TowerPinkster
Architecture · Engineering · Interiors

PORTAGE WEST MIDDLE SCHOOL SERVERY REMODEL - BID PACKAGE 1 FOODSERVICE EQUIPMENT

PROJECT MANUAL

12/21/2023

OWNER

PORTAGE PUBLIC SCHOOLS
8107 MUSTANG DRIVE
PORTAGE, MI 49002

PROJECT NUMBER

Architect's Project No. 23186

Tower Pinkster Titus Associates, Inc.
242 East Kalamazoo Avenue, Suite 100, Kalamazoo, MI 49007-5828
4 East Fulton Street, Suite 200, Grand Rapids, MI 49503

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SECTION 00 1113 - ADVERTISEMENT FOR BIDS

1.1 FROM:

A. THE OWNER:

1. Portage Public Schools
2. 8107 Mustang Drive
3. Portage, MI 49002

B. AND THE ARCHITECT:

1. Tower Pinkster Titus Associates
2. 242 East Kalamazoo Avenue, Suite 100 Kalamazoo, MI 49007-5828

1.2 TO: POTENTIAL BIDDERS

A. Bids will be accepted from bidders under seal to Owner for remodeling of a facility located at 7145 Moorsbridge Rd, Portage, MI 49024 before 10:00 a.m. local time on January 23, 2024, for the following project:

1. Portage West Middle School Servery Remodel – Bid Package #1.

B. Bids will be received at the office of the Owner.

C. Bids will be opened and read aloud publicly in the presence of the bidders at that time and place. Bids received after that time will not be opened.

D. Project Description: The scope of work includes the relocation of food service equipment, the integration of new food service equipment, and other work indicated in the Contract Documents

E. Bid Documents will be available December 21, 2023. Electronic PDF copies can be obtained by request. Contact the office of the Architect. Att: Doug Milburn, dmilburn@towerpinkster.com.

F. As required by State Law (P.A. 232 of 2004), all bids shall be accompanied by a sworn and notarized statement disclosing any familial relationship that exists between Portage Public Schools or any employee of the bidder and any member of the school board or the superintendent of the school district. Bids that do not include this sworn and notarized disclosure statement will not be accepted.

G. Bidders will be required to provide Bid security in the form of a surety bond, certified check, or cashier's check in the amount of 5 percent of the bid amount. Performance and Payment bonds will be required.

H. There will be a mandatory pre-bid meeting beginning at 3:00 p.m. local time on January, 15 2024 at Portage West Middle School. The purpose is to consider questions posed by bidders and to tour the site and existing facilities. This meeting is mandatory for all prime contract bidders. No bid will be considered from a bidder that does not have a representative at this meeting.

I. No bids may be withdrawn for a period of 30 days after submission.

J. The Owner reserves the right to accept or reject any or all bids, alternates, or proposals, and to accept those bids, alternates, or proposals that, in his judgement, serve his best interests.

END OF DOCUMENT 00 1113

SECTION 00 2113 - INSTRUCTIONS TO BIDDERS

1.1 FORM OF INSTRUCTIONS TO BIDDERS

A. See AIA Document A701 (1997 Edition), Instructions to Bidders, issued by the American Institute of Architects. It is an integral part of the Bidding Documents but is not bound in the Project Manual. Refer to this document for pertinent information. Failure to consult this document shall not relieve the Bidder of its obligations therein. Copies of this document may be viewed at the office of the Architect, and may be purchased at the following location:

a. AIA Michigan
b. 4219 Woodward Avenue
c. Detroit, MI 48201
d. (313) 965-4100

B. The instructions in this document amend or supplement the Instructions to Bidders and other provisions of the Bidding and Contract Documents. Where any Article of the Instructions to Bidders is modified, or any paragraph, sub-paragraph or clause thereof is modified or deleted by these supplements, the unaltered provisions of that article, paragraph, sub-paragraph, or clause shall remain in effect.

1.2 ARTICLE 1 – DEFINITIONS

A. Make the following revisions to paragraph 1.1:

1. 1.1 In the first and second sentences, replace the phase "Bidding Requirements" with the phrase "Procurement Requirements." In the second sentence replace the words "and contract forms" with the word "forms." In the third sentence, after the words replace the words "Conditions of the Contract" with the words "contracting forms, Conditions of the Contract."

1.3 ARTICLE 2 – BIDDER'S REPRESENTATIONS

A. Add the following clause 2.1.3.1 to subparagraph 2.1.3:

a. .1 The Bidder has investigated all required fees, permits, and regulatory requirements of authorities having jurisdiction and has properly included in the submitted bid the cost of such fees, permits, and requirements not otherwise indicated as provided by Owner.

1.4 ARTICLE 3 – BIDDING DOCUMENTS

1. 3.3 SUBSTITUTIONS

B. Add the following Sub-paragraph 3.3.5:

1. 3.3.5 Voluntary alternates shall be presented on the Bidder's letterhead, together with the amount to be deducted from, or added to, his proposal. The Owner may accept or reject such voluntary alternates based upon his best judgement of value.

1.5 ARTICLE 4 – BIDDING PROCEDURE

1. 4.1 PREPARATION OF BIDS

B. Add the following clause 4.1.1.1 to subparagraph 4.1.1:
   a. .1 Submit two fully executed copies of the bid, including all required attachments.

C. Add the following Subparagraph 4.1.8:

1. 4.1.8 The Bid shall include unit prices when called for by the Procurement and Contracting Documents. Owner may elect to consider unit prices in the determination of award. Unit prices will be incorporated into the Contract.

2. 4.2 BID SECURITY

D. Omit the last sentence of Subparagraph 4.2.1.

E. Add the following Subparagraph 4.2.4:

1. 4.2.4 Bid security equal to 5 percent of the bid shall be provided in the form of a surety bond, certified check, or cashier's check made payable to the Owner.

3. 4.4 MODIFICATION OR WITHDRAWAL OF BID

F. Add the following clauses to Subparagraph 4.4.2:
   a. .1 Such modifications to or withdrawal of a bid may only be made by persons authorized to act on behalf of the Bidder. Authorized persons are those so identified in the Bidder's corporate bylaws, specifically empowered by the Bidder's charter or similar legally binding document acceptable to Owner, or by a power of attorney, signed and dated, describing the scope and limitations of the power of attorney. Make such documentation available to Owner at the time of seeking modifications or withdrawal of the Bid.
   b. .2 Owner will consider modifications to a bid written on the sealed bid envelope by authorized persons when such modifications comply with the following: the modification is indicated by a percent or stated amount to be added to or deducted from the Bid; the amount of the Bid itself is not made known by the modification; a signature of the authorized person, along with the time and date of the modification, accompanies the modification. Completion of an unsealed bid form, awaiting final figures from the Bidder, does not require power of attorney due to the evidenced authorization of the Bidder implied by the circumstance of the completion and delivery of the Bid.

1.6 ARTICLE 5 – CONSIDERATION OF BIDS

A. Add the following subparagraph 5.2.1 to paragraph 5.1:

1. 5.2.1 Owner reserves the right to reject a bid based on Owner's and Architect's evaluation of qualification information submitted following opening of bids. Owner's evaluation of the Bidder's qualifications will include: status of licensure and record of compliance with licensing requirements, record of quality of completed work, record of Project completion and ability to complete, record of financial management including financial resources available to complete Project and record of timely payment of obligations, record of Project site management including

compliance with requirements of authorities having jurisdiction, record of and number of current claims and disputes and the status of their resolution, and qualifications of the Bidder's proposed Project staff and proposed subcontractors.

1.7 ARTICLE 6 – POST BID INFORMATION

1. 6.2 OWNER'S FINANCIAL CAPABILITY

B. Omit Paragraph 6.2.

1. 6.3 SUBMITTALS

C. Replace Subparagraph 6.3.1 with the following:

1. 6.3.1 All bidders whose bid is under consideration shall submit, within 48 hours of bid opening, a Schedule of Values listing all subcontractors proposed for the Work and the following:
   a. .1 A designation of the Work to be performed with the Bidder's own forces.
   b. .2 Names of the manufacturers, products, and the suppliers of principal items or systems of materials and equipment proposed for the Work.

1.8 ARTICLE 7 – PERFORMANCE BOND AND PAYMENT BOND

1. 7.1 BOND REQUIREMENTS

B. Add the following Subparagraph 7.1.4:

1. 7.1.4 Performance and Payment Bonds in the amount of 100 percent of the Contract amount will be required.

C. Add the following Article 9 to the Instructions to Bidders:

1.9 ARTICLE 9 – ADDITIONAL ITEMS

1. 9.1 EXECUTION OF THE CONTRACT

2. 9.1.1 Subsequent to the Notice of Intent to Award, and within 10 days after the prescribed Form of Agreement is presented to the Awardee for signature, the Awardee shall execute and deliver the Agreement to Owner through Architect, in such number of counterparts as Owner may require.
3. 9.1.2 Owner may deem as a default the failure of the Awardee to execute the Contract and to supply the required bonds when the Agreement is presented for signature within the period of time allowed.
4. 9.1.3 Unless otherwise indicated in the Procurement and Contracting Documents or the executed Agreement, the date of commencement of the Work shall be the date of the executed Agreement or the date that the Bidder is obligated to deliver the executed Agreement and required bonds to Owner.

5. 9.2 PRE-BID MEETING

6. 9.2.1 There will be a mandatory pre-bid meeting beginning at 3:00 p.m. local time on January 15, 2024 at the following place: Portage West Middle School.
   a. .1 The purpose is to consider questions posed by bidders and to tour the site and existing facilities.
   b. .2 All prime contract and subcontract bidders are urged to attend.
   c. .2 This meeting is mandatory for all prime contract bidders. No bid will be considered from a bidder that does not have a representative at this meeting.

END OF DOCUMENT 00 2113

DOCUMENT 00 2600 - PROCUREMENT SUBSTITUTION PROCEDURES

1.1 DEFINITIONS

A. Procurement Substitution Requests: Requests for changes in products, materials, equipment, and methods of construction from those indicated in the Procurement and Contracting Documents, submitted prior to receipt of bids.

B. Substitution Requests: Requests for changes in products, materials, equipment, and methods of construction from those indicated in the Contract Documents, submitted following Contract award. See Section 01 2500 "Substitution Procedures" for conditions under which Substitution requests will be considered following Contract award.

1.2 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.

1.3 PROCUREMENT SUBSTITUTIONS

A. Procurement Substitutions, General: By submitting a bid, the Bidder represents that its bid is based on materials and equipment described in the Procurement and Contracting Documents, including Addenda. Bidders are encouraged to request approval of qualifying substitute materials and equipment when the Specifications Sections list materials and equipment by product or manufacturer name.

B. Procurement Substitution Requests will be received and considered by Owner when the following conditions are satisfied, as determined by Architect; otherwise requests will be returned without action:

1. Extensive revisions to the Contract Documents are not required.
2. Proposed changes are in keeping with the general intent of the Contract Documents, including the level of quality of the Work represented by the requirements therein.
3. The request is fully documented and properly submitted.

1.4 SUBMITTALS

A. Procurement Substitution Request: Submit to Architect. Procurement Substitution Request must be made in writing in compliance with the following requirements:

1. Requests for substitution of materials and equipment will be considered if received no later than 10 days prior to date of bid opening.
2. Submittal Format: Submit each written Procurement Substitution Request, using form bound in Project Manual.
    a. Identify the product or the fabrication or installation method to be replaced in each request. Include related Specifications Sections and drawing numbers.
    b. Provide complete documentation on both the product specified and the proposed substitute, including the following information as appropriate:

1) Point-by-point comparison of specified and proposed substitute product data, fabrication drawings, and installation procedures.
2) Copies of current, independent third-party test data of salient product or system characteristics.
3) Samples where applicable or when requested by Architect.
4) Detailed comparison of significant qualities of the proposed substitute with those of the Work specified. 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.
5) Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
6) Research reports, where applicable, evidencing compliance with building code in effect for Project, from ICC-ES.
7) 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, which will become necessary to accommodate the proposed substitute.

c. Provide certification by manufacturer that the substitute proposed is equal to or superior to that required by the Procurement and Contracting Documents, and that its in-place performance will be equal to or superior to the product or equipment specified in the application indicated.

d. Bidder, in submitting the Procurement Substitution Request, waives the right to additional payment or an extension of Contract Time because of the failure of the substitute to perform as represented in the Procurement Substitution Request.

B. Architect's Action:

1. Architect may request additional information or documentation necessary for evaluation of the Procurement Substitution Request. Architect will notify all bidders of acceptance of the proposed substitute by means of an Addendum to the Procurement and Contracting Documents.

C. Architect's approval of a substitute during bidding does not relieve Contractor of the responsibility to submit required shop drawings and to comply with all other requirements of the Contract Documents.

END OF DOCUMENT 00 2600

SECTION 00 4100 - BID FORM

1.1 THE PROJECT AND THE PARTIES:

A. TO: Portage Public Schools (the Owner)

1. 8107 Mustang Dr.
2. Portage, MI 49002

B. FOR: Portage West Middle School Servery Remodel – Bid Package #1

C. DATE: _____ (Bidder to enter date)

D. SUBMITTED BY: (Bidder to enter name and address)

1. Bidders Full Name _____
2. Address _____
3. City, State, and Zip _____
4. Phone Number _____
5. Fax Number _____

1.2 OFFER

A. Having examined the Place of the Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by Tower Pinkster Titus Associates for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work for the Sum of:

1. _____ Dollars ($_____)
2. in lawful money of the United States of America.
3. We have included the required security as required by the Instruction to Bidders.
4. All applicable taxes are included in the Bid Sum.
5. All Cash and Contingency Allowances described in Division 01 Section Allowances are included in the Bid Sum.

1.3 ACCEPTANCE

A. This offer shall be open to acceptance and is irrevocable for thirty days from the bid closing date. If this bid is accepted by the Owner within the time period stated above, we will:

1. Execute the Agreement within seven days of receipt of Notice of Award.
2. Furnish the required bonds within seven days of receipt of Notice of Award.
3. Commence work within seven days after written Notice to Proceed of this bid.

B. If this bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required Bond(s), the security deposit shall be forfeited as damages to the Owner by reason of our failure, limited in amount to the lesser of the face value of the security deposit or the difference between this bid and the bid upon which a Contract is signed.

C. In the event our bid is not accepted within the time stated above, the required security deposit shall be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

1.4 CONTRACT TIME

A. If this Bid is accepted, we will:

1. Substantially Complete the Work by August 16, 2024.

1.5 ADDENDA

A. The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.

B. _____

C. _____

D. _____

E. _____

1.6 BID FORM SUPPLEMENTS

A. We agree to submit the following Supplements to Bid Forms if requested by the Architect within 48 hours after submission of this bid for additional bid information:

1. Schedule of Values: Include the names of all Subcontractors and the portions of the Work they will perform.

1.7 BID FORM SIGNATURE(S)

A. The Corporate Seal of

1. .....
2. (Bidder - print the full name of your firm)

B. was hereunto affixed in the presence of:

1. .....
2. (Authorized signing officer, Title)

C. (Seal)

1. .....
2. (Authorized signing officer, Title)

D. IF THE BID IS A JOINT VENTURE OR PARTNERSHIP ADD ADDITIONAL FORMS OF EXECUTION FOR EACH MEMBER OF THE JOINT VENTURE IN THE APPROPRIATE FORM OR FORMS AS ABOVE.

END OF DOCUMENT 00 4100

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SECTION 00 4325 - SUBSTITUTION DURING PROCUREMENT REQUEST FORM

1.1 INTRODUCTORY INFORMATION

A. Date: _____

B. Requesting substitution of _____

C. As specified in Section _____

D. Requested Substitute Product: _____

1.2 SUBMITTING PARTY'S STATEMENT

A. Circle "Y" for yes and "N" for no for each of the following statements and submit supporting data. Indicate impact for all statements below answered as no, with supporting data:

1. [Y] [N] 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 redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
2. [Y] [N] Requested substitution does not require extensive revisions to the Contract Documents.
3. [Y] [N] Requested substitution is consistent with the Contract Documents and will produce indicated results.
4. [Y] [N] Substitution request is fully documented and properly submitted in accordance with "Product Substitution" and "Submittals" Articles in Division 01 Section "Product Requirements."
5. [Y] [N] Requested substitution will not adversely affect Contractor's Construction Schedule.
6. [Y] [N] Requested substitution has received necessary approvals of authorities having jurisdiction.
7. [Y] [N] Requested substitution is compatible with other portions of the Work.
8. [Y] [N] Requested substitution has been coordinated with other portions of the Work.
9. [Y] [N] Requested substitution provides specified warranty.

B. I hereby certify that the above statements are true.

C. _____

D. Submitter's signature

END OF DOCUMENT 00 4325

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SECTION 00 4518 - FAMILIAL STATEMENT OF DISCLOSURE

1.1 THE PROJECT AND THE PARTIES:

A. TO: Portage Public Schools

B. FOR: Portage West Middle School Servery Remodel – Bid Package #1

1.

