor delay in ordering an available specified product does not relieve the Contractor from providing the originally specified product, and does not relieve the contractor from timely completion of the Work.

D. Substitutions will not be considered when:

1. They are indicated or implied on shop drawing or product data submittals.
2. They are indicated or implied on requests for information, or a similar document.
3. Acceptance will require substantial revision of contract documents, changes to or resubmittal of permits, add costs or add time

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.

1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.

3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.

4. Where products are accompanied by the term "as selected," Architect will make selection.

5. Where products are accompanied by the term "match sample," sample to be matched is Architect's.


7. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

B. Product Selection Procedures:

1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Other products or substitutions for Contractor's convenience will not be considered.

2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.

3. Products:
   a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered, unless otherwise indicated.
   b. Nonrestricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.

4. Manufacturers:
   a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered, unless otherwise indicated.
   b. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.

5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics.
that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.

1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Division 01 Section "Substitution Procedures" for proposal of product.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes standard items.

2.2 COMPARABLE PRODUCTS

A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:

1. Evidence that the proposed product does not require revisions to the Contract Documents that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.

2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.

3. Evidence that proposed product provides specified warranty.

4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.

5. Samples, if requested.

PART 3 - EXECUTION (Not Used)
SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:

2. Field engineering and surveying.
3. Installation of the Work.
4. Cutting and patching.
5. Coordination of Owner-installed products.
6. Progress cleaning.
7. Starting and adjusting.
8. Protection of installed construction.

B. Related Requirements:

1. Section 011000 "Summary" for limits on use of Project site.
2. Section 013300 "Submittal Procedures" for submitting surveys.
3. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

1.3 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.

B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.4 INFORMATIONAL SUBMITTALS

A. Cutting and Patching Plan: Submit plan describing procedures at least 10 days prior to the time cutting and patching will be performed. Include the following information:

1. Extent: Describe reason for and extent of each occurrence of cutting and patching.
2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.

3. Products: List products to be used for patching and firms or entities that will perform patching work.

4. Dates: Indicate when cutting and patching will be performed.

5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.

   a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.

1.5 QUALITY ASSURANCE

A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.

1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.

2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that result in increased maintenance or decreased operational life or safety.

3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.

4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

B. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.
PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
   1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
   1. Examine roughing-in electrical systems to verify actual locations of connections before equipment and fixture installation.
   2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
   3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
   1. Description of the Work.
   2. List of detrimental conditions, including substrates.
   3. List of unacceptable installation tolerances.
   4. Recommended corrections.

D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.
3.2 PREPARATION

A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Section 013100 "Project Management and Coordination."

3.3 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
4. Maintain minimum headroom clearance of 96 inches (2440 mm) in occupied spaces and 90 inches (2300 mm) in unoccupied spaces.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.

F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with
other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.

2. Allow for building movement, including thermal expansion and contraction.

3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.4 CUTTING AND PATCHING

A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

C. Temporary Support: Provide temporary support of work to be cut.

D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 011000 "Summary."

F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
5. Proceed with patching after construction operations requiring cutting are complete.

H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
   a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
   b. Restore damaged pipe covering to its original condition.
3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
   a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.

I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.5 OWNER-INSTALLED PRODUCTS

A. Site Access: Provide access to Project site for Owner's construction personnel.
B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel.

1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.

2. Preinstallation Conferences: Include Owner's construction personnel at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction personnel if portions of the Work depend on Owner's construction.

3.6 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.

2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F (27 deg C).
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
   a. Use containers intended for holding waste materials of type to be stored.

4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove liquid spills promptly.
2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls."

H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.7 STARTING AND ADJUSTING

A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

B. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.

C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

3.8 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 017300
SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Substantial Completion procedures.
2. Final completion procedures.
3. Punch lists.
4. Warranties.
5. Final cleaning.

B. Related Sections:

1. Division 01 Section "Execution" for progress cleaning of Project site.
2. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
3. Divisions 14 for specific closeout and special cleaning requirements for the Work in those Sections.

1.3 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete with request.

1. Prepare a master list of items to be completed and corrected (Punch List). Include the value of items on the list, and reasons why the Work is not complete.
2. Obtain copies of Punch Lists prepared by the Architect, Owner’s representatives and any Authorities Having Jurisdiction and incorporate them into the Punch List.
3. Advise Owner of pending insurance changeover requirements.
4. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
5. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
6. Prepare and submit Project Record Documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
7. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
8. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
9. Complete startup testing of systems.
10. Submit test/adjust/balance records.
11. Submit test reports for security electronics startup.
12. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
14. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
15. Complete final cleaning requirements, including touchup painting.
16. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's Punch List or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
   a. If more than one reinspection trip is required to verify Substantial Completion, Contractor will reimburse Owner for Architect’s time and expenses.

2. Results of completed inspection will form the basis of requirements for final completion.

1.4 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining final completion, complete the following:

1. Submit Operation and Maintenance manuals, warranties, maintenance service agreements and similar documents for review.
2. Prepare and submit Project Record Documents.
3. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
4. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
5. Submit pest-control final inspection report and warranty.
6. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements.
Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
   a. If more than one reinspection trip is required to verify Final Completion, Contractor will reimburse Owner for Architect’s time and expenses.

C. Final Payment: Upon completion of final inspection by Architect, submit a final Application for Payment according to Division 01 Section "Payment Procedures."

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of Punch List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Provide separate categories for lists provided by the Architect, Owner’s Representatives and Authorities Having Jurisdiction.
4. Include the following information at the top of each page:
   a. Project name.
   b. Date.
   c. Name of Architect.
   d. Name of Contractor.
   e. Page number.

5. Submit list of incomplete items in one of the following formats:
   a. PDF electronic file.
   b. Three paper copies of product schedule or list, unless otherwise indicated. Architect will return two copies.

B. Progress Punch List: One month prior to substantial completion, submit a Progress punch list to the Architect and Owner for approval. Progress punch list shall provide sufficient detail of all major components of the work to evaluate overall compliances with schedule and identify those components of the work remaining to be completed.

1.6 WARRANTIES

A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.

1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
4. Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide table of contents at beginning of document.

C. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

1. Use cleaning products that meet Green Seal GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
   a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.

c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.

d. Remove tools, construction equipment, machinery, and surplus material from Project site.

e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.

f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.

g. Sweep concrete floors broom clean in unoccupied spaces.

h. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.

i. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.

j. Remove labels that are not permanent.

k. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.

1) Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates.

l. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.

m. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.

n. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.

o. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.

p. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter upon inspection.

q. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

r. Leave Project clean and ready for occupancy.

C. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid Project of rodents, insects, and other pests. Prepare a report.

D. Construction Waste Disposal: Comply with waste disposal requirements in Division 01 Section "Temporary Facilities and Controls."
3.2 REPAIR OF THE WORK

A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.

B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that that already show evidence of repair or restoration.
   a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 017700
SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:

1. Operation and maintenance documentation directory.
2. Emergency manuals.
3. Operation manuals for systems, subsystems, and equipment.
4. Product maintenance manuals.
5. Systems and equipment maintenance manuals.

B. Related Requirements:
1. Section 013300 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.

1.3 DEFINITIONS

A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.

B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 CLOSEOUT SUBMITTALS

A. Manual Content: Operations and maintenance manual content is specified in individual Specification Sections to be reviewed at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.

1. Architect will comment on whether content of operations and maintenance submittals are acceptable.
2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.

B. Format: Submit operations and maintenance manuals in the following format:

a. Name each indexed document file in composite electronic index with applicable item name. Include a complete electronically linked operation and maintenance directory.

b. Enable inserted reviewer comments on draft submittals.

2. Three paper copies. Include a complete operation and maintenance directory. Enclose title pages and directories in clear plastic sleeves. Architect will return one copy.