C. SUBMITTED BY: (Bidder to enter name)

1. Bidder's Full Name _____

1.2 REPRESENTATION

A. Affiant, "the Bidder," has personal knowledge of the matters set forth in this Affidavit, is competent to testify about them, and being first duly sworn, deposes and says that:

a. No officer or employee of the Owner is personally or financially interested, directly or indirectly, in the Bid, or any Contract which may be under it, or in the purchase or sale of any materials, equipment or supplies for the Work to which it relates, or any portion of any expected profits thereto. In compliance with Michigan Public Act 232 of 2004, any familial relationship that exists between the Owner or any employee of the Bidder and any member of the Owner's Board of Directors is disclosed below. If no familial relationship exists, write "none."

B. _____

C. _____

a. The Bid is not intended to secure an unfair advantage or benefit from the Owner or in favor of any person interested in the proposed Contract.

D. By:

1. .....
2. (Authorized signing officer, Title)

1.3 VERIFICATION

A. STATE OF MICHIGAN

B. COUNTY OF _____

C. Before me, a Notary Public commissioned, qualified and acting, personally appeared (enter name of the person signing this Affidavit) _____ to me well known to be the person described in and who signed this Noncollusion Affidavit, who being by me first duly sworn upon oath, says that he/she is the Attorney-in-Fact for (enter Bidder's name) _____ - _____, that he/she has been authorized by (enter name of individual, partnership name, or the authorized governing body of the Bidder) _____ to execute this Noncollusion Affidavit on behalf of the named Bidder in favor of the Owner, for the uses and purposes mentioned.

D. Subscribed and sworn to before me this _____ day of _____, 20_____.

E. _____

F. Notary Public, State of Michigan

G. My Commission expires: _____, 20___

END OF DOCUMENT 00 4518

SECTION 00 4519 - NONCOLLUSION AFFIDAVIT

1.1 THE PROJECT AND THE PARTIES:

A. TO: Portage Public Schools

B. FOR: Portage West Middle School Servery Remodel – Bid Packgae #1

C. SUBMITTED BY: (Bidder to enter name)

1. Bidder's Full Name _____

1.2 REPRESENTATION

A. Affiant, "the Bidder," has personal knowledge of the matters set forth in this Affidavit, is competent to testify about them, and being first duly sworn, deposes and says that:

a. The Bidder has submitted to the Owner a "Bid" to enter into the above referenced Contract, also referred to in this Affidavit as "the Work."
b. This Noncollusion Affidavit is executed by Affiant for inclusion with the submission to the Owner of the Bid and may be relied upon by the Owner in considering the Bid.
c. Affiant is fully informed about the preparation and contents of the Bid and of all pertinent circumstances surrounding the Bid, has not entered into any contract, combination, conspiracy or other act prohibited by federal, State or any other local Law. The Bid is genuine and is not a collusive or sham Bid.
d. Neither the Bidder nor any of the Bidder 's owners, officers, partners, directors, agents, representatives, employees or parties in interest, including this Affiant, have in any way entered or proposed to enter into any combination to prevent the making of any Bid, or to fix any prices (including overhead, profit or other costs) for the Bid; or have made any agreement, or given or promised any consideration to induce any other person not to Bid for the Work, or to Bid at a specified price; or have secured, proposed or intended to secure through any agreement an unlawful advantage against the Owner or any other person interested in the Work.
e. No officer or employee of the Owner is personally or financially interested, directly or indirectly, in the Bid, or any Contract which may be under it, or in the purchase or sale of any materials, equipment or supplies for the Work to which it relates, or any portion of any expected profits thereto. In compliance with Michigan Public Act 232 of 2004, any familial relationship that exists between the Owner or any employee of the Bidder and any member of the Owner's Board of Directors is disclosed below. If no familial relationship exists, write "none."

B. _____

C. _____

a. The Bid is not intended to secure an unfair advantage or benefit from the Owner or in favor of any person interested in the proposed Contract.
b. The prices bid are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the Bidder or any other of the Bidder's

owners, officers, partners, directors, agents, representatives, employees or parties in interest, including this Affiant; and neither the Bidder nor any of its owners, officers, partners, directors, agents, representatives, employees or parties in interest, including this Affiant, have divulged any information regarding the Bid or any data about the Bid to any other person.

D. By:

1. .....
2. (Authorized signing officer, Title)

1.3 VERIFICATION

A. STATE OF MICHIGAN

B. COUNTY OF _____

C. Before me, a Notary Public commissioned, qualified and acting, personally appeared (enter name of the person signing this Affidavit) _____ to me well known to be the person described in and who signed this Noncollusion Affidavit, who being by me first duly sworn upon oath, says that he/she is the Attorney-in-Fact for (enter Bidder's name) _____ - _____, that he/she has been authorized by (enter name of individual, partnership name, or the authorized governing body of the Bidder) _____ to execute this Noncollusion Affidavit on behalf of the named Bidder in favor of the Owner, for the uses and purposes mentioned.

D. Subscribed and sworn to before me this _____ day of _____, 20_____.

E. _____

F. Notary Public, State of Michigan

G. My Commission expires: _____, 20___

END OF DOCUMENT 00 4519

SECTION 00 4546 - GOVERNMENTAL CERTIFICATIONS

1.1 CERTIFICATION OF COMPLIANCE - IRAN ECONOMIC SANCTIONS ACT

A. The undersigned, the owner, or authorized officer of the below-named company (the "Company"), pursuant to the compliance certification requirement provided in the Portage Public School's Request For Proposal (the "RFP"), hereby certifies, represents, and warrants that the Company (which includes its officers, directors and employees) is not an "Iran Linked Business" within the meaning of the Iran Economic Sanctions Act, Michigan Public Act No. 517 of 2012 (the "Act"), and that in the event the Company is awarded a contract by the Portage Public Schools as a result of the aforementioned RFP, the Company is not and will not become an "Iran Linked Business" at any time during the course of performing any services under the contract.

B. The Company further acknowledges that any person who is found to have submitted a false certification is responsible for a civil penalty of not more than $250,000.00 or two (2) times the amount of the contract or proposed contract for which the false certification was made, whichever is greater, the cost of the Portage Public Schools investigation, and reasonable attorney fees, in addition to the fine. Moreover, any person who submitted a false certification shall be ineligible to bid on a request for proposal for three (3) years from the date the it is determined that the person has submitted the false certification.

C. This certificate is to be filled out, signed, and submitted at the time of the submittal.

D. _____

E. Company Name

F. _____

G. Authorized Representative's Name and Title

H. _____

I. Signature

J.

K. _____

L. Date

END OF DOCUMENT 00 4546

This page intentionally left blank.

SECTION 00 4553 - BIDDER'S CERTIFICATION REGARDING RESPONSIBILITY MATTERS

1.1 THE PROJECT AND THE PARTIES:

A. TO: Portage Public Schools (the Owner)

1. 8107 Mustang Drive
2. Portage, Michigan 49002

1.2 CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBIITY MATTERS

A. The Bidder certifies to the best of its knowledge and belief that it and its principals:

a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency.
b. Have not, within a three-year period preceding this agreement been convicted of or had a civil judgment rendered against them for the commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.
c. Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with the commission of any of the offenses enumerated above in this certification.
d. Have not, within a three-year period preceding this agreement had one of more public transactions (Federal, State, or local) terminated for cause or default.
e. Is not now or has been, within a three-year period preceding this date, been listed on the Excluded Parties List System website (EPLS).

B. SUBMITTED BY: (Bidder to enter name)

1. Bidder's Full Name _____
2. A Corporation organized and existing under the laws of the State of _____.

1.3 Name, title, and signature of individual authorized to execute contracts:

1. Name _____
2. Title _____
3. Signature _____

END OF DOCUMENT 00 4553

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SECTION 00 6325 - SUBSTITUTION DURING CONSTRUCTION REQUEST FORM

1.1 INTRODUCTORY INFORMATION

A. Date: _____

B. Requesting substitution of _____

C. As specified in Section _____

D. Requested Substitute Product: _____

1.2 SUBMITTING PARTY'S STATEMENT

A. Circle "Y" for yes and "N" for no for each of the following statements and submit supporting data. Indicate impact for all statements below answered as no, with supporting data:

1. [Y] [N] 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 redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
2. [Y] [N] Requested substitution does not require extensive revisions to the Contract Documents.
3. [Y] [N] Requested substitution is consistent with the Contract Documents and will produce indicated results.
4. [Y] [N] Substitution request is fully documented and properly submitted in accordance with "Product Substitution" and "Submittals" Articles in Division 01 Section "Product Requirements."
5. [Y] [N] Requested substitution will not adversely affect Contractor's Construction Schedule.
6. [Y] [N] Requested substitution has received necessary approvals of authorities having jurisdiction.
7. [Y] [N] Requested substitution is compatible with other portions of the Work.
8. [Y] [N] Requested substitution has been coordinated with other portions of the Work.
9. [Y] [N] Requested substitution provides specified warranty.

B. I hereby certify that the above statements are true.

C. _____

D. Submitter's signature

1.3 CONTRACTOR'S STATEMENT

A. I have reviewed this substitution request and am in agreement with the information presented and statements made. This proposal is complete, and there will be no further charges to the Owner as a result of the acceptance of this substitution.

B. _____

C. Contractor's signature

END OF DOCUMENT 00 6325

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SECTION 00 7200 - GENERAL CONDITIONS

1.1 FORM OF GENERAL CONDITIONS

A. AIA Document A201, General Conditions of the Contract for Construction, 2007 Edition, is the General Conditions between the Owner and Contractor.

B. Refer to this document for pertinent information. Failure to consult this document shall not relieve the contractor of his obligations therein. Copies of this document may be viewed at the office of the Architect, and may be purchased at the following location:

a. AIA Michigan
b. 4219 Woodward Avenue
c. Detroit, MI 48201
d. (313) 965-4100

1.2 SUPPLEMENTARY CONDITIONS

A. Refer to Document 00 7300 for amendments to these General Conditions.

END OF DOCUMENT 00 7200

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SECTION 00 7300 - SUPPLEMENTARY CONDITIONS

INTENT

1.1 These Supplementary Conditions amend and supplement the General Conditions AIA A201 - 2007 defined in Document 00 7200 and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

1.2 The terms used in these Supplementary Conditions which are defined in the General Conditions have the meanings assigned to them in the General Conditions.

A. MODIFICATIONS TO AIA A 201

B. ARTICLE 1 – GENERAL PROVISIONS

1.3 1.1 BASIC DEFINITIONS

1.4 Make the following changes to subparagraph 1.1.1:

A. 1.1.1 In the first sentence, replace the phrase "Conditions of the Contract" with the phrase "Contracting Requirements."

1.5 Add the following paragraph 1.1.9:

A. 1.1.9 The Project Manual is a volume assembled for the Work which may include Procurement Requirements, Contracting Requirements, and Specifications.

1.6 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

1.7 Add the following clause to Subparagraph1.2.1

1. .1 Indicated results shall include those that can be reasonably inferred from the Contract Documents, whether expressly stated or not.

1.8 Add the following subparagraph to Paragraph 1.2:

A. 1.2.4: In the case of an inconsistency between Drawings and Specifications, or within either Document not clarified by addendum, the better quality or greater quantity of Work shall be provided in accordance with the Architect's interpretation.

B. ARTICLE 3 – CONTRACTOR

1.9 3.4 LABOR AND MATERIALS

1.10 Add the following subparagraphs to Paragraph 3.4:

A. 3.4.4: After the Contract has been executed, the Owner and the Architect will consider a formal request for the substitution of products in place of those specified only under the conditions set forth in the General Requirements of the Specifications (Division 01).

B. 3.4.5: By making requests for substitutions based on Subparagraph 3.4.4 above, the Contractor:

1. .1 represents that the Contractor has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified;
2. .2 represents that the Contractor will provide the same warranty for the substitution that the Contractor would for that specified;
3. .3 certifies that the cost data presented is complete and includes all related costs under this Contract but excludes costs under separate Contracts, and excludes the Architect's redesign costs, and waives all claims for additional costs related to the substitution which subsequently become apparent; and
4. .4 will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects.

C. 3.4.6: Not later than 30 days from the Contract Date, the Contractor shall provide a list showing the name of the manufacturer proposed to be used for each of the principle products called for in the Specifications, and where applicable, the name of the installing Subcontractor.

1. .1 The Architect will promptly reply in writing to the Contractor stating whether the Owner or the Architect, after due investigation, has reasonable objection to any such proposal. If adequate data on any proposed manufacturer or installer is not available, the Architect may state that action will be deferred until the Contractor provides further data. Failure of the Owner or the Architect to reply promptly shall constitute notice of no reasonable objection. Failure to object to a manufacturer shall not constitute a waiver of any of the requirements of the Contract Documents, and all products furnished by the listed manufacturer must conform to such requirements.

D. 3.4.7: The Owner’s cost for Architect’s services, at Architect’s normal billing rates, for review of substitution requests shall be deducted from the Contract Amount regardless of Architect’s recommendation of acceptance or rejection of the substitution.

1.11 3.6 TAXES

1.12 Add the following subparagraph to Paragraph 3.6:

A. 3.6.2: The Owner is a nonprofit corporation and therefore is exempt from State Sales and Use Tax and Federal Excise Taxes. However, the Contractor is responsible for the payment of any tax obligation it may incur in connection with the Work of this Project.

1.13 3.12 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

A. Add the following subparagraph 3.12.11 to Paragraph 3.12:

B. 3.12.11: The Architect's review of Contractor's submittals will be limited to examination of an initial submittal and one (1) resubmittal. The Owner is entitled to obtain reimbursement from the Contractor for amounts paid to the Architect for evaluation of additional resubmittals.

1.14 3.18 INDEMNIFICATION

1.15 Make the following changes in Subparagraph 3.18.1:

A. 3.18.1: In the first sentence, after the words ". . . or resulting from", insert the words "or in connection with". After the words "damage, loss or expense is", delete the phrase beginning with "attributable to . . ." and ending with ". . . regardless of whether or not such claim, damage, loss or expense is". In the second sentence, after the words ". . . of indemnity", insert the words "or contribution".

1.16 Add the following subparagraphs to Paragraph 3.18:

A. 3.18.3 "Claims, damages, losses and expenses" as these words are used in this agreement shall be construed to include, but not be limited to (1) injury or damage consequent upon the failure of or use or misuse by the Contractor, his subcontractors, agents, servants or employees, of any hoist, rigging, blocking, scaffolding, or any and all other kinds of items of equipment, whether or not the same be owned, furnished or loaned by the Owner; and (2) all attorney's fees and costs incurred in bringing an action to enforce the provisions of this indemnity or any other indemnity contained in the General Conditions, as modified by the Supplementary Conditions.

B. 3.18.4: Only to the extent prohibited by law, the obligations of the Contractor under this agreement shall not extend to the liability of the Owner, Architect, their agents or employees, arising out of their negligence.

C. ARTICLE 4 – ARCHITECT

1.17 4.1 GENERAL

1.18 Add the following clause to subparagraph 4.1.1:

1. .1: The terms Architect and Architect/Engineer as defined here and used in the Contract Documents shall mean Tower Pinkster Titus Associates, Inc.

1.19 4.2 ADMINISTRATION OF THE CONTRACT

1.20 Add the following clause 4.2.2.1 to subparagraph 4.2.2:

1. .1 The Owner's cost for Architect's services, at Architect's normal billing rates, for amounts paid to the Architect for site visits made necessary by the fault of the Contractor or by defects and deficiencies in the Work.

B. Add the following clause 4.2.7.1 to subparagraph 4.2.7

1. .1 In no case will the Architect's review period on any submittal be less than 14 days after receipt of the submittal from the Contractor.

1.21 Add the following clause 4.2.14.1 to subparagraph 4.2.14:

1. .1 The Owner's cost for Architect's services, at Architect's normal billing rates, in responding to requests of the Contractor shall be deducted from the Contract Amount if the intent of the documents is clear in the opinion of the Architect, or if the request for information contains a request for substitution.

B. ARTICLE 7 – CHANGES IN THE WORK

1.22 7.2 CHANGE ORDERS

1.23 Add the following Subparagraph 7.2.2:

A. 7.2.2: Adjustments to the Contract Sum shall be based on the Contractor's direct cost plus overhead and profit.

B. 7.2.3: Contractor's direct cost shall be determined in accordance with Subparagraph 7.3.6.

1. .1: All proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs including labor, materials and Subcontracts. Where major cost items are Subcontracts, they shall be itemized also. In no case will a change involving more than $100.00 be approved without such itemization.

C. 7.2.4: Combined overhead and profit included in the total cost to the Owner shall be based on the following schedule:

1. .1: For the Contractor, for Work performed by the Contractor's own forces, 15 percent of the cost.
2. .2: For the Contractor, for Work performed by the Contractor's Subcontractor, 5 percent of the amount due to the Subcontractor.
3. .3: For each Subcontractor or Sub-subcontractor involved, for Work performed by that Subcontractor or Sub-subcontractor's own forces, 15 percent of the cost.
4. .4: For each Subcontractor, for Work performed by the Subcontractor's Sub-subcontractor's, 5 percent of the amount due to the Sub subcontractor.

D. ARTICLE 9 – PAYMENTS AND COMPLETION

1.24 9.3 APPLICATIONS FOR PAYMENT

1.25 Add the following Clauses 9.3.1.3 and 9.3.1.4 to Subparagraph 9.3.1 of 9.3:

1. .3 Until the Work is 50 percent complete, the Owner will pay 90 percent of the amount due the Contractor on account of progress payments. At the time the work is 50 percent complete and thereafter, if the manner of completion of the Work and its progress are and remain satisfactory to the Architect and in the absence of other good and sufficient reasons, the Architect will (on presentation by the Contractor of Consent of Surety for each application) authorize any remaining partial payments to be paid in full.
2. .4 The full Contract retainage may be reinstated if the manner of completion of the Work and its progress do not remain satisfactory to the Architect (or if the Surety withholds its consent) or for other good and sufficient reasons.

1.26 Add the following Clause 9.3.1.3 to Subparagraph 9.3.1 of 9.3:

1. .3 Until the Work is Substantially Complete, the Owner will pay 90 percent of the amount due the Contractor on account of progress payments.

B. ARTICLE 11 – INSURANCE AND BONDS

1.27 11.1 CONTRACTOR'S LIABILITY INSURANCE

1.28 Add the following Clauses 11.1.1.9 and 11.1.1.10 to 11.1.1:

1. .9 Liability Insurance shall include all major divisions of coverage and be on a comprehensive basis including:

    a. A. Premises Operations (including X, C, and U coverages as applicable).
    b. B. Independent Contractor Protective.
    c. C. Products and Completed Operations.
    d. D. Personal Injury.
    e. E. Contractual, including specified provision for Contractor's obligation under Par. 3.18.
    f. F. Owned, non-owned and hired motor vehicles.
    g. G. Broad Form Property Damage including Completed Operations.

2. .10 If the General Liability coverages are provided by a Commercial General Liability Policy on a claims-made basis, the policy date or Retroactive Date shall predate the Contract; the termination date of the policy or applicable extended reporting period shall be no earlier than the termination date of coverage required to be maintained after final payment, certified in accordance with Subparagraph 9.10.2.

1.29 Add the following Clause 11.1.2.1 to 11.1.2:

1. .1 The insurance required by Subparagraph 11.1.1 shall be written for not less than the following, or greater if required by law:

   a. A. Commercial General Liability (including Premises-Operations; Independent Contractor's Protective; Products and Completed Operations; Broad Form Property Damage):

      1) 1) General Aggregate (Applied in total to this Project only) $2,000,000.00
      2) 2) Bodily Injury:

         a) a. Each Occurrence $1,000,000.00

      3) 3) Products and Completed Operation to be maintained
      4) for one Year after final payment, aggregate $2,000,000.00
      5) 4) Personal Injury $1,000,000.00
      6) 5) Fire Damage (Any one fire) $100,000.00
      7) 6) Medical Expense (Any one person) $5,000.00
      8) 7) Property Damage Liability Insurance shall provide X, C, and U coverage.
      9) 8) Broad Form Property Damage Coverage shall include Completed Operations.

   b. B. Business Auto Liability on Combined Single Limit or Occurrence Basis d (including owned, non-owned and hired vehicles):

      1) 1) Combined Single Limit Basis $1,000,000.00

   c. C. Umbrella Excess Liability:

      1) 1) Each Occurrence $5,000,000.00
      2) 2) Aggregate $5,000,000.00

   d. D. Worker's Compensation:

      1) 1) State Statutory
      2) 2) Applicable Federal Statutory
      3) 3) Employer Liability:

         a) a. Each Accident $500,000.00
         b) b. Disease - Policy Limit: $500,000.00
         c) c. Disease - Each Employee: $500,000.00

1.30 11.3 PROPERTY INSURANCE

1.31 Delete Clause 11.3.1.4 and substitute the following:

1. .4 The Contractor shall provide insurance coverage for portions of the Work stored off the site or in transit, after written approval of the Owner, at the value established in the approval when such portions of the Work are included in an Application for Payment under Subparagraph 9.3.2.

1.32 11.4 PERFORMANCE BOND AND PAYMENT BOND

1.33 Add the following Subparagraph 11.4.3:

A. 11.4.3: The bond value requirements are as follows:

1. .1 Provide a 100 percent Performance Bond on AIA A312.
2. .2 Provide a 100 percent Payment Bond on AIA A312.
3. .3 Deliver bonds within 3 days after execution of the Contract.

1.34 Add the following Article 16:

A. ARTICLE 16 – EQUAL OPPORTUNITY

1.35 16.1 CONTRACTOR'S EMPLOYMENT POLICY

A. 16.1.1 The Contractor shall maintain policies of employment as follows:

1. .1 The Contractor and its sub-contractors shall not discriminate against any employee or applicant for employment with respect to hire, tenure, terms, conditions or privileges or employment, or any matter directly or indirectly related to employment, because of race, color, religion, sex, national origin, or age. Breach of this covenant will be regarded as a material breach of the Contract.
2. .2 The Contractor and all Subcontractors shall in all solicitations or advertisements for employees placed by them or on their behalf, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, or age.

END OF DOCUMENT 00 7300

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SECTION 00 7343 - WAGE RATE REQUIREMENTS

1.1 PREVAILING WAGE REQUIREMENTS

A. Payment of a minimum of the prevailing wage rate is not a requirement of this project.

END OF DOCUMENT 00 7343

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SECTION 01 1000 - SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Owner-furnished/Contractor-installed (OFCI) products.
4. Contractor's use of site and premises.
5. Coordination with occupants.
6. Work restrictions.
7. Specification and Drawing conventions.

1.2 DEFINITIONS

A. Work Package: A group of specifications, drawings, and schedules prepared by the design team to describe a portion of the Project Work for pricing, permitting, and construction.

1.3 PROJECT INFORMATION

A. Project Identification: Portage West Middle School Servery Remodel – Bid Package #1.

1. Project Location:

Portage West Middle School
745 Moorsbridge Rd.

B. Portage, MI 49024Owner:

Portage Public Schools
8107 Mustang Dr.
Portage, MI 49002

1. Owner's Representative: Johnny Edwards

C. Architect:

Tower Pinkster Titus Associates, Inc.
242 E. Kalamazoo Avenue, Suite 100 Kalamazoo, MI 49007

1. Architect's Representative: Doug Milburn

1.4 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of Project is defined by the Contract Documents and consists of the following:

1. The scope of work includes the relocation of food service equipment, the integration of new food service equipment, and other Work indicated in the Contract Documents.

B. Type of Contract:

1. Project will be constructed under a single prime contract.

1.5 OWNER-FURNISHED/CONTRACTOR-INSTALLED (OFCI) PRODUCTS

A. Owner's Responsibilities: Owner will furnish products indicated and perform the following, as applicable:

1. Provide to Contractor Owner-reviewed Product Data, Shop Drawings, and Samples.
2. Provide for delivery of Owner-furnished products to Project site.
3. Upon delivery, inspect, with Contractor present, delivered items.
   a. If Owner-furnished products are damaged, defective, or missing, arrange for replacement.
4. Obtain manufacturer's inspections, service, and warranties.
5. Inform Contractor of earliest available delivery date for Owner-furnished products.

B. Contractor's Responsibilities: The Work includes the following, as applicable:

1. Designate delivery dates of Owner-furnished products in Contractor's construction schedule, utilizing Owner-furnished earliest available delivery dates.
2. Review Owner-reviewed Product Data, Shop Drawings, and Samples, noting discrepancies and other issues in providing for Owner-furnished products in the Work.
3. Receive, unload, handle, store, protect, and install Owner-furnished products.
4. Make building services connections for Owner-furnished products.
5. Protect Owner-furnished products from damage during storage, handling, and installation and prior to Substantial Completion.
6. Repair or replace Owner-furnished products damaged following receipt.

1.6 CONTRACTOR'S USE OF SITE AND PREMISES

A. Unrestricted Use of Site: Contractor shall have full use of Project site for construction operations during construction period. 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. Restricted Use of Site: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.

C. Limits on Use of Site: Limit use of Project site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. 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 for storage of materials.

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.

E. Condition of Existing Grounds: Maintain portions of existing grounds, landscaping, and hardscaping affected by construction operations throughout construction period. Repair damage caused by construction operations.

1.7 COORDINATION WITH OCCUPANTS

A. Partial Owner Occupancy: Owner will occupy the premises during entire construction period, with the exception of areas under construction. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's 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 authorities having jurisdiction.
2. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.

B. 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. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied prior to Owner acceptance of the completed Work.
2. Obtain a Certificate of Occupancy from authorities having jurisdiction before limited Owner occupancy.
3. Before limited Owner occupancy, mechanical and 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.
4. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of Work.

1.8 WORK RESTRICTIONS

A. Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets, work on public streets, rights of way, and other requirements of authorities having jurisdiction.

B. Work on-site may commence as soon as possible. Coordinate with Owner..

C. On-Site Work Hours: Limit work to between 7:00 a.m. to 5:00 p.m., Monday through Friday, unless otherwise indicated. Work hours may be modified to meet Project requirements if approved by Owner and authorities having jurisdiction.

D. 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 two days in advance of proposed utility interruptions.
2. Obtain Owner's written permission before proceeding with utility interruptions.

E. Noise, Vibration, Dust, and Odors: Coordinate operations that may result in high levels of noise and vibration, dust, odors, or other disruption to Owner occupancy with Owner.

1. Notify Owner not less than two days in advance of proposed disruptive operations.
2. Obtain Owner's written permission before proceeding with disruptive operations.

F. Smoking and Controlled Substance Restrictions: Use of tobacco products , alcoholic beverages, and other controlled substances on Owner's property is not permitted.

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

H. Employee Screening: Comply with Owner's requirements for drug and background screening of Contractor personnel working on Project site.

1. Maintain list of approved screened personnel with Owner's representative.

1.9 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. Hypertext: Text used in the Specifications may contain hyperlinks. Hyperlinks may allow for access to linked information that is not residing in the Specifications. Unless otherwise indicated, linked information is not part of the Contract Documents.
3. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

B. Division 00 Contracting Requirements: General provisions of the Contract, including General and Supplementary Conditions, apply to all Sections of the Specifications.

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

D. 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 scheduled on Drawings.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 1000

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SECTION 01 2500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for substitutions.

B. Related Requirements:

1. Section 01 2300 "Alternates" for products selected under an alternate.
2. Section 01 6000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.2 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.
   a. Unavailability due to failure to procure products in a timely manner does not constitute substitution for cause, and will be considered as substitution for convenience.

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.

1.3 ACTION SUBMITTALS

A. Substitution Requests: Submit documentation identifying 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 form provided in Project Manual.
2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
   a. Statement indicating why specified product or fabrication or installation method cannot be provided, if applicable.
   b. Coordination of 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 substitutions 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 as well as 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-ES.
j. Detailed comparison of Contractor's construction schedule using proposed substitutions 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 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.
   a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
   b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.4 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.

1.5 PROCEDURES

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

1.6 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. Substitution request is fully documented and properly submitted.
c. Requested substitution will not adversely affect Contractor's construction schedule.
d. Requested substitution has received necessary approvals of authorities having jurisdiction.
e. Requested substitution is compatible with other portions of the Work.
f. Requested substitution has been coordinated with other portions of the Work.
g. Requested substitution provides specified warranty.
h. 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: Architect will consider requests for substitution if received within 20 days after the Notice to Proceed. Requests received after that time may be considered or rejected at discretion of Architect.

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 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 redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
   b. Requested substitution does not require extensive revisions to the Contract Documents.
   c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
   d. Substitution request is fully documented and properly submitted.
   e. Requested substitution will not adversely affect Contractor's construction schedule.
   f. Requested substitution has received necessary approvals of authorities having jurisdiction.
   g. Requested substitution is compatible with other portions of the Work.
   h. Requested substitution has been coordinated with other portions of the Work.
   i. Requested substitution provides specified warranty.
   j. 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.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 2500

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SECTION 01 2600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

1.2 MINOR CHANGES IN THE WORK

A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

B. Architect will issue[**through Construction Manager**] supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on [**AIA Document G710, "Architect's Supplemental Instructions."**] [**form included in Project Manual.**]

1.3 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests (Bulletins): Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
2. Within time specified in Proposal Request or 20 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
3. Within [**time specified in Proposal Request**] [**or**] [**20 days, when not otherwise specified,**] <**Insert number of days**> after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

    a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
    b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
    c. Include costs of labor and supervision directly attributable to the change.
    d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
    e. Quotation Form: Use [CSI Form 13.6D, "Proposal Worksheet Summary," and Form 13.6C, "Proposal Worksheet Detail."] [forms provided by Owner. Sample copies are included in Project Manual.] [forms acceptable to Architect.]

B. Contractor-Initiated Work Change Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in Division 01 Section "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
7. Work Change Proposal Request Form: Use [CSI Form 13.6A, "Change Order Request (Proposal)," with attachments CSI Form 13.6D, "Proposal Worksheet Summary," and Form 13.6C, "Proposal Worksheet Detail."] [form provided by Owner. Sample copy is included in Project Manual.] [form acceptable to Architect.]

1.4 ADMINISTRATIVE CHANGE ORDERS

A. Allowance Adjustment: See Division 01 Section "Allowances" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect actual costs of allowances.

B. Unit-Price Adjustment: See Division 01 Section "Unit Prices" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect measured scope of unit-price work.

1.5 CHANGE ORDER PROCEDURES

A. On Owner's approval of a Work Changes Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

B. On Owner's approval of a Work Changes Proposal Request, [**Architect**] [**Construction Manager**] will issue a Change Order for signatures of Owner and Contractor on [**AIA Document G701**] [**form included in Project Manual**].

1.6 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

B. [**Construction**] [**Work**] Change Directive: [**Architect**] [**Construction Manager**] may issue a [**Construction**] [**Work**] Change Directive on [**AIA Document G714**] [**EJCDC Document C-940**] [**form included in Project Manual**]. [**Construction**] [**Work**] Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
2. [**Construction**] [**Work**] Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

C. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.

D. Documentation: Maintain detailed records on a time and material basis of work required by the [**Construction**] [**Work**] Change Directive.

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 2600

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SECTION 01 2900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Related Requirements:

1. Division 01 Section "Allowances" for procedural requirements governing the handling and processing of allowances.
2. Division 01 Section "Unit Prices" for administrative requirements governing the use of unit prices.
3. Division 01 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
4. Division 01 Section "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.
5. Division 01 sustainable design requirements Section for administrative requirements governing submittal of cost breakdown information required for LEED documentation.

1.2 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.

B. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.[**Cost-loaded Critical Path Method Schedule may serve to satisfy requirements for the schedule of values.**]

1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:

    a. Application for Payment forms with continuation sheets.
    b. Submittal schedule.
    c. Items required to be indicated as separate activities in Contractor's construction schedule.

2. Submit the schedule of values to Architect at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
3. Submit the schedule of values to Architect[**through Construction Manager**] at earliest possible date but no later than [**seven**] <**Insert number**> days before the date scheduled for submittal of initial Applications for Payment.
4. Subschedules for Phased Work: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values coordinated with each phase of payment.
5. Subschedules for Separate Elements of Work: Where the Contractor's construction schedule defines separate elements of the Work, provide subschedules showing values coordinated with each element.

C. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.

1. Identification: Include the following Project identification on the schedule of values:

    a. Project name and location.
    b. Name of Architect.
    c. Architect's project number.
    d. Contractor's name and address.
    e. Date of submittal.

2. Arrange schedule of values consistent with format of AIA Document G703.
3. Arrange schedule of values consistent with format of [**AIA Document G703**] [**EJCDC Document C-620**] <**Insert name and designation of standard form**>.
4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.
5. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of [**five**] <**Insert number**> percent of the Contract Sum.

    a. Include separate line items under Contractor and principal subcontracts for Project closeout requirements in an amount totaling five percent of the Contract Sum and subcontract amount.
    b. Include separate line items under [**Contractor and**]principal subcontracts for [**LEED documentation and other**]Project closeout requirements in an amount totaling [**five**] <**Insert number**> percent of the Contract Sum and subcontract amount.

6. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
7. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.

    a. Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance.

8. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
9. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
10. Purchase Contracts: Provide a separate line item in the schedule of values for each purchase contract. Show line-item value of purchase contract. Indicate owner payments or deposits, if any, and balance to be paid by Contractor.
11. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.

12. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.3 APPLICATIONS FOR PAYMENT

A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.

B. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect[**and Construction Manager**] and paid for by Owner.

1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

C. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.

D. Payment Application Times: Submit Application for Payment to Architect by the <**Insert day**> of the month. The period covered by each Application for Payment is one month, ending on the [**last day of the month**] <**Insert specific day of the month**>.

E. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.

F. Application for Payment Forms: Use [**AIA Document G702 and AIA Document G703**] [**AIA Document G702/CMa and AIA Document G703**] [**EJCDC Document C-620**] <**Insert name and designation of standard form**> as form for Applications for Payment.

G. Application for Payment Forms: Use forms [**provided by Owner**] [**acceptable to Owner and Architect**] for Applications for Payment. Sample copies are included in Project Manual.

H. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.

I. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. [**Architect**] [**Construction Manager**] will return incomplete applications without action.

1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.

4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.

J. Transmittal: Submit payment applications to the Architect – Mike Galovan (mgalovan@towerpinkster.com) for electronic processing

K. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.

1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
2. When an application shows completion of an item, submit conditional final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
4. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.

L. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
2. Schedule of values.
3. LEED submittal for project materials cost data.
4. Contractor's construction schedule (preliminary if not final).
5. Combined Contractor's construction schedule (preliminary if not final) incorporating Work of multiple contracts, with indication of acceptance of schedule by each Contractor.
6. Products list (preliminary if not final).
7. LEED action plans.
8. Schedule of unit prices.
9. Submittal schedule (preliminary if not final).
10. List of Contractor's staff assignments.
11. List of Contractor's principal consultants.
12. Copies of building permits.
13. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
14. Initial progress report.
15. Report of preconstruction conference.
16. Certificates of insurance and insurance policies.
17. Performance and payment bonds.
18. Data needed to acquire Owner's insurance.

M. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

N. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. AIA Document G706-1994, "Contractor's Affidavit of Payment of Debts and Claims."
5. AIA Document G706A-1994, "Contractor's Affidavit of Release of Liens."
6. AIA Document G707-1994, "Consent of Surety to Final Payment."
7. Evidence that claims have been settled.
8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
9. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 2900

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SECTION 01 3100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 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. Related Requirements:

1. Division 01 Section "Multiple Contract Summary" for a description of the division of work among separate contracts and responsibility for coordination activities not in this Section.
2. Division 01 Section "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
3. Division 01 Section "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
4. Division 01 Section "Closeout Procedures" for coordinating closeout of the Contract.
5. Division 01 Section "General Commissioning Requirements" for coordinating the Work with Owner's Commissioning Authority.

1.2 DEFINITIONS

A. RFI: Request from Owner, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

1.3 INFORMATIONAL SUBMITTALS

A. 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:

B. 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.[**Use CSI Form 1.5A.**] 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.

C. Key Personnel Names: Within [**15**] <**Insert number**> 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 e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates 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.

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.

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. 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.

D. 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:

E. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities[**and activities of other contractors**] 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.

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, 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. 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. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
   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 and Reflected Ceiling 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.
2. Plenum Space: Indicate subframing for support of ceiling and wall systems, mechanical and electrical equipment, and related Work. Locate components within ceiling plenum to accommodate layout of light fixtures indicated on Drawings.

3. Mechanical Rooms: Provide coordination drawings for mechanical rooms showing plans and elevations of mechanical, plumbing, fire-protection, fire-alarm, and electrical equipment.
4. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
5. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.
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.

1.6 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.
3. Owner's cost for Architect's services, at Architect's normal billing rate, in responding to requests for information from the Contractor, will be deducted from the Contract Amount if the intent of the documents is clear in the opinion of the Architect.

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 solution(s) 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.

C. RFI Forms: AIA Document G716 or software-generated form with substantially the same content if acceptable to Architect.

D. RFI Forms: [**AIA Document G716**] [**Form bound in Project Manual**] [**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.

E. 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.

F. Architect's[**and Construction Manager's**] Action: Architect[**and Construction Manager**] will review each RFI, determine action required, and respond. Allow [**seven**] <**Insert number**> working days for Architect's response for each RFI. RFIs received by Architect[**or Construction Manager**] after 1:00 p.m. will be considered as received the following working day.

1. The following 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, or other similar items not in the Architect's control.
    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 Division 01 Section "Contract Modification Procedures."

    a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect and Construction Manager in writing within 10 days of receipt of the RFI response.
    b. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect[**and Construction Manager**] in writing within [**10**] <**Insert number**> days of receipt of the RFI response.

G. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Use 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.

H. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.

I. On receipt of Architect's[**and Construction Manager's**] action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect[**and Construction Manager**] within [**seven**] <**Insert number**> days if Contractor disagrees with response.

1. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
2. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

1.7 PROJECT WEB SITE

A. [**Use Architect's**] [**Use Owner's**] [**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.
4. Contract modifications forms and logs.
5. RFI forms and logs.
6. Task and issue management.
7. Photo documentation.
8. Schedule and calendar management.
9. Submittals forms and logs.
10. Payment application forms.
11. Drawing and specification document hosting, viewing, and updating.
12. Online document collaboration.
13. Reminder and tracking functions.
14. Archiving functions.
15. <**Insert description of software feature**>.

B. Provide up to [**seven**] <**Insert number**> Project Web site user licenses for use of Owner[**, Owner's Commissioning Authority**], Architect, and Architect's consultants. Provide [**eight**] <**Insert number**> hours of software training at Architect's office for Project Web site users.

C. On completion of Project, provide [**one**] <**Insert number**> complete archive copy(ies) of Project Web site files to Owner and to Architect in a digital storage format acceptable to Architect.

D. Provide [**one of**]the following Project Web site software packages under their current published licensing agreements:

1. Autodesk, Buzzsaw.
2. Autodesk, Constructware.
3. Meridian Systems, [**Prolog**] [**Prolog and ProjectTalk**].
4. <**Insert name of hosting company and product**>.

E. Contractor, subcontractors, and other parties granted access by Contractor to Project Web site shall execute a data licensing agreement in the form of [**AIA Document C106**] [**Agreement included in this Project Manual**] [**Agreement acceptable to Owner and Architect**].

1.8 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.
4. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner[**, Construction Manager,**] and Architect, within [**three**] <**Insert number**> days of the meeting.

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

C. Preconstruction Conference: [**Architect will schedule and conduct**] [**Construction Manager will schedule and conduct**] [**Schedule and conduct**] a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than [**15**] <**Insert number**> days after execution of the Agreement.

1. Attendees: Authorized representatives of Owner 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.
2. 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. Procedures for processing field decisions and Change Orders.
    f. Procedures for RFIs.
    g. Procedures for testing and inspecting.
    h. Procedures for processing Applications for Payment.
    i. Distribution of the Contract Documents.
    j. Submittal procedures.
    k. [LEED requirements] [Sustainable design requirements].
    l. Preparation of record documents.
    m. Use of the premises.
    n. Work restrictions.
    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 disruptions and shutdowns.
    t. Construction waste management and recycling.
    u. Parking availability.
    v. Office, work, and storage areas.
    w. Equipment deliveries and priorities.
    x. First aid.
    y. Security.

z. Progress cleaning.

3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

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 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:

a. Contract Documents.
b. Options.
c. Related RFIs.
d. Related Change Orders.
e. Purchases.
f. Deliveries.
g. Submittals.
h. [LEED requirements] [Sustainable design requirements].
i. Review of mockups.
j. Possible conflicts.
k. Compatibility problems.
l. Time schedules.
m. Weather limitations.
n. Manufacturer's written instructions.
o. Warranty requirements.
p. Compatibility of materials.
q. Acceptability of substrates.
r. Temporary facilities and controls.
s. Space and access limitations.
t. Regulations of authorities having jurisdiction.
u. Testing and inspecting requirements.
v. Installation procedures.
w. Coordination with other work.
x. Required performance results.
y. Protection of adjacent work.
z. Protection of construction and personnel.

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.

E. Progress Meetings: Conduct progress meetings at biweekly intervals.

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 meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
2. 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.

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

        1) Interface requirements.
        2) Sequence of operations.
        3) Status of submittals.
        4) Status of [**LEED**] [**sustainable design**] documentation.
        5) Deliveries.
        6) Off-site fabrication.
        7) Access.
        8) Site utilization.
        9) Temporary facilities and controls.
        10) Progress cleaning.
        11) Quality and work standards.
        12) Status of correction of deficient items.
        13) Field observations.
        14) Status of RFIs.
        15) Status of proposal requests.
        16) Pending changes.
        17) Status of Change Orders.
        18) Pending claims and disputes.
        19) Documentation of information for payment requests.

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

    a. 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.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 3100

SECTION 01 3200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

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

1. Contractor's construction schedule.
2. Construction schedule updating reports.
3. Daily construction reports.
4. Site condition reports.

B. Related Requirements:

1. Division 01 Section "Multiple Contract Summary" for preparing a combined Contractor's construction schedule.
2. Division 01 Section "Submittal Procedures" for submitting schedules and reports.
3. Division 01 Section "Quality Requirements" for submitting a schedule of tests and inspections.

1.2 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. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.

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

E. Float: The measure of leeway in starting and completing an activity.

1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.

2. Float time [**belongs to Owner**] [**is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date**].

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

1.3 INFORMATIONAL SUBMITTALS

A. Format for Submittals: Submit required submittals in the following format:

1. Working electronic copy of schedule file, where indicated.
2. PDF electronic file.
3. Two paper copies.
4. [**Two**] <**Insert number**> paper copies.

B. Startup Network Diagram: Of size required to display entire network for entire construction period. Show logic ties for 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. CPM Reports: Concurrent with CPM schedule, submit each of the following reports. Format for each activity in reports shall contain activity number, activity description, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.

1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
3. Total Float Report: List of all activities sorted in ascending order of total float.
4. Earnings Report: Compilation of Contractor's total earnings from [**commencement of the Work**] [**the Notice to Proceed**] until most recent Application for Payment.

E. Construction Schedule Updating Reports: Submit with Applications for Payment.

F. Daily Construction Reports: Submit at monthly intervals.

G. Daily Construction Reports: Submit at [**weekly**] [**monthly**] intervals.

H. Site Condition Reports: Submit at time of discovery of differing conditions.

I. Special Reports: Submit at time of unusual event.

J. Qualification Data: For scheduling consultant.

1.4 QUALITY ASSURANCE

A. Scheduling Consultant Qualifications: An experienced specialist in CPM scheduling and reporting, with capability of producing CPM reports and diagrams within 24 hours of Architect's request.

B. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to the preliminary construction schedule and Contractor's construction schedule, including, but not limited to, the following:

1. Review software limitations and content and format for reports.
2. Verify availability of qualified personnel needed to develop and update schedule.
3. Discuss constraints, including [**phasing**] [**work stages**] [**area separations**] [**interim milestones**] [**and**] [**partial Owner occupancy**].
4. Review delivery dates for Owner-furnished products.
5. Review schedule for work of Owner's separate contracts.
6. Review submittal requirements and procedures.
7. Review time required for review of submittals and resubmittals.
8. Review requirements for tests and inspections by independent testing and inspecting agencies.
9. Review time required for Project closeout and Owner startup procedures[**, including commissioning activities**].
10. Review and finalize list of construction activities to be included in schedule.
11. Review procedures for updating schedule.

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, 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 the Notice of Award 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 main element of the Work. Comply with the following:

1. Activity Duration: Define activities so no activity is longer than 10 Insert number 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.
   a. <**Insert list of major items or pieces of equipment**>.
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 no fewer than [**15**] <**Insert number**> 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. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's[**and Construction Manager's**] administrative procedures necessary for certification of Substantial Completion.
7. Punch List and Final Completion: Include not more than 30 days for completion of punch list items 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 under More Than One Contract: Include a separate activity for each contract.
3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
4. 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.
5. Owner-Furnished Products: 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.
6. 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. Partial occupancy before Substantial Completion.
   e. Use of premises restrictions.
   f. Provisions for future construction.
   g. Seasonal variations.
   h. Environmental control.
7. Work Stages: Indicate important stages of construction for each major portion of the Work.
8. Other Constraints: <Insert constraints not indicated elsewhere>.

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.

1. Temporary enclosure and space conditioning.
2. <**Insert milestones not indicated elsewhere**>.

E. Cost Correlation: Superimpose a cost correlation timeline, indicating planned and actual costs. On the line, show planned and actual dollar volume of the Work performed as of planned and actual dates used for preparation of payment requests.

1. See Division 01 Section "Payment Procedures" for cost reporting and payment procedures.

F. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:

1. Unresolved issues.
2. Unanswered Requests for Information.
3. Rejected or unreturned submittals.
4. Notations on returned submittals.
5. Pending modifications affecting the Work and Contract Time.

G. 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.

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

1. Use [Microsoft Project,] [Primavera,] [Prolog,] [Scheduling component of Project Web site software specified in Division 01 Section "Project Management and Coordination,"] <Insert name of specific software,> for [Windows XP] [Windows Vista] <Insert current Windows operating system> [Macintosh OS X] operating system.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's construction schedule within 15 days of date established for the Notice of Award.

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

1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)

A. General: Prepare network diagrams using AON (activity-on-node) format.

B. Startup Network Diagram: Submit diagram within [**14**] <**Insert number**> days of date established for [**commencement of the Work**] [**the Notice to Proceed**] [**the Notice of Award**]. Outline significant construction activities for the first [**90**] <**Insert number**> days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

C. CPM Schedule: Prepare Contractor's construction schedule using a[**cost- and resource-loaded,**] time-scaled CPM network analysis diagram for the Work.

1. Develop network diagram in sufficient time to submit CPM schedule so it can be accepted for use no later than [**60**] <**Insert number**> days after date established for [**commencement of the Work**] [**the Notice to Proceed**] [**the Notice of Award**].
   a. Failure to include any work item required for performance of this Contract shall not excuse Contractor from completing all work within applicable completion dates, regardless of Architect's approval of the schedule.

2. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.
3. Use "one workday" as the unit of time for individual activities. Indicate nonworking days and holidays incorporated into the schedule in order to coordinate with the Contract Time.

D. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the startup network diagram, prepare a skeleton network to identify probable critical paths.

1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:
   a. Preparation and processing of submittals.
   b. Mobilization and demobilization.
   c. Purchase of materials.
   d. Delivery.
   e. Fabrication.
   f. Utility interruptions.
   g. Installation.
   h. Work by Owner that may affect or be affected by Contractor's activities.
   i. Testing[**and commissioning**].
   j. Punch list and final completion.
   k. Activities occurring following final completion.

2. Critical Path Activities: Identify critical path activities, including those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.
3. Processing: Process data to produce output data on a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.
4. Format: Mark the critical path. Locate the critical path near center of network; locate paths with most float near the edges.
   a. Subnetworks on separate sheets are permissible for activities clearly off the critical path.

5. Cost- and Resource-Loading of CPM Schedule: Assign cost to construction activities on the CPM schedule. Do not assign costs to submittal activities. Obtain Architect's approval prior to assigning costs to fabrication and delivery activities. Assign costs under main subcontracts for testing and commissioning activities, operation and maintenance manuals, punch list activities, Project record documents, [**LEED documentation,**]and demonstration and training (if applicable), in the amount of [**5**] <**Insert number**> percent of the Contract Sum.
   a. Each activity cost shall reflect an appropriate value subject to approval by Architect.
   b. Total cost assigned to activities shall equal the total Contract Sum.

E. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using a network fragment to demonstrate the effect of the proposed change on the overall project schedule.

F. Initial Issue of Schedule: Prepare initial network diagram from a sorted activity list indicating straight "early start-total float." Identify critical activities. Prepare tabulated reports showing the following:

1. Contractor or subcontractor and the Work or activity.
2. Description of activity.
3. Main events of activity.
4. Immediate preceding and succeeding activities.
5. Early and late start dates.
6. Early and late finish dates.
7. Activity duration in workdays.
8. Total float or slack time.
9. Average size of workforce.
10. Dollar value of activity (coordinated with the schedule of values).

G. Schedule Updating: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:

1. Identification of activities that have changed.
2. Changes in early and late start dates.
3. Changes in early and late finish dates.
4. Changes in activity durations in workdays.
5. Changes in the critical path.
6. Changes in total float or slack time.
7. Changes in the Contract Time.

H. Value Summaries: Prepare two cumulative value lists, sorted by finish dates.

1. In first list, tabulate activity number, early finish date, dollar value, and cumulative dollar value.
2. In second list, tabulate activity number, late finish date, dollar value, and cumulative dollar value.
3. In subsequent issues of both lists, substitute actual finish dates for activities completed as of list date.
4. Prepare list for ease of comparison with payment requests; coordinate timing with progress meetings.
    a. In both value summary lists, tabulate "actual percent complete" and "cumulative value completed" with total at bottom.
    b. Submit value summary printouts [**one week**] <**Insert time**> before each regularly scheduled progress meeting.