A. Draft Submittals:

1. Initial Manual Submittal: Submit first draft copy of each manual before Substantial Completion when each installation that requires operation and maintenance manuals is nominally complete, and before commencing demonstration and training.

   a. Submit three (3) paper copies for Architect review. Include a complete operation and maintenance directory.

      1) Architect will return 1 copy of the draft with comments within 15 days of receipt.

2. Second Draft Manual Submittal: Submit second draft copy of each manual which incorporates Architect/Engineer review comments. Submit at least 15 days before commissioning verification testing.

   a. Submit two (2) paper copies for Architect and Commissioning Agent review. Include a complete operation and maintenance directory.

      1) Architect will return these copies of the second draft with comments within 15 days of completion of verification testing.

B. Final Manual Submittal: Submit each manual in final form after final inspection.

1. Correct or modify each manual to comply with Architect's and Commissioning Agent's comments. Submit copies of each corrected manual within 15 days of receipt of Architect's and Commissioning Agent's comments and prior to commencing demonstration and training.

2. Number of Copies:

   a. One (1) CD Rom of PDF electronic files. Assemble each manual into a composite electronically-indexed file. Submit on digital media acceptable to Architect.

      1) Name each indexed document file in composite electronic index with applicable item name. Include a complete electronically-linked operation and maintenance directory.

   b. Two (2) paper copies. Include a complete operation and maintenance directory. Enclose title pages and directories in clear plastic sleeves.
PART 2 - PRODUCTS

2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

A. Organization: Include a section in the directory for each of the following:

1. List of documents.
2. List of systems.
3. List of equipment.
4. Table of contents.

B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.

C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of the system, list alphabetically in a separate list.

D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.

E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with the same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

2.2 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:

1. Title page.
2. Table of contents.

B. Title Page: Include the following information:

1. Subject matter included in manual.
2. Name and address of Project.
3. Name and address of Owner.
4. Date of submittal.
5. Name and contact information for Contractor.
6. Name and contact information for Architect.
7. Name and contact information for Commissioning Agent.
8. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
9. Cross-reference to related systems in other operation and maintenance manuals.
C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.

D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.

E. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.

1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.

2. File Names and Bookmarks: Enable bookmarking of individual documents based upon file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel upon opening file.

F. Manuals, Paper Copy: Submit manuals in the form of hard copy, bound and labeled volumes.

1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.

a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.

b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.

2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.

3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment.


5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.3 EMERGENCY MANUALS

A. Content: Organize manual into a separate section for each of the following:

1. Type of emergency.
2. Emergency instructions.
3. Emergency procedures.

B. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:

1. Fire.
2. Flood.
5. Power failure.
7. System, subsystem, or equipment failure.
8. Chemical release or spill.

C. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.

D. Emergency Procedures: Include the following, as applicable:

1. Instructions on stopping.
2. Shutdown instructions for each type of emergency.
3. Operating instructions for conditions outside normal operating limits.
4. Required sequences for electric or electronic systems.
5. Special operating instructions and procedures.

2.4 OPERATION MANUALS

A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:

2. Performance and design criteria if Contractor is delegated design responsibility.
3. Operating standards.
4. Operating procedures.
5. Operating logs.
6. Wiring diagrams.
7. Control diagrams.
8. Piped system diagrams.
9. Precautions against improper use.
10. License requirements including inspection and renewal dates.

B. Descriptions: Include the following:
   1. Product name and model number. Use designations for products indicated on Contract Documents.
   2. Manufacturer's name.
   3. Equipment identification with serial number of each component.
   4. Equipment function.
   5. Operating characteristics.
   6. Limiting conditions.
   7. Performance curves.
   8. Engineering data and tests.
   9. Complete nomenclature and number of replacement parts.

C. Operating Procedures: Include the following, as applicable:
   1. Startup procedures.
   2. Equipment or system break-in procedures.
   3. Routine and normal operating instructions.
   4. Regulation and control procedures.
   5. Instructions on stopping.
   7. Seasonal and weekend operating instructions.
   8. Required sequences for electric or electronic systems.
   9. Special operating instructions and procedures.

D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.5 PRODUCT MAINTENANCE MANUALS

A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

B. Source Information: List each product included in the manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
C. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
5. Reordering information for specially manufactured products.

D. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. List of cleaning agents and methods of cleaning detrimental to product.
4. Schedule for routine cleaning and maintenance.
5. Repair instructions.

E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

2.6 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.

B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.

C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:

1. Standard maintenance instructions and bulletins.
2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
3. Identification and nomenclature of parts and components.
4. List of items recommended to be stocked as spare parts.

D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:

1. Test and inspection instructions.
2. Troubleshooting guide.
3. Precautions against improper maintenance.
4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
5. Aligning, adjusting, and checking instructions.
6. Demonstration and training video recording, if available.

E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.

1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.

F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals.

B. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.

C. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.

D. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.

1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
E. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.

F. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.

1. Do not use original project record documents as part of operation and maintenance manuals.
2. Comply with requirements of newly prepared record Drawings in Division 01 Section "Project Record Documents."

G. Comply with Division 01 Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 017823
SECTION 142150 – ELECTRIC TRACTION ELEVATORS

PART 1 GENERAL

1.01 WORK INCLUDED

A. The complete removal of two existing service-sized hydraulic elevators and the installation of two new traction elevators as follows:
   1. Two gearless service elevators each capable of carrying a gurney, Cars 1 and 2.
   2. Hoist machine supports will be furnished and installed by the Elevator Contractor.

B. All engineering, equipment, labor, and permits required to satisfactorily complete elevator modernization installation required by Contract Documents.

C. Warranty preventive maintenance as described herein.

D. Additional equipment or finishes furnished under other sections, installed under this section:
   1. Building announcement speakers
   2. CCTV system in car
   3. Elevator security system
   4. Car interior finishes
   5. Car finish flooring
   6. Dry contact for future upgrades to security control interface with elevators.

1.02 RELATED WORK PROVIDED UNDER OTHER SECTIONS

A. Hoistway and Pit:
   1. Existing hoistway is substantially flush with variations not to exceed 1” at any point.
   2. Re-use Divider beams between adjacent elevators at each floor, pit, and overhead.
   3. Continuous vertical car and counterweight guide rail support between floors are the responsibility of the elevator contractor.
   4. Hoist machine supports are the responsibility of the elevator contractor.
   5. Cutting and patching walls and floors.
   6. The hoistway walls are erected and the entrances will be re-used there will be no modifications to the fronts or hoistway doors.
   7. Structural support at pit floor for buffer impact loads, guide rail loads.
   8. Waterproof pit. Indirect waste drain or sump with flush grate and pump. Sump pump/drain capacity minimum 3,000 gallons per hour, per elevator.
   9. Hoistway smoke relief venting.
   10. Hoist machine ventilation, heating, and/or cooling. Maintain minimum temperature of 40° F, maximum 104° F at the location of the hoist machine at top of elevator shaft per elevator contractor’s specifications.
   11. Seal fireproofing to prevent flaking.

B. Control Room and Machinery Spaces:
   1. Enclosure with access.
   2. Self-closing and locking access door.
3. Ventilation and heating. Maintain minimum temperature of 55°F, maximum 90°F. Maintain maximum 80% relative humidity, non-condensing.
4. Paint walls and ceiling if needed.
5. Class “ABC” fire extinguisher in each elevator controller space.
6. Seal fireproofing to prevent flaking.
7. Fire sprinklers where required.
8. If needed: Overhead floor grating for access to overhead machinery space.