2.4 REPORTS

A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:

1. List of subcontractors at Project site.
2. List of separate contractors at Project site.
3. Approximate count of personnel at Project site.

4. Equipment at Project site.
5. Material deliveries.
6. High and low temperatures and general weather conditions, including presence of rain or snow.
7. Accidents.
8. Meetings and significant decisions.
9. Unusual events.
10. Stoppages, delays, shortages, and losses.
11. Meter readings and similar recordings.
12. Emergency procedures.
13. Orders and requests of authorities having jurisdiction.
14. Change Orders received and implemented.
15. Construction Change Directives received and implemented.
16. [**Construction**] [**Work**] Change Directives received and implemented.
17. Services connected and disconnected.
18. Equipment or system tests and startups.
19. Partial completions and occupancies.
20. Substantial Completions authorized.

B. Material Location Reports: At [**weekly**] [**monthly**] intervals, prepare and submit a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site. Indicate the following categories for stored materials:

1. Material stored prior to previous report and remaining in storage.
2. Material stored prior to previous report and since removed from storage and installed.
3. Material stored following previous report and remaining in storage.

C. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.5 SPECIAL REPORTS

A. General: Submit special reports directly to Owner within one day(s) of an occurrence. Distribute copies of report to parties affected by the occurrence.

B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Scheduling Consultant: Engage a consultant to provide planning, evaluation, and reporting using CPM scheduling.

1. In-House Option: Owner may waive the requirement to retain a consultant if Contractor employs skilled personnel with experience in CPM scheduling and reporting techniques. Submit qualifications.
2. Meetings: Scheduling consultant shall attend all meetings related to Project progress, alleged delays, and time impact.

B. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each 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.

C. 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.

END OF SECTION 01 3200

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SECTION 01 3300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 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 Requirements:

1. Division 01 Section "Payment Procedures" for submitting Applications for Payment and the schedule of values.
2. Division 01 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
3. <**Verify**>Division 01 Section "Operation and Maintenance Data" for submitting operation and maintenance manuals.
4. Division 01 Section "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
5. Division 01 Section "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of Owner's personnel.

1.2 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action.

B. Action Submittals: Written and graphic information and physical samples that require Architect's[**and Construction Manager's**] responsive action.

C. 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.

D. Informational Submittals: Written and graphic information and physical samples that do not require Architect's[**and Construction Manager's**] responsive action. Submittals may be rejected for not complying with requirements.

E. 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.

F. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.3 ACTION SUBMITTALS

A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.

B. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect[**and Construction Manager**] and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
2. Initial Submittal: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.
    a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.

4. Format: Arrange the following information in a tabular format:
    a. Scheduled date for first submittal.
    b. Specification Section number and title.
    c. Submittal category: Action; informational.
    d. Name of subcontractor.
    e. Description of the Work covered.
    f. Scheduled date for Architect's final release or approval.
    g. Scheduled date for Architect's[**and Construction Manager's**] final release or approval.
    h. Scheduled date of fabrication.
    i. Scheduled dates for purchasing.
    j. Scheduled dates for installation.
    k. Activity or event number.

1.4 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

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

B. Architect's Digital Data Files: Electronic copies of digital data files of the Contract Drawings will[**not**] be provided by Architect for Contractor's use in preparing submittals.

1. Architect will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings[**and Project record drawings**].
2. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.

a. Contractor shall execute a data licensing agreement in the form of [AIA Document C106, Digital Data Licensing Agreement] [Agreement included in Project Manual] [Agreement form acceptable to Owner and Architect].
b. <Insert conditions on which digital data drawing files will made available>.

C. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Completeness: Submittal packages that do not contain all required submittals, with the exception of verification samples when selection samples are also required, will be returned without the Architect taking action.
2. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
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.
   b. [**Architect reserves**] [**Architect and Construction Manager reserve**] the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

D. 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.

E. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on [**Architect's**] [**Construction Manager'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. Initial Review: Allow [**15**] <**Insert number**> days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. [**Architect**] [**Construction Manager**] will advise Contractor when a submittal being processed must be delayed for coordination.
3. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
4. Resubmittal Review: Allow 15 days for review of each resubmittal.
5. Resubmittal Review: Allow [**15**] <**Insert number**> days for review of each resubmittal.
6. Consultant Review: Where review of submittals by Architect's consultants, Owner, or other parties is necessary, allow 21 days for initial review of each submittal.
7. Consultant Review: Where review of submittals by Architect's consultants, Owner, or other parties is necessary, allow [**21**] <**Insert number**> days for initial review of each submittal.
   a. <Insert list of Specification Sections requiring sequential review>.

F. Paper Submittals: Place a permanent label or title block on each 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. Provide a space approximately [**6 by 8 inches**] <**Insert dimensions**> on label or beside title block to record Contractor's review and approval markings and action taken by Architect[**and Construction Manager**].
4. Include the following information for processing and recording action taken:
    a. Project name.
    b. Date.
    c. Name of Architect.
    d. Name of Construction Manager.
    e. Name of Contractor.
    f. Name of subcontractor.
    g. Name of supplier.
    h. Name of manufacturer.
    i. Revise first subparagraph below to suit Project and office practice.
    j. 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).
    k. Number and title of appropriate Specification Section.
    l. Drawing number and detail references, as appropriate.
    m. Location(s) where product is to be installed, as appropriate.
    n. Other necessary identification.

5. 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.
6. Additional Paper Copies: Unless additional copies are required for final submittal, and unless Architect[**or Construction Manager**] observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
    a. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Architect.
    b. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Architect[**and Construction Manager**].

7. Transmittal for Paper Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return without review submittals received from sources other than Contractor.
8. Transmittal for Paper Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect[**and Construction Manager**] will [**return without review**] [**discard**] submittals received from sources other than Contractor.
    a. Transmittal Form for Paper Submittals: Use AIA Document G810 or submitter's standard for with similar information.
    b. Transmittal Form for Paper Submittals: Use [**AIA Document G810**] [**CSI Form 12.1A**] [**facsimile of sample form included in Project Manual**].
    c. Transmittal Form for Paper Submittals: Provide locations on form for the following information:
        1) Project name.
        2) Date.
        3) Destination (To:).

4) Source (From:).
5) Name and address of Architect.
6) Name of Construction Manager.
7) Name of Contractor.
8) Name of firm or entity that prepared submittal.
9) Names of subcontractor, manufacturer, and supplier.
10) Category and type of submittal.
11) Submittal purpose and description.
12) Specification Section number and title.
13) Specification paragraph number or drawing designation and generic name for each of multiple items.
14) Drawing number and detail references, as appropriate.
15) Indication of full or partial submittal.
16) Transmittal number[**, numbered consecutively**].
17) Submittal and transmittal distribution record.
18) Remarks.
19) Signature of transmitter.

G. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:

1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form 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., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).
3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
4. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect[**and Construction Manager**].
5. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Owner**,** containing the following information:
   a. Project name.
   b. Date.
   c. Name and address of Architect.
   d. <**Verify**>Name of Construction Manager.
   e. Name of Contractor.
   f. Name of firm or entity that prepared submittal.
   g. Names of subcontractor, manufacturer, and supplier.
   h. Category and type of submittal.
   i. Submittal purpose and description.
   j. Specification Section number and title.
   k. Specification paragraph number or drawing designation and generic name for each of multiple items.
   l. Drawing number and detail references, as appropriate.
   m. Location(s) where product is to be installed, as appropriate.
   n. Related physical samples submitted directly.
   o. Indication of full or partial submittal.
   p. Transmittal number.

q. Submittal and transmittal distribution record.
r. Other necessary identification.
s. Remarks.

6. Metadata: Include the following information as keywords in the electronic submittal file metadata:
   a. Project name.
   b. Number and title of appropriate Specification Section.
   c. Manufacturer name.
   d. Product name.
   e. <Insert required information>.

H. Options: Identify options requiring selection by Architect.

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

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.
4. Resubmit submittals until they are marked with approval notation from Architect's[**and Construction Manager'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: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

M. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's[**and Construction Manager's**] action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements:

1. Post electronic submittals as PDF electronic files directly to [**Project Web site**] [**Architect's FTP site**] specifically established for Project.
   a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
   b. Architect[**, through Construction Manager,**] will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.

2. Submit electronic submittals via email as PDF electronic files.
   a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.

b. Architect[**, through Construction Manager,**] will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.

3. Action Submittals: Submit number of paper copies of each submittal as required for construction, coordination with other portions of the Work, and retained by Architect. Architect will retain two copies.
4. Action Submittals: Submit [**three**] <**Insert number**> paper copies of each submittal unless otherwise indicated. Architect[**, through Construction Manager,**] will return [**two**] <**Insert number**> copies.
   a. Architect will retain and additional copy where review by Architect's consultant is required.

5. Informational Submittals: Submit two paper copies of each submittal unless otherwise indicated. Architect will not return copies.
6. Informational Submittals: Submit [**two**] <**Insert number**> paper copies of each submittal unless otherwise indicated. Architect[**and Construction Manager**] will not return copies.
7. 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.

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.
6. Submit Product Data in the following format:
   a. PDF electronic file.
   b. Paper copies.

c. [**Three**] <**Insert number**> paper copies of Product Data unless otherwise indicated. Architect[**, through Construction Manager,**] will return [**two**] <**Insert number**> copies.

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 on Architect's digital data drawing files is otherwise permitted.

D. 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 on 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. 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**] <**Insert dimensions**>.
4. Submit Shop Drawings in the following format:
   a. PDF electronic file.
   b. [**Two**] opaque (bond) copies of each submittal. Architect[**, through Construction Manager,**] will return [**one**] <**Insert number**> copy(ies).
   c. Opaque copies of each submittal.
   d. [**Three**] <**Insert number**> opaque copies of each submittal. Architect[**and Construction Manager**] will retain [**two**] <**Insert number**> copies; remainder will be returned.

E. 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. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.

4. 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.

5. 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 two full sets 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.
   b. Number of Samples: Submit [**one**] <**Insert number**> full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect[**, through Construction Manager,**] will return submittal with options selected.

6. 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 two Sample sets; remainder will be returned.
   b. Number of Samples: Submit [**three**] <**Insert number**> sets of Samples. Architect[**and Construction Manager**] will retain [**two**] <**Insert number**> Sample sets; remainder will be returned.[**Mark up and retain one returned Sample set as a project record sample.**]
      1) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit sets of paired units that show approximate limits of variations.

F. 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. Submit product schedule in the following format:
   a. PDF electronic file.
   b. Paper copies of product schedule or list unless otherwise indicated.
   c. [**Three**] <**Insert number**> paper copies of product schedule or list unless otherwise indicated. Architect[**, through Construction Manager,**] will return [**two**] <**Insert number**> copies.

G. Coordination Drawings Submittals: Comply with requirements specified in Division 01 Section "Project Management and Coordination."

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

I. Application for Payment and Schedule of Values: Comply with requirements specified in Division 01 Section "Payment Procedures."

J. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Division 01 Section "Quality Requirements."

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

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

M. LEED Submittals: Comply with requirements specified in Division 01 sustainable design requirements Section.

N. 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.

O. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.

P. 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.

Q. 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.

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

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

T. 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.

U. Product Test Reports: Submit written reports indicating that 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.

V. 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.

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

X. 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.

Y. 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.

Z. Field Test Reports: Submit written 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.

AA. 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 and 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. 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[**and Construction Manager**].

C. Project Closeout and Maintenance Material Submittals: See requirements in Division 01 Section "Closeout Procedures."

D. 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. General: Architect[**and Construction Manager**] will not review submittals that do not bear Contractor's approval stamp and will return them without action.

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

D. Action Submittals: Architect[**and Construction Manager**] will review each submittal, make marks to indicate corrections or revisions required, and return it. Architect[**and Construction Manager**] will stamp each submittal with an action stamp and will mark stamp appropriately to indicate [**action.**] [**action, as follows:**]

1. Reviewed: No corrections, no marks. Submittal complies with the design intent of the Contract Documents.
2. Furnish as Corrected: Minor corrections; all items can be fabricated or furnished without further correction; checking is complete and all corrections are obvious without ambiguity.
3. Revise and Resubmit: Minor corrections; noted items must not be furnished or fabricated without further corrections; checking is not complete; details of items noted are to be clarified before resubmitting; items not noted to be corrected can be fabricated or furnished under this stamp.
4. Rejected: Submittal is not in compliance with the design intent of the Contract Documents. Provide new submittal that complies with Contract Documents. Any delay resulting from the submission of items not complying with the Contract Documents is solely the responsibility of the Contractor, which will bear all associated costs.

E. 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.

F. Informational Submittals: Architect[**and Construction Manager**] will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect[**and Construction Manager**] will forward each submittal to appropriate party.

G. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

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

END OF SECTION 01 3300

SECTION 01 4000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
2. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner,[**Commissioning Authority,**] [**Construction Manager,**] or authorities having jurisdiction are not limited by provisions of this Section.

C. Related Requirements:

1. Division 01 Section "Allowances" for testing and inspecting allowances.
2. Divisions 02 through 33 Sections for specific test and inspection requirements.

1.2 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.

C. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect[**or Construction Manager**].

D. Mockups: Full-size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under Sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.

1. Laboratory Mockups: Full-size physical assemblies constructed at testing facility to verify performance characteristics.

E. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.

F. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

G. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.

H. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

I. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

J. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).

K. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

L. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of [**five**] <**Insert number**> previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.3 CONFLICTING REQUIREMENTS

A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.4 INFORMATIONAL SUBMITTALS

A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.

B. Qualification Data : For Contractor's quality-control personnel.

C. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work on the following systems:

1. Seismic-force-resisting system, designated seismic system, or component listed in the designated seismic system quality-assurance plan prepared by Architect.
2. Main wind-force-resisting system or a wind-resisting component listed in the wind-force-resisting system quality-assurance plan prepared by Architect.

D. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

1.5 CONTRACTOR'S QUALITY-CONTROL PLAN

A. Quality-Control Plan, General: Submit quality-control plan within [**10**] <**Insert number**> days of [**Notice of Award**] [**Notice to Proceed**], and not less than [**five**] <**Insert number**> days prior to preconstruction conference. Submit in format acceptable to Architect. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's construction schedule.

B. Quality-Control Personnel Qualifications: Engage qualified full-time personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.

1. Project quality-control manager [may also serve as Project superintendent] [shall not have other Project responsibilities].
2. <Insert qualifications appropriate to Project>.

C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.

D. Testing and Inspection: In quality-control plan, include a comprehensive schedule of Work requiring testing or inspection, including the following:

1. Contractor-performed tests and inspections including subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections.
2. Special inspections required by authorities having jurisdiction and indicated on the "Statement of Special Inspections."
3. Owner-performed tests and inspections indicated in the Contract Documents[**, including tests and inspections indicated to be performed by the Commissioning Authority**].

E. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.

F. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.6 REPORTS AND DOCUMENTS

A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

B. Manufacturer's Field Reports: Prepare written information documenting tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
4. Results of operational and other tests and a statement of whether observed performance complies with requirements.
5. Other required items indicated in individual Specification Sections.

C. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.7 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.

F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.

H. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to [**ASTM E 329**] <**Insert standard**>; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.

1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

I. Manufacturer's Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

J. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:

1. Contractor responsibilities include the following:

a. Provide test specimens representative of proposed products and construction.
b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
c. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
d. When testing is complete, remove test specimens, assemblies, and mockups; do not reuse products on Project.

2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
3. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect[**and Commissioning Authority**][**, through Construction Manager**], with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

K. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:

1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
2. Build mockups in location and of size indicated or, if not indicated, as directed by Architect[**or Construction Manager**].
3. Notify Architect seven days in advance of dates and times when mockups will be constructed.
4. Notify Architect[**and Construction Manager**] [**seven**] <**Insert number**> days in advance of dates and times when mockups will be constructed.
5. Demonstrate the proposed range of aesthetic effects and workmanship.
6. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
7. Obtain Architect's[**and Construction Manager's**] approval of mockups before starting work, fabrication, or construction.

    a. Allow seven days for initial review and each re-review of each mockup.
    b. Allow [**seven**] <**Insert number**> days for initial review and each re-review of each mockup.

8. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
9. Demolish and remove mockups when directed unless otherwise indicated.

L. Laboratory Mockups: Comply with requirements of preconstruction testing and those specified in individual Specification Sections in Divisions 02 through 33.

1.8 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.
3. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor[**, and the Contract Sum will be adjusted by Change Order**].

B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.

1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.

    a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
    b. Testing shall not be preformed by the installer, or a subcontractor to the installer.