C. Electrical Service, Conductors, and Devices:
1. Lighting and GFCI convenience outlets in pit, controller space, and overhead machinery spaces. Provide one additional non-GFCI convenience outlet in pit for sump pump.
2. Three-phase mainline copper power feeder with true earthen grounding to terminals of each elevator controller in the controller space with protected lockable “open” disconnecting means.
3. Single-phase copper power feeder to each elevator controller for car lighting and exhaust blower with individual protected lockable “open” disconnecting means located in the controller space.
4. Emergency telephone line to each individual designated elevator control panel in elevator controller space.
5. Fire alarm initiating devices in each elevator lobby for each group of elevators or single elevator and each controller space to initiate firefighters’ return feature. Device at top of hoistway if sprinklered. Provide alarm initiating signal wiring from hoistway or controller space connection point to elevator controller terminals. Device in machine room and at top of hoistway to provide signal for general alarm and discrete signal for Phase II firefighters’ operation.
6. Conduit from the closest hoistway of each elevator group or single elevator to the firefighters’ control room and/or main security control console. Coordinate size, number, and location of conduits with Elevator Contractor.
7. Means to automatically disconnect power to affected elevator drive unit and controller prior to activation of the controller space fire sprinkler system, and/or hoistway fire sprinkler system. Manual shut-off means shall be located outside bounds of the controller space.
8. When sprinklers are provided in the hoistway all electrical equipment, located less than 4'-0" above the pit floor shall be identified for use in wet locations. Exception: seismic protection devices.
9. Single-phase power feeder to elevator intercom amplifier in the elevator controller space.
10. Single-phase power feeder to each elevator controller in the controller space with protected, lockable “open” disconnecting means for car heating and air conditioning unit.
11. Single-phase power feeders to controllers for CCTV with lockable “open” disconnecting means.

D. Standby Power Provision:
1. Standby power of normal voltage characteristics via normal electrical feeders to run one elevator at a time in each elevator group and/or single elevator unit at full-contract car speed and capacity.
2. Conductor from auxiliary form “C” dry contacts, located in the standby power transfer switch to a designated elevator control panel in each elevator group and/or
single elevator unit. Provide a time delay of 30-45 seconds for pre-transfer signal in either direction.
3. Standby single-phase power to group controller, and each elevator controller for car lighting, exhaust blower, emergency signaling device, intercom amplifier, hoist machine cooling fan, car heating and air conditioning unit.
4. Means for absorbing regenerated power during an overhauling load condition per NEC 620.91. Elevators will employ IGBT drive, presenting a non-linear active load.
5. Standby power to machine room, pit, and overhead machinery space lighting.
6. Standby power to hoist machine and control room ventilation or air conditioning.
7. Standby power to emergency communications devices.

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

1.04 QUALITY ASSURANCE
A. Approved Contractors:
3. Hoistway Entrances and Doors: All will be refurbished and retained.
4. Alternate Contractors must receive approval of Architect, Purchaser and/or Consultant at least 14 calendar days prior to bid date.
B. Compliance with Regulatory Agencies: Comply with most stringent applicable provisions of following codes, laws, and/or authorities, including revisions and changes in effect:
1. Safety Code for Elevators and Escalators, ASME A17.1
2. Guide for Inspection of Elevators, Escalators, and Moving Walks, ASME A17.2
3. Elevator and Escalator Electrical Equipment, ASME A17.5
4. National Electrical Code, NFPA 70
5. Americans with Disabilities Act, ADA
6. Local Fire Authority
7. Requirements of UBC and all other codes, ordinances, and laws applicable within the governing jurisdiction
9. Uniform Federal Accessibility Standard, UFAS
C. Warranty:
1. Material and workmanship of installation shall comply in every respect with Contract Documents. Correct defective material or workmanship which develops within one year from date of final acceptance of all work to satisfaction of Architect, Purchaser and Consultant at no additional cost, unless due to ordinary wear and tear, or improper use or care by Purchaser. Perform maintenance in accordance with terms and conditions indicated in the Preventive Maintenance Agreement.
2. Defective is defined to include, but not limited to: operation or control system failures, car performance below required minimum, excessive wear, unusual deterioration, or aging of materials or finishes, unsafe conditions, the need for excessive maintenance, abnormal noise, or vibration, and similar unsatisfactory conditions.

3. Make modifications, requirements, adjustments, and improvements to meet performance requirements in Parts 2 and 3.

1.05 DOCUMENT VERIFICATION

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

1.06 SUBMITTALS

A. Within 60 calendar days after award of contract and before beginning equipment fabrication submit shop drawings and required materials for review as outlined in Division I. Allow 30 calendar days for response to initial submittal.

1. Scaled or Fully Dimensioned Layout: Plan of pit, hoistway, and control room indicating equipment arrangement, elevation section of hoistway, details of car enclosures, hoistway entrances, and car/hall signal fixtures.

2. Design Information: Indicate equipment lists, reactions, and design information on layouts.


4. Fixtures: Cuts, samples, or shop drawings.

5. Finish Material: Submit 3” x 12” samples of actual finished material for Architect review of color, pattern, and texture. Compliance with other requirements is the exclusive responsibility of the Contractor. Include, if requested, signal fixtures, lights, graphics, Braille plates, and details of mounting provisions.

6. Written Maintenance Control Program (MCP) specifically designed for the equipment included under this contract. Include any unique or product specific procedures or methods required to inspect or to test the equipment. In addition, identify weekly, bi-weekly, monthly, quarterly, and annual maintenance procedures, including statutory and other required equipment tests.

B. Acknowledge and/or respond to review comments within 14 calendar days of return. Promptly incorporate required changes due to inaccurate data or incomplete definition so that delivery and installation schedules are not affected. Contractor’s revision response time is not justification for equipment delivery or installation delay.

1.07 PERMIT, TEST AND INSPECTION

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

B. Perform test required by Governing Authority in accordance with procedure described in ASME A17.2 Guide for Inspection of Elevators, Escalators, and Moving Walks in the presence of Authorized Representative.
C. Supply personnel and equipment for test and final review by Consultant as required in Part 3.

1.08 MAINTENANCE

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

PART 2 PRODUCTS

2.01 SUMMARY

A. Yakima County Jail Service Elevators

Cars 1 and 2

Capacity: 4,000 lbs.
Class Loading: Service
Contract Speed: 150 fpm
Roping: 2:1 or 2:1 Underslung
Machine: Gearless
Machine Location: Contractors’ Standard Location
Supervisory Control: Group Automatic Microprocessor-Based System
Operational Control: Duplex Selective Collective Microprocessor-Based System
Motor Control: AC Variable Voltage Variable Frequency Microprocessor-Based with Digital Closed-Loop Feedback
Power Characteristics: 480 Volts, 3 Phase, 60 Hertz
Stops and Openings: 5, All Front
Floors Served: Front: B, 1, 2, 3, 4
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<th><strong>Cars 1 and 2</strong></th>
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<td><strong>Travel:</strong></td>
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<td><strong>Minimum Clear Inside Car:</strong></td>
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<td><strong>Minimum Opening Speed:</strong></td>
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<td><strong>Signal Fixtures:</strong></td>
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<td><strong>Hall and Car Pushbutton Stations:</strong></td>
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<td><strong>Car Position Indicators:</strong></td>
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</table>
### Cars 1 and 2

- Security interface for total elevator control and Firefighters’ Control Panel Built into Car Operating Panel

### Hall Lanterns:
- Re-Use Existing Hall Lantern Locations Above Entrances at All Floors. Install at All Locations Volume Adjustable Electronic Chime or Tone. Sound Twice for Down Direction, Vandal Resistant Assembly

### Communication System:
- Intercom from Machine Room, Lobby Egress Floor, and Command Center
  - Self-Dialing, Vandal Resistant, Push to Call, Two-Way Communication Telephone System with Recall, Tracking, and Voiceless Communication to Guard Station

### Fixture Submittal:
- Submit Brochure Depicting Contractor’s Proposed Designs with Bid

### Additional Features:
- Car Top Inspection Station
- Firefighters’ Service, Phases I and II, Including Alternate Floor Return
- Standby Power Transfer (Automatic to Main Floor Control Room) with Manual Override in Firefighters’ Control Panel
- Swing Car Return Panel Arranged for Integral Car Operating Panel
- Hoistway Access Switches, Top and Bottom Floors
- Hoistway Door Unlocking Device with Locking Escutcheon, All Floors
- Platform Isolation
- Load-Weighing Device
- Independent Service Feature
- Selective Door Operation, Per Existing Security Control, Cars 1 and 2
- Individual Floor Lockoff Feature for All Floors
- CCTV Provisions for Existing System in Both Cars
- Security and Firefighters’ Control Panels and Remote Wiring
- Machine, Power Conversion Unit, and Controller Sound Isolation
- Tamper Resistant Fastenings for All Fastenings Exposed to the Public
- One Year Warranty Maintenance with 24-Hour Call-Back Service
Emergency Paging Speaker Installation
Seismic Devices
No Visible Company Name or Logo
Wiring Diagrams in a Binder, Operating Instructions, and Parts Ordering Information
System Diagnostic Means and Instructions

2.02 MATERIALS

A. Steel:

B. Stainless Steel: Type 316 complying with ASTM A167, with standard tempers and hardness required for fabrication, strength and durability. Apply mechanical finish on fabricated work in the locations shown or specified, Federal Standard and NAAMM nomenclature, with texture and reflectivity required to match Architect’s sample. Protect with adhesive paper covering.
   1. Burnished: Non-directional, random abrasion pattern.

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

D. Paint: Clean exposed metal parts and assemblies of oil, grease, scale, and other foreign matter and factory paint one shop coat of standard rust-resistant primer. After erection, provide one finish coat of industrial enamel paint. Galvanized metal need not be painted.

E. Prime Finish: Clean all metal surfaces receiving a baked enamel paint finish of oil, grease, and scale. Apply one coat of rust-resistant primer followed by a filler coat over uneven surfaces. Sand smooth and apply final coat of primer.

2.03 CAR AND GROUP PERFORMANCE

A. Car Speed: ± 3% of contract speed under any loading condition.

B. Car Capacity: Safely lower, stop and hold 125% of rated load.

C. Car Stopping Zone: ±1/4" under any loading condition.

A. Door Opening Time: 2.4 seconds from start of opening to fully open.
B. Door Closing Time: 4.6 seconds from start of closing to fully closed.

C. Car Floor-to-Floor Performance Time: 13.5 seconds from start of doors closing until doors are 3/4 open (1/2 open for side opening doors) and car level and stopped at next successive floor under any loading condition or travel direction (12'-0" typical floor height).

D. Car Ride Quality:
1. Horizontal and vertical acceleration within car during all riding and door operating conditions. Not more than 15 mg peak to peak (adjacent peaks) in the 1-10 Hz range.
2. Acceleration and Deceleration: Smooth constant and not more than 3 feet/second² with an initial ramp between 0.5 and 0.75 second.
3. Sustained Jerk: Not more than 6 feet/second³.
4. Measurement Standards: Measure and evaluate ride quality consistent with ISO 18738, using low pass cutoff frequency of 10 Hz and A95 peak-to-peak average calculations.

E. Noise and Vibration Control
1. Airborne Noise: Measured noise level of elevator equipment and its operation shall not exceed 60 dBA inside car under any condition including door operation and car ventilation exhaust blower on its highest speed. Limit noise level in the machine room relating to elevator equipment and its operation to no more than 80 dBA. All dBA readings to be taken 3'-0" off the floor and 3'-0" from the equipment using the “A” weighted scale.
2. Vibration Control: All elevator equipment provided under this contract, including power unit, controller, oil supply lines, and their support shall be mechanically isolated from the building structure and electrically isolated from the building power supply and to each other to minimize the possibility of objectionable noise and vibrations being transmitted to occupied areas of the building.

2.04 OPERATION

A. Two Modes of Operation: Mode 1, full security (all elevator operations will be controlled from the guard station to match existing conditions for Cars 1 and 2). Mode 2, Duplex Selective Collective Microprocessor-Based, Cars 1 and 2:
1. Operate cars without attendants from pushbuttons in cars and located at each floor. When cars are available, park one car at main floor (“home” car). Park other car where last used (“free” car).
2. Respond to car calls and hall calls above main floor using the free car. Once a car has started, respond to registered calls in the direction of travel and in the order the floors are reached.
3. Do not reverse car direction until all car calls have been answered, or until all hall calls ahead of the car and corresponding to the direction of car travel have been answered.
4. Slow cars and stop automatically at floors corresponding to registered calls in the order in which they are approached in either direction of travel. As slowdown is initiated for a hall call, automatically cancel hall call. Cancel car calls in the same manner. Hold car at arrival floor an adjustable time interval to allow passenger transfer.
5. Answer calls corresponding to direction in which car is traveling unless call in the opposite direction is the highest (or lowest) call registered.
6. When the free car is clearing calls, start home car to respond to:
a. A call registered on home car pushbuttons.
b. An up hall call registered below free car.
c. An up or a down call registered above free car while free car is traveling down.
d. A hall call when free car is delayed in its normal operation for a predetermined period.

7. When both cars are clearing calls, stop only one car in response to any registered hall call. Return the first car to clear its calls to main floor. Should last service required bring both cars to main floor, the first arriving car becomes the free car.

8. Illuminate appropriate pushbutton to indicate call registration. Extinguish light when call is answered.

B. Other Items:

1. Load Weighing: Provide means for weighing car passenger load. Control system to provide dispatching at main floor in advance of normal intervals when car fills to capacity. Provide hall call by-pass when the car is filled to preset percentage of rated capacity and traveling in down direction. Field adjustment range: 10%-100%.

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

C. Firefighters’ Service: Provide equipment and operation in accordance with code requirements.

D. Automatic Car Stopping Zone: Stop car within 1/4" above or below the landing sill. Maintain stopping zone regardless of load in car, direction of travel, distance between landings, hoist rope slippage, or stretch.

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

F. Motion Control: Microprocessor based AC, variable-voltage, variable frequency with digitally encoded closed-loop velocity feedback suitable for operation specified and capable of providing smooth, comfortable car acceleration, retardation, and dynamic braking. Limit the difference in car speed between full load and no load to not more than ±3% of the contract speed.

G. Door Operation: Automatically open doors when car arrives at main floor. At expiration of normal dwell time, close doors. Provide total door control operation when in security mode.

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

I. Standby Power Operation: Upon loss of normal power, adequate standby power will be supplied via building electrical feeders to simultaneously start and run one car in each group and single cars at contract car speed and capacity.
1. Automatically return one car at a time, in each group and single car(s), nonstop to designated floor, open doors for approximately 3.0 seconds, close doors, and park car. During return operation, car and hall call pushbuttons shall be rendered inoperative. As each car parks system shall immediately select the next car until all cars in a group have returned to the designated floor. If a car fails to start or return within 30 seconds, system shall automatically select the next car in the group to automatically return.

2. When all cars in a group have returned to the designated floor, one car in each group shall be designated for automatic operation. When a service demand exists for 30 seconds and designated car fails to start, next available car in the group shall be automatically selected for operation.