2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
3. Notify testing agencies at least [**24**] <**Insert number**> hours in advance of time when Work that requires testing or inspecting will be performed.
4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Manufacturer's Field Services: Where indicated, engage a manufacturer's representative to observe and inspect the Work. Manufacturer's representative's services include examination of substrates and conditions, verification of materials, inspection of completed portions of the Work, and submittal of written reports.

D. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

E. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

F. Testing Agency Responsibilities: Cooperate with Architect[**, Construction Manager,**] and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. Notify Architect[**, Construction Manager,**] and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
3. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
4. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
5. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
6. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
7. Do not perform any duties of Contractor.

G. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspecting equipment at Project site.

H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.9 SPECIAL TESTS AND INSPECTIONS

A. Special Tests and Inspections: [**Owner will engage**] [**Engage**] a qualified [**testing agency**] [**special inspector**] to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner[**, as indicated in Statement of Special Inspections attached to this Section**], and as follows:

B. Special Tests and Inspections: Conducted by a qualified testing agency or special inspector as required by authorities having jurisdiction, as indicated in individual Specification Sections, and as follows:

C. Special Tests and Inspections: Conducted by a qualified [**testing agency**] [**special inspector**] as required by authorities having jurisdiction, as indicated in individual Specification Sections[**and in Statement of Special Inspections attached to this Section**], and as follows:

1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviews the completeness and adequacy of those procedures to perform the Work.
2. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
3. Notifying Architect[**, Construction Manager,**] and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
4. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and to authorities having jurisdiction.
5. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect[**, through Construction Manager,**] with copy to Contractor and to authorities having jurisdiction.
6. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
7. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
8. Retesting and reinspecting corrected work.
9. <Insert requirements>.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:

1. Date test or inspection was conducted.
2. Description of the Work tested or inspected.
3. Date test or inspection results were transmitted to Architect.
4. Identification of testing agency or special inspector conducting test or inspection.

B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.

C. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's[**, Commissioning Authority's,**][**and Construction Manager's**] reference during normal working hours.

3.2 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Division 01 Section "Execution."

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01 4000

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SECTION 01 5000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

B. Related Requirements:

1. Division 01 Section "Summary" for work restrictions and limitations on utility interruptions.
2. Division 31 Section "Dewatering" for disposal of ground water at Project site.

1.2 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. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges where capacity and appropriate voltage are available without disruption to Owner’s use. Provide connections and extensions of services as required for construction operations.

D. Sewer, Water, and Electric Power Service: Use charges are specified in Division 01 Section "Multiple Contract Summary."

1.3 INFORMATIONAL SUBMITTALS

A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

B. Erosion- and Sedimentation-Control Plan: Show compliance with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.

C. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire prevention program.

D. 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.

E. 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 at each phase of work.
2. HVAC system isolation schematic drawing.
3. Location of proposed air-filtration system discharge.
4. Waste handling procedures.
5. Other dust-control measures.

1.4 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 in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

D. Accessible Temporary Egress: Comply with applicable provisions in [the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines] [and] [ICC/ANSI A117.1].

1.5 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, 0.148-inch- thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch- OD line posts and 2-7/8-inch-OD corner and pull posts[, with 1-5/8-inch- OD top rails] [, with galvanized barbed-wire top strand].

B. Portable Chain-Link Fencing: Minimum 2-inch, 0.148-inch- thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch- OD line posts and 2-

7/8-inch- OD corner and pull posts, with 1-5/8-inch- OD top and bottom rails. Provide [concrete] [galvanized-steel] bases for supporting posts.

C. Wood Enclosure Fence: Plywood, [6 feet] [8 feet] high, framed with four 2-by-4-inch rails, with preservative-treated wood posts spaced not more than 8 feet apart.

2.2 TEMPORARY FACILITIES

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

B. Common-Use Field Office: Of sufficient size to accommodate needs of Owner, Architect, and construction personnel office activities and to accommodate Project meetings specified in other Division 01 Sections. Keep office clean and orderly.

C. Common-Use Field Office: Of sufficient size to accommodate needs of Owner, Architect[, Construction Manager], and construction personnel office activities and to accommodate Project meetings specified in other Division 01 Sections. Keep office clean and orderly.

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

2.3 EQUIPMENT

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

B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.

1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
2. Heating Units: Listed and labeled for type of fuel being consumed, by a qualified testing agency acceptable to authorities having jurisdiction, and marked for intended location and application.
3. Permanent HVAC System: If Owner authorizes use of permanent HVAC system for temporary use during construction, provide filter with MERV of [**7**] [**8**] <**Insert number**> at each return-air grille in system and remove at end of construction.
4. Permanent HVAC System: If Owner authorizes use of permanent HVAC system for temporary use during construction, provide filter with MERV of [**8**] <**Insert number**> at each return-air grille in system and remove at end of construction[**.**][**and clean HVAC system as required in Division 01 Section "Closeout Procedures."**]
    a. Where the Owner has authorized use of the permanent heating, ventilating, or air conditioning systems, clean all ductwork and clean and flush all hydronic piping prior to connection to any portions of the permanent system in use. Provide all necessary items including, but not limit to, filters to protect the permanent system from damage due to start-up and temporary use.

C. Air-Filtration Units: Primary and secondary HEPA-filter-equipped portable units with four-stage filtration. Provide single switch for emergency shutoff. Configure to run continuously.

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 Division 01 Section "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.

3.2 TEMPORARY UTILITY INSTALLATION

A. General: Install temporary service or connect to existing service.

1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.

1. Connect temporary sewers to [**municipal system**] [**private system indicated**] as directed by authorities having jurisdiction.

C. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction.

D. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

E. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

1. Toilets: Use of Owner's existing toilet facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

F. Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.

G. Heating[and Cooling]: Provide temporary heating[and cooling] required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.

H. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.

1. Prior to commencing work, isolate the HVAC system in area where work is to be performed according to coordination drawings.
   a. Disconnect supply and return ductwork in work area from HVAC systems servicing occupied areas.
   b. Maintain negative air pressure within work area using HEPA-equipped air-filtration units, starting with commencement of temporary partition construction, and continuing until removal of temporary partitions is complete.

2. Maintain dust partitions during the Work. Use vacuum collection attachments on dust-producing equipment. Isolate limited work within occupied areas using portable dust-containment devices.
3. Perform daily construction cleanup and final cleanup using approved, HEPA-filter-equipped vacuum equipment.

I. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.

J. Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.

K. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.

1. Install electric power service [**overhead**] [**underground**] unless otherwise indicated.
2. Connect temporary service to Owner's existing power source, as directed by Owner.

L. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

M. Telephone Service: Provide superintendent with cellular telephone.

N. Telephone Service: Provide temporary telephone service in common-use facilities for use by all construction personnel. Install [one] <Insert number> 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.

O. 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. Processor: Intel Pentium D or Intel CoreDuo, [**3.0**] <**Insert number**> GHz processing speed.
3. Memory: 4 gigabyte.
4. Memory: [**4**] <**Insert number**> gigabyte.
5. Disk Storage: 300 gigabyte hard-disk drive and combination DVD-RW/CD-RW drive.
6. Disk Storage: [**300**] <**Insert number**> gigabyte hard-disk drive and combination DVD-RW/CD-RW drive.
7. Display: 22-inch LCD monitor with 128 Mb dedicated video RAM.
8. Network Connectivity: 02/110BaseT Ethernet.
9. 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.
10. 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.
11. Internet Service: Broadband modem, router and ISP, equipped with hardware firewall, providing minimum 384 Kbps upload and 1 Mbps download speeds at each computer.
12. Internet Service: Broadband modem, router and ISP, equipped with hardware firewall, providing minimum [**384**] <**Insert number**> Kbps upload and [**1**] <**Insert number**> Mbps download speeds at each computer.
13. Internet Security: Integrated software, providing software firewall, virus, spyware, phishing, and spam protection in a combined application.

3.3 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 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. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate for construction operations. Locate temporary roads and paved areas [as indicated] [within construction limits indicated] on Drawings.

1. Provide dust-control treatment that is nonpolluting and nontracking. Reapply treatment as required to minimize dust.

C. Temporary Use of Permanent Roads and Paved Areas: Locate temporary roads and paved areas in same location as permanent roads and paved areas. Construct and maintain temporary roads and paved areas adequate for construction operations. Extend temporary roads and paved areas, within construction limits indicated, as necessary for construction operations.

1. Coordinate elevations of temporary roads and paved areas with permanent roads and paved areas.
2. Prepare subgrade and install subbase and base for temporary roads and paved areas according to Division 31 Section "Earth Moving."
3. Recondition base after temporary use, including removing contaminated material, regrading, proofrolling, compacting, and testing.
4. Delay installation of final course of permanent hot-mix asphalt pavement until immediately before Substantial Completion. Repair hot-mix asphalt base-course pavement before installation of final course according to Division 32 Section "Asphalt Paving."

D. 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.

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

F. 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.

G. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.

1. Identification Signs: Provide Project identification signs as indicated on Drawings.
2. 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.

3. Maintain and touchup signs so they are legible at all times.

H. Waste Disposal Facilities: Comply with requirements specified in Division 01 Section "Construction Waste Management and Disposal."

I. 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 Division 01 Section "Execution."

J. 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.

K. Temporary Elevator Use: [Use of elevators is not permitted] [See Division 14 Sections for temporary use of new elevators].

L. Existing Elevator Use: Use of Owner's existing elevators will be permitted, 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.

M. Temporary Stairs: Until permanent stairs are available, provide temporary stairs where ladders are not adequate.

N. Existing Stair Usage: Use of Owner's existing stairs will be permitted, 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.

O. Temporary Use of Permanent Stairs: Use of new stairs for construction traffic will be permitted, provided stairs are protected and finishes restored to new condition at time of Substantial Completion.

3.4 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. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

C. Temporary Erosion and Sedimentation Control: Comply with[requirements of 2003 EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent and] requirements specified in Division 31 Section "Site Clearing."

D. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, according to [erosion- and sedimentation-control Drawings] [requirements of 2003 EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent].

E. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.

F. Tree and Plant Protection: Comply with requirements specified in Division 01 Section "Temporary Tree and Plant Protection."

G. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.

H. 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.

I. Site Enclosure Fence: Before demolition 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.

J. 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.

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

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

M. 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 not complete, insulate temporary enclosures.

N. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by [Owner] [and] [tenants] from fumes and noise.

1. Do not block exits from Owner occupied areas with construction or construction enclosures.
2. Construct 1 hour fire resistant partitions of not less than [**3-5/8-inch(100-mm) metal studs**] [**4-inch(100-mm) wood studs**] with 5/8-inch firecode gypsum board on each side. Doors shall have minimum 20 minute fire rating.
3. Construct 1 hour fire resistant partitions of not less than 3-5/8-inch(100-mm) metal studs with 5/8-inch(16 mm) firecode gypsum board on each side. Doors shall have minimum 20 minute fire rating.

4. Construct dustproof partitions with gypsum wallboard with joints taped on occupied side, and fire-retardant-treated plywood on construction operations side.
5. Construct dustproof partitions with two layers of 6-mil polyethylene sheet on each side. Cover floor with two layers of 6-mil polyethylene sheet, extending sheets 18 inches up the sidewalls. Overlap and tape full length of joints. Cover floor with fire-retardant-treated plywood.
    a. Construct vestibule and airlock at each entrance through temporary partition with not less than 48 inches between doors. Maintain water-dampened foot mats in vestibule.
6. Where fire-resistance-rated temporary partitions are indicated or are required by authorities having jurisdiction, construct partitions according to the rated assemblies.
7. Insulate partitions to control noise transmission to occupied areas.
8. Seal joints and perimeter. Equip partitions with gasketed dustproof doors and security locks where openings are required.
9. Protect air-handling equipment.
10. Provide walk-off mats at each entrance through temporary partition.

O. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire prevention program.

1. Prohibit smoking in construction areas.
2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
4. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

3.5 MOISTURE AND MOLD CONTROL

A. Contractor's Moisture Protection Plan: Avoid trapping water in finished work. Document visible signs of mold that may appear during construction.

B. Exposed Construction Phase: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect materials from water damage and keep porous and organic materials from coming into prolonged contact with concrete.

C. Partially Enclosed Construction Phase: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:

1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
2. Keep interior spaces reasonably clean and protected from water damage.
3. Discard or replace water-damaged and wet material.
4. Discard, replace, or clean stored or installed material that begins to grow mold.
5. Perform work in a sequence that allows any wet materials adequate time to dry before enclosing the material in drywall or other interior finishes.

D. Controlled Construction Phase of Construction: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:

1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
2. Remove materials that can not be completely restored to their manufactured moisture level within [**48**] <**Insert time period**> hours.

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

D. 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. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Division 01 Section "Closeout Procedures."

END OF SECTION 01 5000

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SECTION 01 7300 - EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

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

1. Construction layout.
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. Division 01 Section "Summary" for limits on use of Project site.
2. Division 01 Section "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.
3. Division 07 Section "Penetration Firestopping" for patching penetrations in fire-rated construction.

1.2 INFORMATIONAL SUBMITTALS

A. Certificates: Submit certificate signed by land surveyor certifying that location and elevation of improvements comply with requirements.

B. Certificates: Submit certificate signed by [land surveyor] [professional engineer] certifying that location and elevation of improvements comply with requirements.

C. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

D. Certified Surveys: Submit two copies signed by land surveyor.

E. Certified Surveys: Submit [two] <Insert number> copies signed by [land surveyor] [professional engineer].

F. Final Property Survey: Submit 10 copies showing the Work performed and record survey data.

G. Final Property Survey: Submit [10] <Insert number> copies showing the Work performed and record survey data.

1.3 QUALITY ASSURANCE

A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

B. 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 element during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection
   a. <Insert list of structural elements>.

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 results in increased maintenance or decreased operational life or safety.
3. 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 results in increased maintenance or decreased operational life or safety.[Operational elements include the following:]
   a. <Insert operating system>.

4. 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.
5. 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.[Other construction elements include but are not limited to the following:]
   a. <Insert miscellaneous element.>

6. 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.

C. 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.

D. 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.

1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with requirements of Division 01 sustainable design requirements Section.

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. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

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 for mechanical and 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. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. Existing Utility Information: Furnish information to [local utility] [Owner] that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

C. 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.

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

E. 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 Division 01 Section "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.

B. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect[and Construction Manager] promptly.

C. General: Engage a land surveyor to lay out the Work using accepted surveying practices.

D. General: Engage a [land surveyor] [professional engineer] to lay out the Work using accepted surveying practices.

1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
2. Establish limits on use of Project site.
3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
4. Inform installers of lines and levels to which they must comply.
5. Check the location, level and plumb, of every major element as the Work progresses.
    a. Include footings, foundations, anchor bolts, and similar items.
6. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
7. Notify Architect[and Construction Manager] when deviations from required lines and levels exceed allowable tolerances.

8. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

E. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.

F. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

G. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

H. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect[and Construction Manager].

3.4 FIELD ENGINEERING

A. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

B. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.

1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.

C. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.

D. Final Property Survey: Engage a land surveyor to prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by land surveyor, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.

E. Final Property Survey: Engage a [land surveyor] [professional engineer] to prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by [land surveyor] [professional engineer], that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.

1. Recording: At Substantial Completion, have the final property survey recorded by or with authorities having jurisdiction as the official "property survey."

3.5 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.

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.

3.6 CUTTING AND PATCHING

A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching of the material being cut and patched. 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: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

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. 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] [prevent] interruption to occupied areas.

H. 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: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Excavating and Backfilling: Comply with requirements in applicable Division 31 Sections where required by cutting and patching operations.
5. 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.
6. Proceed with patching after construction operations requiring cutting are complete.

I. 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.

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

3.7 PROGRESS CLEANING

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

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
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.
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

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.

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.

3.8 STARTING AND ADJUSTING

A. Coordinate startup and adjusting of equipment and operating components with requirements in Division 01 Section "General Commissioning Requirements."

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

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

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

E. Manufacturer's Field Service: Comply with qualification requirements in Division 01 Section "Quality Requirements."

3.9 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 01 7300

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SECTION 01 7700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 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. Warranties.
4. Final cleaning.
5. Repair of the Work.

B. Related Requirements:

1. Division 01 Section "Photographic Documentation" for submitting final completion construction photographic documentation.
2. Division 01 Section "Execution" for progress cleaning of Project site.
3. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
4. Division 01 Section "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
5. Division 01 Section "Demonstration and Training" for requirements for instructing Owner's personnel.
6. Divisions 02 through 33 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.2 ACTION SUBMITTALS

A. Product Data: For cleaning agents.

B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.

C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.3 CLOSEOUT SUBMITTALS

A. Certificates of Release: From authorities having jurisdiction.

B. Certificate of Insurance: For continuing coverage.

C. Field Report: For pest control inspection.

1.4 MAINTENANCE MATERIAL SUBMITTALS

A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.5 SUBSTANTIAL COMPLETION PROCEDURES

A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.