3. Provide separate group selection switches in firefighters’ control panel and / or security control panel within Central Control Room.
   a. Switches shall be labeled “STANDBY POWER OVERRIDE” with positions marked “AUTO” and appropriate car numbers controlled by each respective switch. Key shall be keyed same as key utilized for firefighters’ Phase I and II key switch. Key shall be removable in “AUTO” position only.
   b. Switch shall override automatic return and automatic selection functions, and cause the manually selected car to operate. Manual selection shall cause car to start and proceed to designated floor and open and close its doors before standby power is manually transferred to next selected car.
   c. Provide “STANDBY POWER” indicator lights, one per car, in firefighters’ and / or security control panel. Indicator light illuminates when corresponding car is selected, automatically or manually, to operate on standby power.

4. Successive Starting: When normal power is restored or there has been a power interruption, individual cars in each bank shall restart at five second intervals.

J. Security System: Provide means to limit access to each building floor for Cars 1 and 2:
   1. Individual floor lockout means in main car operating panel and security control panel to prevent registration of car calls to any selected secure floor.
   2. Arrange system so that independent service does not override security system.
   3. Arrange system so that firefighters’ service overrides security system.
   4. Actuate hall lantern each time car arrives at main lobby during secure mode operation.
   5. Provide warning light and signal in lobby indicator panel to indicate an attempt to register unauthorized destinations or to open car doors when car is moving or parked at a secured floor. Provide reset switch or button to cancel warning light and signal.

2.05 CONTROL ROOM EQUIPMENT

A. Arrange equipment in spaces shown on drawings.

B. Solid State Power Conversion and Regulation Unit: Provide solid-state, alternating current, variable voltage, variable frequency (ACV³F), I.G.B.T converter/inverter drives.
   1. Design unit to limit current, suppress noise, and prevent transient voltage feedback into building power supply. Provide internal heat sink cooling fans for the power drive portion of the converter panels. Conform to IEEE standards 519-1992 for line harmonics and switching noise.
   2. Isolate unit to minimize noise and vibration transmission. Provide isolation transformers, filter networks, and choke inductors.
3. Suppress solid-state converter noises, radio frequency interference, and eliminate regenerative transients induced into the mainline feeders or the building standby power generator.

4. Supplemental direct-current power for the operation of hoist machine brake, door operator, dispatch processor, signal fixtures, etc., from separate static power supply.

5. ACV³F Drives for gearless elevators shall be regenerative and utilize IGBT converter/inverter and dynamic braking during overhauling condition.

C. Encoder: Direct drive, solid-state, digital type. Update car position at each floor and automatically restore after power loss.

D. Controller: UL/CSA labeled.
   1. Compartment: Securely mount all assemblies, power supplies, chassis switches, relays, etc., on a substantial, self-supporting steel frame. Completely enclose equipment with covers. Provide means to prevent overheating.
   2. Relay Design: Magnet operated with contacts of design and material to insure maximum conductivity, long life, and reliable operation without overheating or excessive wear. Provide wiping action and means to prevent sticking due to fusion. Contacts carrying high inductive currents shall be provided with arc deflectors or suppressors.
   3. Microprocessor-Related Hardware
      a. Provide built-in noise suppression devices which provide a high level of noise immunity on all solid-state hardware and devices.
      b. Provide power supplies with noise suppression devices.
      c. Isolate inputs from external devices (such as pushbuttons) with opto-isolation modules.
      d. Design control circuits with one leg of power supply grounded.
      e. Safety circuits shall not be affected by accidental grounding of any part of the system.
      f. System shall automatically restart when power is restored.
      g. System memory shall be retained in the event of power failure or disturbance.
      h. Equipment shall be provided with Electro Magnetic Interference (EMI) shielding within FCC guidelines.

4. Wiring: CSA labeled copper for factory wiring. Neatly route all wiring interconnections and securely attach wiring connections to studs or terminals.

5. Permanently mark components (relays, fuses, PC boards, etc.) with symbols shown on wiring diagrams.

6. Monitoring System Interface: Provide controller with serial data link through RJ45 Ethernet connection and install all devices necessary to monitor items outlined in Section 2.13. Elevator contractor responsible to connect monitoring system interface to control room monitoring compartment and LAN. Wiring from the LAN to the control room monitoring compartment by others.

7. Provide controller or machine mounted auxiliary, lockable “open” disconnect if mainline disconnect is not in sight of controller and/or machine.

E. Noise/Vibration Isolation: All elevator equipment including their supports and fastenings to building, shall be mechanically and electrically isolated from the building structure and main line power feeders to minimize objectionable noise and vibration transmission to car, building structure, or adjacent occupied areas of building.
2.06 HOISTWAY EQUIPMENT

A. Gearless Traction Hoist Machine:
1. AC induction or P.M.S.M. ACV²F gearless traction type motor with brake, drive sheave, and deflector sheave mounted in proper alignment on a common, isolated machine support frame at the top of the hoistway or mounted on the back of the guide rail at the top landing.
2. Provide hoist machine mounted direct drive, digital, closed-loop velocity encoder.
3. Provide ladders and platforms with handrails and toeboards for overhead machine and/or sheave access within the bounds of the control room as required.

B. Machine and Equipment Support Beams Supplied by Elevator Contractor:
1. Provide structural steel frame required for direct support of and attachment to building structure of hoist machine, deflector sheaves, overhead sheaves, governor, and hoist rope dead-end hitch assemblies.
2. Provide bearing plates, anchors, shelf angles, blocking, embedment, etc., for support and fastening of machine support frame or equipment to the building structure.
3. Isolate machine and/or machine support frame to prevent noise and vibration transmission to building structure.

C. Governor: Centrifugal-type, car driven with pull-through jaws and bi-directional shutdown switches. Provide required bracketing and supports for attachment to guide rail or machine support frame.

D. Emergency Brake: Provide means to prevent ascending car over-speed and unintended car movement per code.

E. Guide Rails: Planed steel T-sections for car and counterweight of suitable size and weight for the application, including seismic reactions, including brackets for attachment to building structure. Provide rail backing and intermediate counterweight tie brackets to meet code requirements. Provide bracketing, at top and bottom of floor beams. No additional structural points of rail attachment, other than those shown on the Contract Documents, will be provided.

F. Buffers, Car and Counterweight: Spring type with blocking and support channels.

G. Sheaves: Machined grooves and sealed bearings. Provide mounting means to machine support frame and car and counterweight structural members.

H. Counterweight: Steel frame with metal filler weights.

I. Counterweight Guide Shoes: Spring dampened roller guide shoes or swivel guide shoes with oilless inserts.

J. Counterweight Guard: Metal guard in pit. Where counterweight is provided between adjacent elevators, provide runway guard next to the adjacent elevator.

K. Governor Rope and Encoder Tape Tensioning Sheaves: Mount sheaves and support frame on pit floor or guide rail. Provide frame with guides or pivot point to enable free vertical movement and proper tension of rope and tape.
L. Hoist and Governor Ropes:
   1. 8 x 19 or 8 x 25 Seale construction, traction steel type. Fasten with staggered length, adjustable, spring isolated wedge type shackles.
   2. Flat, polyurethane coated reinforced steel belts.
   3. Governor rope to suit Contractor’s specification.

M. Terminal Stopping: Provide normal and final devices.

N. Electrical Wiring and Wiring Connections:
   1. Conductors and Connections:
      a. Copper throughout with individual wires coded and connections on identified studs or terminal blocks.
      b. Use no splices or similar connections in wiring except at terminal blocks, control compartments, or junction boxes.
      c. Provide 10% spare conductors throughout. Run spare wires from car connection points to individual elevator controllers in the control room.
      d. Provide four pair of spare shielded communication wires in addition to those required to connect specified items.
      e. Tag spares in control room.
   2. Conduit:
      a. Painted or galvanized steel conduit, EMT, or duct.
      b. Minimum Conduit Size: 1/2”.
      c. Flexible heavy-duty service cord may be used between fixed car wiring and car door switches for door protective devices.
   3. Traveling Cables:
      a. Flame- and moisture-resistant outer cover.
      b. Prevent traveling cable from rubbing or chafing against hoistway or equipment within hoistway.
      c. Provide four pair of shielded wires and two RG-6/U type coaxial cables for future.
      d. Provide two pair 14 gauge wire for CCTV power.
   4. Auxiliary Wiring: Connect fire alarm initiating devices, emergency two-way communication system, paging speaker, CCTV, intercom, and announcement speaker in each car controller in control room.

O. Entrance Equipment:
   1. Door Hangers: Refurbish existing with new hanger rollers with neoprene roller surface and suspension with eccentric upthrust roller adjustment.
   2. Door Tracks: Clean and inspect.
   3. Door Interlocks: Refurbish completed to like new condition or replace.
   4. Door Closers: Spring, spirator, or jamb/strut mounted counterweight type. Design and adjust to insure smooth, quiet mechanical close of doors.
   5. Hoistway Door Unlocking Device: Provide unlocking device with escutcheon in door panel at all floors, with finish to match adjacent surface. Provide lock in each escutcheon.

P. Floor Numbers: Stencil paint 4" high floor designations in contrasting color on inside face of hoistway doors or hoistway fascia in location visible from within car.
2.07 HOISTWAY ENTRANCES

A. Retain existing and align new car platform to work in conjunction with previously installed entrances.

B. Sills: Retain existing.

C. Sill Supports: Retain and inspect to assure integrity of structures.

D. Fascia, Toe Guards and Hanger Covers: Minimum 16 gauge furniture steel with contractor’s standard finish. Provide full height fascia, toe guards, and retain hanger covers.

E. Struts and Headers: Provide door open bumpers to align with new car door entrances equipped with vertical struts.

F. Finish of Frames and Doors: Retain existing finishes for hoistway doors and frames.

2.08 CAR EQUIPMENT

A. Frame: Welded or bolted, rolled or formed steel channel construction to meet load classification specified.

B. Safety Device: Type “B,” flexible guide clamp.

C. Platform: Isolated type, constructed of steel, or steel and wood which is fireproofed on underside. Design and construct to accommodate load classification requirements. Provide Class “A” construction for passenger elevators.

D. Platform Apron: Minimum 16 gauge steel, reinforced and braced to car platform front Contractor’s standard finish.

E. Guide Shoes: Roller type with three or more spring dampened, sound-deadening rollers per shoe. Maximum roller rotation speed, 350 r.p.m.

F. Finish Floor Covering: Provided under other sections. Rubber tile 1/8" thick with 1" diameter by 0.025 high, raised circular pattern. Color selected by Architect.

G. Sills: One piece extrusion with extruded stainless steel extension between car entrance columns to face of car front return. Extruded extension to match finish of sill.

H. Doors: Provide stainless steel as specified.

I. Door Hangers: Two-point hanger roller with neoprene roller surface and suspension with eccentric upthrust roller adjustment.

J. Door Track: Bar or formed, cold-drawn removable steel track with smooth roller contact surface.

K. Door Header: Construct of minimum 12 gauge steel, shape to provide stiffening flanges.

L. Door Electrical Contact: Prohibit car operation unless car door is closed.
M. Door Clutch: Heavy-duty clutch, linkage arms, drive blocks and pickup rollers or cams to provide positive, smooth, quiet door operation. Design clutch so car doors can be closed, while hoistway doors remain open.

N. Restricted Opening Device: Restrict opening of car doors outside unlocking zone.

O. Door Operator: Medium-speed, heavy-duty closed loop door operator capable of opening doors at no less than 1½ f.p.s. Accomplish reversal in no more than 2½" of door movement. Provide solid-state door control with closed loop circuitry to constantly monitor and automatically adjust door operation based upon velocity, position, and motor current. Maintain consistent, smooth, and quiet door operation at all floors, regardless of door weight or varying air pressure.

P. Door Control Device:
1. Infrared Reopening Device:
   a. Black, fully enclosed device with full screen infrared matrix or multiple beams extending vertically along leading edge of each door panel to minimum height of 7'-0" above finished floor. Device shall prevent doors from closing and reverse doors at normal opening speed if beams are obstructed while doors are closing, except during nudging operation. In event of device failure, provide for automatic shutdown of car at floor level with doors open.
   b. Acceptable Infrared 3D Reopening Device:
      1) Cegard/MAX-154 by CEDES
      2) Gatekeeper by Adams
      3) Lambda 3D by Otis
      4) Microlite 3D by ThyssenKrupp
      5) Pana40 Plus 3D by Janus
      6) MBS 400 by Mitsubishi
2. Nudging Operation: After beams of door control device are obstructed for a predetermined time interval (minimum 20.0-25.0 seconds), warning signal shall sound and doors shall attempt to close with a maximum of 2.5 foot pounds kinetic energy. Activation of the door open button shall override nudging operation and reopen doors.
3. Interrupted Beam Time: When beams are interrupted during initial door opening, hold door open a minimum of 3.0 seconds. When beams are interrupted after the initial 3.0 second hold open time, reduce time doors remain open to an adjustable time of approximately 1.0-1.5 seconds after beams are reestablished.
4. Differential Door Time: Provide separately adjustable timers to vary time that doors remain open after stopping in response to calls.
   a. Car Call: Hold open time adjustable between 3.0 and 5.0 seconds.
   b. Hall Call: Hold open time adjustable between 5.0 and 8.0 seconds. Use hall call time when car responds to coincidental calls.

Q. Car Operating Panel:
1. One car operating panel without faceplate, consisting of a metal box containing vandal resistant operating fixtures, mounted behind the car swing front return panel.
2. Suitably identify floor buttons, alarm button, door open button, door close button and emergency push-to-call button with SCS, Visionmark, or Entrada cast tactile symbols recessed flush rear mounted. Configure plates per local building code accessibility standards including Braille. Locate operating controls no higher than 48" above the car floor; no lower than 35" for emergency push-to-call button and alarm button.
3. Provide minimum 3/4” diameter raised floor pushbuttons which illuminate to indicate call registration even when operated from the command center. Include 5/8” high floor designation on face of pushbutton.

4. Provide alarm button to ring bell located on car, and sound distress signal at control panel. Illuminate button when actuated.

5. Provide keyed stop switch at bottom of car operating panel in locked car service compartment. Mark device to indicate “run” and “stop” positions.

6. Provide “door open” button to stop and reopen doors or hold doors in open position.

7. Extended Door Hold Open Button, Car 1 and 2: Provide button to extend normal door hold open period up to 30 seconds. Cancel extended time by registration of car call or actuation of door close button. When activated, illuminate the door hold open button and the door close button. Cancel the hold open time when the door close button is activated. If a hall call is entered at another floor, sound a buzzer to indicate call waiting is activated.

8. Provide “door close” button to activate door close cycle. Cycle shall not begin until normal door dwell time for a car or hall call has expired, except firefighters’ operation.

9. Provide firefighters’ locked box as required by code.

10. Provide firefighters’ Phase II key switch with engraved instructions filled red. Include light jewel, audible signal, and call cancel button.

11. Earthquake indicator light jewel and audible signal.

12. Provide lockable service compartment with recessed flush door. Door material and finish shall match car return panel or car operating panel faceplate.

13. Include the following controls in lockable service cabinet with function and operating positions identified by permanent signage or engraved legend:
   a. Inspection switch.
   b. Light switch.
   c. Three-position exhaust blower switch.
   d. Independent service switch.
   e. Constant pressure test button for battery pack emergency lighting.
   f. 120-volt, AC, GFCI protected electrical convenience outlet.
   g. Card reader override switch.
   h. Stop switch.
   i. Switch to select either floor voice annunciation, floor passing tone, or chime.