B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

C. Submittals Prior to Substantial Completion: Complete the following a minimum of [**10**] <**Insert number**> days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
3. Submit closeout submittals specified in individual Divisions 02 through 33 Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Submit maintenance material submittals specified in individual Divisions 02 through 33 Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect. Label with manufacturer's name and model number where applicable.
5. Submit maintenance material submittals specified in individual Divisions 02 through 33 Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by [**Architect**] [**Construction Manager**]. Label with manufacturer's name and model number where applicable.

    a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Architect's signature for receipt of submittals.
    b. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain [**Architect's**] [**Construction Manager's**] signature for receipt of submittals.

6. Submit test/adjust/balance records.
7. Submit sustainable design submittals required in Division 01 sustainable design requirements Section and in individual Division 02 through 33 Sections.
8. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

D. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

E. Procedures Prior to Substantial Completion: Complete the following a minimum of [**10**] <**Insert number**> days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Advise Owner of pending insurance changeover requirements.
2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
3. Complete startup and testing of systems and equipment.
4. Perform preventive maintenance on equipment used prior to Substantial Completion.
5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Division 01 Section "Demonstration and Training."
6. Advise Owner of changeover in heat and other utilities.
7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
9. Complete final cleaning requirements, including touchup painting.
10. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

F. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. 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 list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

G. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of [**10**] <**Insert number**> days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect[**and Construction Manager**] 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 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.
2. Results of completed inspection will form the basis of requirements for final completion.

1.6 FINAL COMPLETION PROCEDURES

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

1. Submit a final Application for Payment according to Division 01 Section "Payment Procedures."
2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect.

Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.

3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Submit pest-control final inspection report and warranty.
5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.[**Submit demonstration and training video recordings.**]

B. Inspection: Submit a written request for final inspection to determine 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.

C. Inspection: Submit a written request for final inspection to determine acceptance. On receipt of request, Architect[**and Construction Manager**] 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.

1.7 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of 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. Use CSI Form 14.1A.

B. Organization of 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.[**Use CSI Form 14.1A.**]

1. Organize list of spaces in sequential order.
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Submit list of incomplete items in the following format:
   a. MS Excel electronic file. Architect will return annotated copy.
   b. MS Excel electronic file. Architect[**, through Construction Manager,**] will return annotated copy.
   c. PDF electronic file. Architect will return annotated copy.
   d. PDF electronic file. Architect[**, through Construction Manager,**] will return annotated copy.
   e. Three paper copies unless otherwise indicated. Architect will return two copies.
   f. [**Three**] <**Insert number**> paper copies unless otherwise indicated. Architect[**, through Construction Manager,**] will return [**two**] <**Insert number**> copies.

1.8 SUBMITTAL OF PROJECT WARRANTIES

A. Time of Submittal: 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, or when delay in submittal of warranties might limit Owner's rights under warranty.

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. Warranty Electronic File: 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 bookmarked 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 comply with Green Seal's 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 designated 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. Remove snow and ice to provide safe access to building.
f. 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.
g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
h. Sweep concrete floors broom clean in unoccupied spaces.
i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
j. 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.
k. Remove labels that are not permanent.
l. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
m. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
n. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
o. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
p. Leave Project clean and ready for occupancy.

C. Pest Control: Comply with pest control requirements in Division 01 Section "Temporary Facilities and Controls." Prepare written report.

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 01 7700

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SECTION 01 7823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SUMMARY

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

1. Operation and maintenance documentation directory manuals.
2. Systems and equipment operation manuals.
3. Systems and equipment maintenance manuals.
4. Product maintenance manuals.

B. Related Requirements:

1. Section 01 3300 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.

1.2 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.

1.3 CLOSEOUT SUBMITTALS

A. Submit operation and maintenance manuals indicated. Provide content for each manual as specified in individual Specification Sections, and as reviewed and approved 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 operation and maintenance submittals is acceptable.
2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.

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

1. Submit on digital media acceptable to Architect. Enable reviewer comments on draft submittals.

C. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training. Architect will return copy with comments.

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

D. Comply with Section 01 7700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

1.4 FORMAT OF OPERATION AND MAINTENANCE MANUALS

A. 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: Bookmark individual documents based on 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 on opening file.

1.5 REQUIREMENTS FOR OPERATION, AND MAINTENANCE MANUALS

A. Organization of Manuals: 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.
3. Manual 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 Construction Manager.
7. Name and contact information for Architect.
8. Name and contact information for Commissioning Authority.
9. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
10. 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. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with 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."

1.6 SYSTEMS AND EQUIPMENT OPERATION MANUALS

A. Systems and Equipment Operation Manual: Assemble a complete set of data indicating operation of each system, subsystem, and piece of equipment not part of a system. Include information required for daily operation and management, operating standards, and routine and special operating procedures.

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

1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
2. Performance and design criteria if Contractor has 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.

C. 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.

D. 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.

6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

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

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

1.7 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

A. Systems and Equipment Maintenance Manuals: Assemble a complete set of data indicating maintenance of each system, subsystem, and piece of equipment not part of a system. Include manufacturers' maintenance documentation, preventive maintenance procedures and frequency, repair procedures, wiring and systems diagrams, lists of spare parts, and warranty information.

B. 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 warranties and bonds, as described below.

C. Manufacturers' Maintenance Documentation: Include the following information for each component part or piece of equipment:

1. Standard maintenance instructions and bulletins; 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.
   a. 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.

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.

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.

I. 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.

1.8 PRODUCT MAINTENANCE MANUALS

A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.

B. 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.

C. Source Information: List each product 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.

D. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
4. Material and chemical composition.
5. Reordering information for specially manufactured products.

E. 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.

F. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

G. 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 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 7823

SECTION 01 7839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for project record documents, including the following:

1. Record Drawings.
2. Record Specifications.
3. Record Product Data.
4. Miscellaneous record submittals.

B. Related Requirements:

1. Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
2. Divisions 02 through 33 Sections for specific requirements for project record documents of the Work in those Sections.

1.2 CLOSEOUT SUBMITTALS

A. Record Drawings: Comply with the following:

1. Number of Copies: Submit one set of marked-up record prints.
2. Number of Copies: Submit [**one**] <**Insert number**> set(s) of marked-up record prints.
3. Number of Copies: Submit copies of record Drawings as follows:
    a. Initial Submittal:
        1) Submit [**one**] <**Insert number**> paper-copy set(s) of marked-up record prints.
        2) Submit PDF electronic files of scanned record prints and [**one**] <**Insert number**> set(s) of file prints.
        3) Submit record digital data files and [**one**] <**Insert number**> set(s) of plots.
        4) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
    b. Final Submittal:
        1) Submit [**three**] <**Insert number**> paper-copy set(s) of marked-up record prints.
        2) Submit PDF electronic files of scanned record prints and [**three**] <**Insert number**> set(s) of prints.
        3) Print each drawing, whether or not changes and additional information were recorded.
    c. Final Submittal:
        1) Submit [**one**] paper-copy set(s) of marked-up record prints.
        2) Submit record digital data files and [**three**] <**Insert number**> set(s) of record digital data file plots.
        3) Plot each drawing file, whether or not changes and additional information were recorded.

B. Record Specifications: Submit annotated PDF electronic files of Project's Specifications, including addenda and contract modifications.

C. Record Product Data: Submit annotated PDF electronic files and directories of each submittal.

D. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit annotated PDF electronic files and directories of each submittal.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised Drawings as modifications are issued.

1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.

    a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
    b. Record data as soon as possible after obtaining it.
    c. Record and check the markup before enclosing concealed installations.

2. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
3. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
4. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Architect. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:

C. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Architect[**and Construction Manager**]. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:

1. Format: Same digital data software program, version, and operating system as the original Contract Drawings.
2. Format: [DWG] [DXF] [DGN], Version <Insert designation>, [Microsoft Windows] [Apple Macintosh] operating system.
3. Format: Annotated PDF electronic file with comment function enabled.
4. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
5. Refer instances of uncertainty to Architect for resolution.

6. Architect will furnish Contractor one set of digital data files of the Contract Drawings for use in recording information.

D. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

1. Record Prints: Organize record prints and newly prepared record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Format: Annotated PDF electronic file with comment function enabled.
3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
4. Identification: As follows:

a. Project name.
b. Date.
c. Designation "PROJECT RECORD DRAWINGS."
d. Name of Architect.
e. Name of Contractor.

2.2 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. Note related Change Orders, record Product Data, and record Drawings where applicable.

B. Format: Submit record Specifications as annotated PDF electronic file.

2.3 RECORD PRODUCT DATA

A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders, record Specifications, and record Drawings where applicable.

B. Format: Submit record Product Data as annotated PDF electronic file.

2.4 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

B. Format: Submit miscellaneous record submittals as PDF electronic file.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.

B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's reference during normal working hours.

C. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's[**and Construction Manager's**] reference during normal working hours.

END OF SECTION 01 7839

SECTION 11 4000 - FOOD SERVICE EQUIPMENT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. All Drawings, General and Supplementary Conditions, Division 1, Specifications, and related contract documents apply to this section and the requirements may exceed those shown in this section. The Food Service Engineering Consultants on this project are JRA Food Service Consultants, LLC in Grand Rapids, Michigan (616-454-4433) and is responsible to the Architect and Owner for ascertaining that the Food Service Equipment Contractor complies with all the requirements of this section.

1.02 SUMMARY

A. As listed in this division, the Food Service Equipment Contractor shall furnish all labor, material, work, equipment, transportation, accessories, taxes, etc. for a complete and continuous installation in accordance with the requirements of these plans and specifications and related documents.

B. The FSEC shall familiarize themselves with local conditions affecting the cost of the work and examine the site and all Food Service Equipment contract documents including Architectural drawings, and contract documents, all of which constitute the responsibility of the FSEC.

1.03 SUBSTITUTIONS AND VOLUNTARY ALTERNATES:

A. The first manufacturer of equipment listed in the item specifications is intended to be the basis of the base bid. All other manufacturers must conform to the specifications, size, accessories, materials, capacity, etc.

B. A proposed substitution on any specified equipment must be submitted to the Consultant 10 days in advance of the bid date and must include all manufacturers shop drawings and data sheets on the proposed equipment. The supplier shall pay any additional costs incurred for changes, engineering services, utilities, construction, etc. that may be incurred by said substitutions.

1.04 INTERPRETATION OF DOCUMENTS:

A. Prior to receipt of bids, all questions, clarification, and changes in the documents shall be executed by addendum. After award of contract, all changes shall be performed by bulletin.

B. FSEC shall submit an itemized price breakdown to the Consultant on their letterhead for each piece of equipment including labor, freight, manufacturer, quantity, taxes, etc. as applicable.

C. Any deletions of equipment by the Owner and/or Consultant prior to approval and/or release of the shop drawings, brochures, etc. shall be credited to the Owner at the itemized price as listed in the itemized price breakdown and include all equipment costs, freight, labor, taxes etc. Pricing shall not be credited at the amount listed on the Schedule of Values.

D. Any additions to equipment by the Owner and/or Consultant that result in cost increases after approval and/or release of shop drawings, brochures, etc. shall be immediately noted by the FSEC and a written request with prices for a bulletin shall be issued by the FSEC to the Consultant.

E. The General Specifications are applicable to items listed in the item specifications.

1.05 ABBREVIATIONS

A. The following abbreviations are used herein unless otherwise noted on the plans or item specifications.

A	Amps
AFF	Above Finish Floor
BTC	Branch To Connection
CFM	Cubic Feet of Air Per Minute
C.P.	Chrome Plated
CW	Cold Water - 25 PSI
DCO	Duplex Convenience Outlet - 20 amp
DFA	Drop From Above
E.C.	Electrical Trades
FL DR	Floor Drain - Wade W1104
FFD	Funnel Floor Drain - Wade 1104-EF4
FL SK	Floor Sink - 12" - Wade W9144-15
FPM	Feet Per Minute
FSEC	Food Service Equipment Contractor
F.S.C.	Food Service Consultant
G	Natural Gas - 7" water column
GP	General Purpose
G.S.	General Specifications
G.C.	General Trades
HVAC	Heating Ventilation HVAC Trades
HP	Horsepower
HW	Hot Water - 140 degree - 25 PSI
J.B.	Junction Box
KW	Kilowatt
N.S.R.	No Service Required
N.I.C.	Not in FSEC contract
P.C.	Plumbing Trades
S.O.M.	Standard of Manufacturer
s.s.	Stainless Steel
SS	Steam Supply - 25 PSI
SR	Steam Return
V	Volts
VIF	Verify in field
W	Waste Outlet
W.G.	Water Gauge - Static Pressure

1.06 CONFORMITY

A. All equipment furnished under these specifications shall be newly manufactured and installed in strict conformity with all codes, regulations and requirements of the State Board of Health, the National Sanitation Foundation Standards, or any state or local agency.

B. All equipment shall conform to the current standards and bear the seal of UL, NEMA, ASME, AGA, OSHA, NFPA, etc. where applicable and/or otherwise conform to the requirements of the authorities having jurisdiction.

C. Wherever the requirements of the specifications and drawings are in excess of the

regulations, the specifications and drawings shall govern. Whenever the regulations are in excess of the specifications and drawings, the regulations shall govern.

D. Wherever the requirements of the specifications are in excess of the drawings, the specifications shall govern. Wherever the requirements of the drawings are in excess of the specifications, the drawings shall govern.

1.07 PERMITS - LICENSES - PHONE CALLS

A. Provide to the proper authorities all notices required by law, obtain all refrigeration permits, licenses, etc., and pay any legal fees necessary for the due and faithful performance of the work, and which may arise incidental to the fulfilling of the foodservice documents. The Owner shall pay for any health department plan review or license fees.

B. Permits shall be provided as required. Refer to the Construction Managers scope of work.

C. Accept all collect phone calls relating to food service equipment that pertain to the project until warranty has expired on the equipment.

1.08 SUBMITTAL OF BUYOUT BROCHURES AND SHOP DRAWINGS

A. Shop drawing and brochure requirements may also be listed in the general requirements or other areas of the documents. Provide submittals as per those requirements or as listed below - whichever is greater.

B. All shop drawings, rough-in drawings, equipment brochures, etc. shall be submitted at one time within 20 days of the notice to proceed. Said items are subject to the terms and conditions of the plans and specifications for the entire project. All drawings which are submitted for distribution shall be clear and concise and have the following notes printed on each and every sheet:

Name of the F.S.E.C.
Name and location of the project.
Name of the Architect.
Name of the Consultant.
Name of the General Contractor.
Drawing number.
Date of drawing and revisions.

The following statement: The (name of F.S.E.C.) is solely responsible for the accuracy and completeness of these drawings and specifications, and we approve them for construction purposes. Signed: (Officer, Partner, etc.)

C. All submitted data shall be reviewed for general compliance only and does not alleviate the F.S.E.C. from providing equipment as per the intent of the plans and specifications.

D. Owner shall not be responsible for any equipment ordered or prior to receipt of Consultant approved brochures or shop drawings.

E. If applicable, the F.S.E.C. shall visit site to verify requirements of existing or relocated equipment prior to submittals.

1.09 BUYOUT BROCHURES:

A. As soon as possible, prepare a buy-out equipment brochure in PDF format with copies of

manufacturer's specification sheet or literature on each item, along with a list of the model, manufacturer, quantity, connections required, accessories, etc. for each item and component or accessories. Material on all items shall be assembled in order and no consideration will be given to partial lists submitted from time to time.

1.10 ROUGH-IN DRAWING AND MECHANICAL DATA:

A. As soon as possible, submit an electronic drawing in PDF format at 1/4” scale to locate accurately the utility connections for each item of equipment requiring water, gas, electrical, and drain. Listed on the drawings shall be dimensions to required utilities and located from a center line of a structural column or another positive reference point.

B. Upon final approval of data, distribute copies to all trades, Owner, Architect, health department, etc. as required.

C. Drawings shall be at 1/4" scale or larger and indicate each electrical and mechanical roughing-in required for all new and/or relocated or future or purveyor supplied (the Owner shall provide proper data on purveyor supplied equipment) food service equipment as listed in the plans or specifications. Include all electrical and convenience outlets, gas, water, steam, ventilation, drains, floor depressions, wall openings, weights, ceiling recess or access panels, sleeves, beverage lines, roof data, refrigeration, etc.

D. Furnish all necessary assistance to the various trades and be responsible for the proper location of sleeves and conduits through which the utility lines are to be drawn. A field inspection shall be made before the finished floors are laid to make any necessary relocations of the utility sleeves, rough-ins and conduits, and immediate written notice shall be provided if rough in problems have occurred.