14. Provide black paint filled (except as noted), engraved, or approved etched signage as follows with approved size and font:
   a. Phase II firefighters’ operating instructions on main operating panel above corresponding keyswitch filled red.
   b. Car number on main car operating panel.
   c. “Certificate of Inspection on File in Building Office” on main car operating panel.
   d. Car capacity in pounds on main car operating panel.

R. Car Top Control Station: Mount to provide safe access and utilization while standing in an upright position on car top.

S. Work Light and Duplex Plug Receptacle: GFCI protected outlet at top and bottom of car. Include on/off switch and lamp guard. Provide additional GFCI protected outlet on car top for installation of car CCTV.

T. Communication System:
1. “Push to Call,” two-way communication instrument in car with automatic dialing, tracking, and recall features with shielded wiring to car controller in control room. Provide dialer with automatic rollover capability with minimum two numbers. Provide consolidator to allow multiple phones connected to one line.
   a. “Push to Call” button or adjacent light jewel shall illuminate and flash when call is acknowledged. Button shall match car operating panel pushbutton design. Provide uppercase “PUSH TO CALL,” “HELP ON THE WAY” engraved signage adjacent to button.
   b. Provide “Push to Call” button tactile symbol, engraved signage, and Braille adjacent to button mounted integral with car front return panel.

2. Install remote speakers provided under Item 1.01, D., 1, behind front return panel with drilled speaker pattern, with shielded wiring to control room junction box.

3. Provide two-way communication between car and control room if required.

2.09 CAR ENCLOSURE

A. Service Elevators: Provide complete as specified herein. Provide the following features.

1. Shell: Reinforced minimum 16 gauge textured stainless steel formed panels as specified in Item 2.02. Apply sound deadening mastic to exterior.

2. Canopy: Reinforced 12 gauge furniture steel formed panels with lockable hinged emergency exit. Interior finish white reflective baked enamel.

3. Front Return Panels: Reinforced minimum 16 gauge stainless steel, textured finish as specified in Item 2.02.


5. Car Door Panels: Reinforced minimum 18 gauge stainless steel textured finish as specified in Item 2.02. Same construction as hoistway door panels. Architectural metal cladding shall wrap around leading and trailing edge of panel and return a minimum of 1/2” on rear side of leading edge of panels.

6. Ventilation: Two-speed exhaust blower mounted to car canopy on isolating rubber grommets. Provide with a diffuser and grille. Exhaust blower shall meet requirements of Item 2.03, H. Ventilation shall shut off after adjustable period (60-180 seconds) of no elevator demand.

7. Lighting: Fluorescent fixture flush mounted in ceiling with protective diffuser and steel guard over fixtures on car top. Lighting shall shut off after adjustable period (60-180 seconds) of no elevator demand.

8. Handrails/Guardrails: Two lines. Top handrail line minimum 1¼” diameter stainless steel tubular grab bar. Lower guardrail line 4” x 3/8” solid stainless steel flatstock bars mounted on both sides and rear of the car. Locate bottom guardrail line at 8” above car floor and handrail line at 32” above the car floor. Bolt rails through car walls from back and mount on 1½" deep solid round stainless steel standoff spacers no more than 18" O.C. Return handrail/guardrail ends to car walls.

9. Pads and Buttons and Permanently Mounted Hooks: Removable pads. Two pads covering side walls and adjacent front returns and one covering rear wall. Provide cutouts to access main car operating panel.

2.10 HALL CONTROL STATIONS

A. Pushbuttons: Provide one riser with flush mounted faceplates. Include pushbuttons for each direction of travel which illuminate to indicate call registration. Include approved engraved message and pictorial representation prohibiting use of elevator during fire or other
emergency situation as part of faceplate. Pushbutton design shall match car operating panel pushbuttons. Provide vandal resistant pushbutton and light assemblies. Provide an illuminated signal marked "Elevator Emergency Power" to indicate emergency or standby power is in effect.

2.11 SIGNALS

A. Hall Lantern, both Cars: Re-use existing lantern location and provide new Illuminated up or down LED lights and sound tone once for up and twice for down direction prior to car arrival at floor. Sound level shall be adjustable from 20-80 dBA measured at 5'-0" in front of hall control station and 3'-0" off floor. Illuminate light until the car doors start to close. Provide advanced hall lantern notification to comply with ADA hall call notification time. Provide vandal resistant lantern and light assemblies consisting of series of dots or lines for maximum visibility.

B. Car Position Indicator: Alpha-numeric digital indicator containing floor designations and direction arrows a minimum of 1/2" high to indicate floor served and direction of car travel. Locate fixture in car front return panel each car operating panel. When a car leaves or passes a floor, illuminate indication representing position of car in hoistway. Illuminate proper direction arrow to indicate direction of travel. Provide multi-numeral vandal resistant indicator and light assemblies.

C. Faceplate Material and Finish: Satin stainless steel, all fixtures.

D. Floor Passing Tone: Provide an audible tone of no less than 20 decibels and frequency of no higher than 1500 Hz, to sound as the car passes or stops at a floor served.

E. Voice Synthesizer: Provide electronic device with easily reprogrammable message and male voice to announce car direction, floor, emergency exiting instructions, etc.

F. Firefighters’ Control Panel:
   1. Locate in building fire control room. Fixture faceplate, stainless steel satin finish, including the following features:
   2. Two-position firefighters’ emergency return switches and indicators with engraved instructions filled red.

G. Firefighters’ Key Box: Flush-mounted box with lockable hinged cover. Engrave instructions for use on cover per Local Fire Authority requirements.

H. Control Room Display Unit: Provide groups of elevators with a control room color SVGA monitor. As a minimum, SVGA monitor shall display the following functions:
   1. Car operating in normal/standby power.
   2. Car position and direction of travel.
   3. Car calls.
   4. Hall calls.
   5. Operating mode.
   6. Door status.
   7. Delayed car.
   8. Load weighing and by-pass.
   9. Car to lobby feature.
   10. Car in/out of service.
11. Seismic operation.

2.12 INTERCOM

A. General: Provide intercommunication system for Cars 1 and 2. Include all wiring between elevator hoistways and control panels. Include the following stations:

<table>
<thead>
<tr>
<th>Station Location</th>
<th>Type</th>
<th>Selection Buttons to Call</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevator Control Room</td>
<td>Master</td>
<td>Control Panels, All Cars</td>
</tr>
<tr>
<td>Lobby Control Panel</td>
<td>Master</td>
<td>Control Rooms, All Cars</td>
</tr>
<tr>
<td>Security Command</td>
<td>Master</td>
<td>Control Rooms, All Cars</td>
</tr>
<tr>
<td>All Cars</td>
<td>Remote</td>
<td>Lobby Control Panel</td>
</tr>
</tbody>
</table>

B. Basic Equipment:

1. Amplifier providing static-free voice transmission with adequate volume and minimum distortion at all stations, with pre-amplifier capable of receiving voice and music inputs from building and emergency building communication system.

2. Activation of emergency building communication system overrides all other conversations and permits one-way conversation to all master stations in system.

3. Master Stations:
   a. Speaker-microphone combination and/or handset for two-way communication.
   b. Selection buttons to enable communication with all master stations. Maintain continual reception of hands-free reply from station when a selected button is depressed.
   c. Two-Position “Talk/Listen” Button: Press to talk; release to listen.
   d. Illuminate “in use” light when any master station is being used.
   e. Reset button to make system available for use by any master station.
   f. Volume control knob for adjustment of incoming volume.
   g. Button to establish communications with all stations.

4. Remote Stations:
   a. Station in car shall be activated by “push to call,” two-way communication button. “Push to call” button shall illuminate and flash when call is acknowledged. Button shall match car operating panel pushbutton design. Provide uppercase “PUSH TO CALL,” “HELP ON THE WAY” engraved signage adjacent to button. Provide “push to call” button tactile symbol, engraved signage, and Braille adjacent to button.
   b. Locate car microphone and speaker or transceiver/speaker combination in behind front return panel with drilled speaker pattern, with shielded wiring to control room junction box.

C. Station Housings:

1. House master station in control room in a metal compartment with baked enamel finish. Attach to the group elevator supervisory control panel or wall mount. Provide communication handset with 25'-0" long cord.

2. Provide control center master intercoms with stainless steel satin finish faceplates and engraved operating instructions. Coordinate faceplate size and installation of units with building Console Supplier.
2.13 SEISMIC OPERATIONS AND EQUIPMENT

A. Provide design, components, and operation per governing code. Provide dual counterweight derailment sensing wires vertically each side of counterweight the entire height of travel. The counterweight frame shall be equipped with a minimum of four derailment rings. A dual axis seismic switch shall be provided that will activate at no less than 0.15 times gravity in the vertical or horizontal directions. A minimum of one seismic switch shall be provided per single or group of elevators. Counterweight retainer plates must be bolted.

PART 3 EXECUTION

3.01 SITE CONDITION INSPECTION

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

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

3.02 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver material in Contractor’s original unopened protective packaging.

B. Store material in original protective packaging. Prevent soiling, physical damage, or moisture damage.

C. Protect equipment and exposed finishes from damage and stains during transportation, erection, and construction.

3.03 INSTALLATION

A. Install all equipment in accordance with Contractor’s instructions, referenced codes, specification, and approved submittals.

B. Install control room equipment with clearances in accordance with referenced codes and specification.

C. Install all equipment so it may be easily removed for maintenance and repair.

D. Install all equipment for ease of maintenance.

E. Install all equipment to afford maximum accessibility, safety, and continuity of operation.

F. Remove oil, grease, scale, and other foreign matter from the following equipment and apply one coat of field-applied machinery enamel.
   1. All exposed equipment and metal work installed as part of this work which does not have architectural finish.
   2. Control room equipment, hoistway equipment including guide rails, guide rail brackets, and pit equipment.
   3. Neatly touch up damaged factory-painted surfaces with original paint color. Protect machine-finish surfaces against corrosion.
3.04 FIELD QUALITY CONTROL

A. Work at jobsite will be checked during course of installation. Full cooperation with reviewing personnel is mandatory. Accomplish corrective work required prior to performing further installation.

B. Have Code Authority acceptance inspection performed and complete corrective work.

3.05 ADJUSTMENTS

A. Install rails plumb and align vertically with tolerance of 1/16" in 100'-0". Secure joints without gaps and file any irregularities to a smooth surface.

B. Static balance car to equalize pressure of guide shoes on guide rails.

C. Lubricate all equipment in accordance with Contractor’s instructions.

D. Adjust motors, power conversion units, brakes, controllers, leveling switches, limit switches, stopping switches, door operators, interlocks, and safety devices to achieve required performance levels.

3.06 CLEANUP

A. Keep work areas orderly and free from debris during progress of project. Remove packaging materials on a daily basis.

B. Remove all loose materials and filings resulting from work.

C. Clean control room equipment and floor.

D. Clean hoistways, car, car enclosure, entrances, operating, and signal fixtures.

3.07 ACCEPTANCE REVIEW AND TESTS

A. Review procedure shall apply for individual elevators, portions of groups of elevators, and completed groups of elevators accepted on an interim basis or elevators and groups of elevators completed, accepted, and placed into operation.

B. Contractor shall perform review and evaluation of all aspects of its work prior to requesting Consultant’s final review. Work shall be considered ready for Consultant’s final contract compliance review when all Contractor’s tests are complete and all elements of work or a designated portion thereof are in place and elevator or groups of elevators are deemed ready for service as intended.

C. Furnish labor, materials, and equipment necessary for Consultant’s review. Notify Consultant a minimum of five working days in advance when ready for final review of elevator or group.

D. Consultants’ written list of observed deficiencies of materials, equipment, and operating systems will be submitted to Contractor for corrective action. Consultant’s review shall include as a minimum:
   1. Workmanship and equipment compliance with Contract Documents.

3. Performance of following is satisfactory:
   a. Starting, accelerating, running
   b. Decelerating, stopping accuracy
   c. Door operation and closing force
   d. Equipment noise levels
   e. Signal fixture utility
   f. Overall ride quality
   g. Performance of door control devices
   h. Operations of emergency two-way communication device
   i. Operations of firefighters’ service
   j. Operations of seismic devices
   k. Operations of special security features and floor lock-off provisions
   l. Operations of remote monitoring devices

4. Test Results:
   a. In all test conditions obtain specified contract speed, performance times, stopping accuracy without re-leveling, and ride quality to satisfaction of Purchaser and Consultant. Tests shall be conducted under both no load and full load condition.
   b. Temperature rise in motor windings limited to 50° Celsius above ambient. A full-capacity one-hour running test, stopping at each floor for ten seconds in up and down directions, may be required.

E. Performance Guarantee: Should Consultant’s review identify defects, poor workmanship, variance or noncompliance with requirements of specified codes and/or ordinances, or variance or noncompliance with the requirements of Contract Documents, Contractor shall complete corrective work in an expedient manner to satisfaction of Purchaser and Consultant at no cost as follows:
   1. Replace equipment that does not meet code or Contract Document requirements.
   2. Perform work and furnish labor, materials, and equipment necessary to meet specified operation and performance.

F. A follow-up final contract compliance review shall be performed by Consultant after notification by Contractor that all deficiencies have been corrected. Provide Consultant with copies of the initial deficiency report marked to indicate items which Contractor considers complete.

3.08 PURCHASER’S INFORMATION

A. Provide three sets of neatly bound written information necessary for proper maintenance and adjustment of equipment within 30 days following final acceptance. Final retention will be withheld until data is received by Purchaser and reviewed by Consultant. Include the following as minimums:
   1. Straight-line wiring diagrams of “as-installed” elevator circuits with index of location and function of components. Provide one set reproducible master. Mount one set wiring diagrams on panels, racked, or similarly protected, in elevator control room. Provide remaining set rolled and in a protective drawing tube. Maintain all drawing
sets with addition of all subsequent changes. These diagrams are Purchaser’s property.

2. Written Maintenance Control Program (MCP) specifically designed for the equipment included under this contract. Include any unique or product specific procedures or methods required to inspect or to test the equipment. In addition, identify weekly, bi-weekly, monthly, quarterly, and annual maintenance procedures, including statutory and other required equipment tests.

3. Provide any necessary interface cards required for equipment maintenance, code mandated testing, and troubleshooting.

4. Lubrication instructions including recommended grade of lubricants.

5. Parts catalogs for all replaceable parts including ordering forms and instructions.

6. Four sets of keys for all switches and control features properly tagged and marked.

7. Diagnostic test devices together with all supporting information necessary for interpretation of test data and troubleshooting of elevator system, and performance of routine safety tests.

8. The elevator installation shall be a design that can be maintained by any licensed elevator maintenance company employing journeymen mechanics, without the need to purchase or lease additional diagnostic devices, special tools, or instructions from the original equipment Contractor.
   a. Provide onsite capability to diagnose faults to the level of individual circuit boards and individual discrete components for the solid state elevator controller.
   b. Provide a separate, detachable device, as required to the Purchaser as part of this installation if the equipment for fault diagnosis is not completely self-contained within the controller. Such device shall be in possession of and become property of the Purchaser.
   c. Installed equipment not meeting this requirement shall be removed and replaced with conforming equipment at no cost to the Purchaser.

9. Provide upgrades and/or revisions of software during the progress of the work, warranty period, and the term of the ongoing maintenance agreement between the Purchaser and Contractor.