1.11 SUBMITTALS OF SHOP DRAWINGS:

A. Completely detail and submit shop drawings (s.s. fabrication, fire protection, ventilation, plastic laminate fabrication, walk ins, sneeze guards, cafeteria serving counters, hoods,etc.) in electronic PDF format showing all items to be provided under this section of the specifications. Drawings to be submitted for review at 1/2" per foot scale or larger. Upon final review of data, distribute copies to all trades, Owner, Architect, etc. as required.

B. The drawings shall show all elevations, sections, dimensions, mechanical and electrical requirements, related details of construction, installation and related work which require cutting, close fitting, etc. as required for installation.

C. Submit proper notifications in writing of any departures from the contract drawings or specifications which may be necessary to permit installation of the equipment. Fabrication should not be started until after final approvals are received and final field measurements are taken.

1.12 MAINTENANCE MANUALS

A. At time of demonstration, provide to the person in charge of the kitchen a minimum of three bound current copies of kitchen plans, roughing-in drawings, any and all warranties, instructions, parts lists, operating instructions for each piece of mechanical equipment, as built shop drawings, and "Buy-Out" brochures.

B. Manuals shall include a typewritten list in the front of the manual listing the names, addresses, and telephone numbers of local servicing agencies and manufacturer’s representatives for all

equipment.

1.13 SAMPLES

A. Submit all required samples for approval, if required, of all hardware, plastic laminate, paint, etc. before starting fabrication. Other samples shall be supplied as required.

1.14 MEASUREMENTS

A. Measurements required to size and place the food service equipment shall not be taken from drawings but shall be made at the structure from the actual spaces reserved therefore, and giving due consideration to any architectural, structural or mechanical discrepancies that may occur during construction of the building. Verify size of all of Owners equipment and small wares (dishes, trays, pans, etc.) and Purveyor supplied equipment (urns, soda systems, beverage dispensers, etc.), if applicable. Field dimensions shall be taken at the earliest opportunity so as not to delay deliveries.

B. Verify in field any and all measurements before doing any work on equipment that may be affected by the physical conditions and be responsible for the correction of same.

C. Inspect equipment for proper operation prior to relocation. Advise if equipment is defective or needs rework which is not included in the original contract and submit a written quotation for said work.

D. Coordinate Owners and/or Purveyor supplied equipment (coffee makers, beverage equipment, cash registers, soda equipment, etc.) as required for rough-in data, installation, etc.

E. Measurements for tight fitting equipment shall allow no more than 1/4" between wall and equipment that shall be trimmed and/or sealed as required.

1.15 WARRANTY

A. Provide a written warranty for all equipment against defects in workmanship and material for one (1) year from date of substantial completion and acceptance, excluding refrigeration units which shall carry an additional four-year warranty and a ten-year warranty on all walk-in panels. This shall cover any replacements and/or repair costs of such defective material, including transportation, labor, and materials for all equipment. This one-year free service, warranty and guarantee shall be available within 24 hours of notification on all equipment except refrigeration.

B. Provide one-year free service, warranty and guarantee within 12 hours of notification on walk-In refrigeration and units must be operational within 24 hours after service call.

C. This warranty is not intended to cover equipment which has been overly abused or items that have not had proper periodic maintenance (door gaskets, uncleaned refrigeration condensers, etc.) during the one-year period.

1.16 DELIVERY AND STORAGE

A. Furnish all labor, material, equipment, etc. as required to unload and store all equipment.

B. No equipment shall be delivered to the site unless it has been ascertained that storage space is available.

C. Make all arrangements to deliver, unload, and store all equipment and shall assume all

responsibility for safeguarding the equipment until it is accepted by the Owner.

A. Unless noted in the item specifications, remove and store any existing and/or relocated equipment that is removed from the kitchen during the construction period.

PART 2 - GENERAL SPECIFICATIONS - PRODUCTS

2.01 MANUFACTURER'S STANDARDS

A. It is the intention of these specifications to provide a type of equipment conforming to manufacturer's standards and only minor variations in construction will be accepted, provided that these variations do not detract from the finished appearance, durability, general function or in any way affect general overall size, capacity, strength, etc. of equipment.

B. Manufacturer's catalog designation of material and/or fabricated equipment used in the following specifications are intended to illustrate and represent the standards which will be required by the owner. Equipment furnished must closely conform thereto in design, construction, capacity, and function to make and model called for. Where such catalog designations are given, the items shall be complete as described and shown in the catalog unless exceptions are in itemized specifications.

C. When more than one manufacturer is listed in the Item Specification, only one manufacturer shall be acceptable for items of a similar nature (fabrication, cooking equipment, refrigerators, shelving, carts, etc.) to insure uniformity of design, installation, service, etc.

2.02 FABRICATION STANDARDS

A. Unless noted under itemized specifications or on plans, the following specifications shall govern the construction of all fabricated and buyout equipment and installation and shall apply to the individual item as if it were written therein in its entirety.

2.03 FABRICATED EQUIPMENT

A. It is required that all custom fabricated items (counters, tables, sinks, dish tables, etc.) described in the plans and specifications, other than by name and catalog number, be constructed of 300 series stainless steel and be manufactured by one fabricator. Metal-Masters Inc, Advance Tabco Co., Kevry Co., Professional Restaurant Services (PRS), LTI Co., John Boos, Pushard Co., Keystone Fabricators Co., Titan Co. and McCallum Co. are approved fabricators and have demonstrated the possess the plant, personnel and engineering facilities to properly design, detail, and manufacture high quality kitchen equipment.

B. All work in the above category shall be standard unit assembly, by one foodservice equipment manufacturer of uniform design, material and finish.

2.04 BACKSPLASHES

A. Where edges of the top are adjacent to walls, column, equipment or enclosures, they shall be turned up to provide a backsplash which shall be tight fitting (1/4" or less). Unless noted, all backsplashes shall be formed by turning up 10" and flanged back 2-1/2" at 45 degrees and down 1" and attach to wall with 6" by 2" s.s. "Z" clips on 3'-0" centers. Ends of backsplash shall be fitted with closure plates. Weld a full s.s. enclosure panel for exposed rear backsplash.

B. Tops adjacent to refrigerators, ovens or cabinets shall be turned up 4" with top edges feathered slightly to form a tight fit of 1/4" or less. Seal with mastic compound.

2.05 BOLTS, SCREWS AND RIVETS

A. All exposed surfaces of equipment shall be free of bolt, screw and rivet heads. Wherever bolts are used to fasten tops and trim to paneling, body of counters and similar equipment, such bolts shall be of an approved type and shall be corrosion resistant metal of the same alloy as the metal to which they are fastened with acorn type nuts to eliminate sharp edges.

2.06 CASTERS

A. Provide heavy duty casters with double ball bearing raceways, heavy gauge fork and races and have minimum capacity of 250 pounds per caster. Casters shall be provided with brakes. Wheel shall be non-marking urethane.

2.07 CODES AND SANITATION

A. All food service equipment under this contract shall meet the requirements and bear the label of the National Sanitation Foundation. Specifications set forth are considered minimum and are to be superseded by any superior requirements in effect as of this date by the National Sanitation Foundation or the State Health Department. Any differences of opinion on sanitation shall be referred to the State Health Department for arbitration.

2.08 CORNERS

A. All corners shall be fully rounded and made integral and of the same sheet as the top and rolled edges. Radii of all rolled edges to be equal and rolled 2" diameter at least 180 degrees. Filler pieces or soldering shall not be used in place of all welded, seamless construction.

2.09 CUTTING BOARDS

A. Provide Read Products or Mapletex Co. 1/2" minimum thick reversible boards as per plan as manufactured by Read Products Inc. when attached to grills or similar equipment, provide s.s. mounting brackets.

2.10 DISHTABLES

A. Provide NSF approved series SC-DT dish tables with 14 gauge 304 s.s. coved corner construction as manufactured by Metal-masters Co. or equal with 10" backsplash as previously specified where adjacent to walls and remainder of tables to have 3" high roll rim and be mounted on 12 gauge under-channeling, 16 gauge s.s. cross rails and legs with s.s. gussets and s.s. adjustable bullet feet and/or flange type feet. Tops shall be pitched to dishwasher to avoid standing water and undersides shall have sound deadening material and be attached to walls with s.s. "Z" clips.

B. Provide removable 18 gauge s.s. under-shelving which has 2" rolled up edges at rear and roll down edge at front and be supported on s.s. cross rails on all sides. Notch all corners to fit legs and piping. Under-shelving shall not interfere with booster heater or adjacent equipment.

C. Provide s.s. recessed drain trough with drainer in all soiled dish tables. Unit shall not interfere with dishwasher control panels or adjacent equipment.

D. Disposer cones and/or scrapping trough shall be integrally welded into top and also provide s.s. brackets for switch and holes in backsplash return for vacuum breaker. Trough shall be size and shape as per plan by 6" deep with coved corner construction and sloped to disposer. Provide 20" long s.s. pan formed removable trough covers. Provide T&S Co. 2905 water inlet at shallow end of trough and every 3'-0" and at change in directions. Inlets shall be controlled

by a 2600 mixing valve mounted on a s.s. bracket mounted under dish table and be interconnected to water line and solenoid so water flows thru inlets when disposer in operation.

E. Provide integral s.s. pass thru sill extending thru wall as per plans and specifications with flat side splashes and turn down front with closed ends. Provide 1" rear turndown at table at 30 degrees so sill is higher than dish table. Provide wood bracing on sill as required for support. Verify requirements of roll up door by prior to installation of tables.

F. Provide raised roll rim in lieu of 3" high roll rim at front edge of soiled dish table when used as a pass thru dish deposit area.

2.11 DOORS:

A. SLIDING DOORS - Sliding doors shall be constructed of 16 gauge s.s. or material listed in the item specifications with roller bearing slides.

B. SINGLE PAN - Construction, 16 gauge s.s. with 3/4" thick sound deadening fiberglass between the two thicknesses of metal. Back panel to be 20 gauge steel. Door to operate on top hung ball bearing rollers. Bottom edge of doors to be square and fitted with a groove that rides over a s.s. pin at center point.

C. All doors shall be fitted with stops and locks. Handles shall be die stamped s.s. flush mounted.

D. HINGED DOORS - All hinged doors for cabinet bodies and enclosed bases shall be double pan construction. Doors shall be flush mounted and be fitted with s.s. piano type full length hinges. They shall be furnished with friction catch and s.s. recessed handles, locks, and two rubber button noise eliminators, one at each corner on handle side.

2.12 DRAWERS:

A. All drawer inserts shall be coved corner die stamped out of one piece of 18 gauge s.s. or plastic and shall set loosely in a channel frame so it can be lifted out for cleaning. Top edges are to be flanged out 1/2".

B. The supporting frame shall be welded steel channel with s.s. drawer face welded to frame so there will be no exposed screws or rivets on the face which shall extend 3/4" out at top and down 3/4" with 1/2" hemmed edge and radius corners to form drawer handle. Provide two rubber button shock stop noise eliminators one on each side of the drawer face at the top.

C. Provide heavy duty s.s. drawer slides with heavy duty s.s. ball bearing wheels. Slides and frame to be so designed as to allow full opening of drawer and to be reinforced to support 150 lbs. when fully extended.

D. Adjustable stops are to be provided for each drawer at the fully open position. Drawers on open base tables shall be enclosed in an 18 gauge housing of steel. Drawer guides are to be sloped to provide self-closing action.

E. All drawers shall be 20" by 20" by 5" deep.

2.13 ENCLOSED BASE CABINETS:

A. All enclosed bases or cabinet bodies shall be similar to Delfield Company or equal Mark VII series and constructed with 14 gauge s.s. tops and 18 gauge s.s. bodies and be enclosed on the ends and sides. The bases and bottom shelves shall be reinforced with channels and

angle bracing and gussets as required. Additional angles and channel cross members shall be provided to reinforce shelves and support tops as required for counter top equipment (urn, ice dispensers, drink dispensers, etc.) as shown on plan.

B. All free corners of enclosed bases or cabinet bodies shall be rounded on a 5/8" radius and all corners against walls and other fixtures shall be square. In the case of fixtures fitting against or between walls, the bodies shall be set 1" from the wall line, but the tops will extend back to the wall line to permit space for rough-ins and adjustment to the wall irregularities. The ends of the cabinet bodies shall extend to the wall line and be sealed and/or trimmed as required.

C. These fixtures shall be constructed with 6" s.s. adjustable legs, unless set on masonry or steel bases as called for in the itemized specifications.

2.14 FIELD JOINTS:

A. All field joints shall be welded with rod of same basic composition as sheets or parts welded. Welds shall be free of pits, cracks, cross graining or discolorations and shall be ground and polished to the original finish of the metal. No soldered or bolted joints shall be used unless noted in item specifications and shall be properly sealed and bolted.

2.15 GRINDING AND POLISHING:

A. All exposed welded joints shall be ground flush with the adjoining material and neatly finished to harmonize therewith. Services shall be free of depressions. Wherever sheared edges occur, they shall be free of burrs, projections and fins to eliminate all danger of cutting or laceration when the hand is drawn over such sheared edges. Where miters or bull nosed corners occur, they shall be neatly ground to a uniform condition, and in no case will overlapping material be acceptable. All exposed surfaces shall be satin finish except rim which shall be a highly polished and buffed finish. Satin finish shall be comparable to the commercial mill finish known as No. 4 for s.s. No cross graining on equipment is acceptable.

2.16 GUARDS

A. All machines shall be furnished fully enclosed with guards built in accordance with safety codes and regulations of State or Governmental agency having jurisdiction.

2.17 HOT FOOD WELLS:

A. Provide insulated food wells with coved corner s.s. interior and the electrical element attached to the underside of well. When units are specified with drains, the manufacturer shall provide a drain assembly with bushing and a universal joint as required to manifold and interconnect all wells with a master and individual valves and Drain handles shall be easily accessible from employee side of counter. All wells shall be inter-wired to master switch with indicator light. Provide galvanized access panel below wells to protect wiring. Units shall be heated by 208/240 volt 1200 watt electric elements with thermostatic control with guard ring and pilot light or 3600 BTU gas burner with individual control and removable heavy steel radiant plate set above heating device.

2.18 INTERIOR SHELVES:

A. All interior shelves in cabinet bodies and enclosed bases shall be 18 gauge s.s. or as called for in the itemized specifications. Turn up on back and ends of shelf shall be 1-1/2" high and coved on 3/4" radius. The front edge shall be turned down 1-1/2" and back 1/2". All shelves

shall be rigidly reinforced below to prevent sagging. Provide ferruled cutouts in shelves for drain lines, conduits, etc.

2.19 LEGS - FEET - FRAMES:

A. All legs and pipe stands for open base tables, dish tables, etc. shall be constructed of 16 gauge s.s. tubing unless noted, with cross rails and braces of the same materials. All joints between legs, under-shelves and cross braces are to be welded and ground smooth.

B. Cross rails must be supplied to reinforce each leg. Legs anchored to gussets at top only and without cross rails are not acceptable. Pipe stands and frames furnished on all pipe base fixtures shall have legs of 1-5/8" O.D. 16 gauge s.s. tubing, cross rails of 1" O.D. 16 gauge s.s. tubing unless noted.

C. Top of stand shall be fitted into s.s. gussets welded to reinforcing structure on underside of the table top, spaced not over 3"-6" on centers.

D. All legs shall be fitted with adjustable s.s. bullet shaped feet with bottom of pipe legs to be finished off smoothly and overlap the stem to provide sanitary fitting and prevent the accumulation of grease or other debris at this joint. Provide s.s. flange type feet securely anchored for island style counters, sinks, etc.

E. All pipe legs or vertical members are to be set back from edge of table tops a sufficient distance to offset any interference with workers, walls, columns or other equipment.

F. Provide 6" adjustable legs with adjustable s.s. bullet foot for fabricated and/or buyout equipment with minimum capacity of 1500 pounds each.

2.20 MATERIALS AND STRUCTURAL SHAPES:

A. Angles, bars, channels, piping, pipe legs, etc. used shall be uniformly ductile in quality and free of hard spots, runs, checks, and other surface defects. Except as otherwise specified, all such sections shall be milled steel galvanized by the hot dip process, all free of runs and blisters, uncoated spots or patches. S.S. shall be 18-8 composition (302 alloy) standard with No. 4 finish and polished to 180 grit and welded as previously specified. Provide butyl sealant sound deadening between tops and all structural supports or as required.

2.21 NAME PLATES

A. Each item of equipment shall have a corrosion resistant metal name plate with model number, serial number, name and address of the manufacturer securely fastened to equipment in a non- conspicuous area. All mechanical and electrical controls, switches, disconnects, remote compressors, etc. shall be labelled with metal or engraved phenolic plastic signage.

2.22 OVERSHELVES AND WALL SHELVES:

A. Provide 10" wide NSF 16 gauge s.s. over-shelves or wall shelves unless noted in the plans or item specifications. Provide wall mounted shelves with rear and sides to be turned up square 1" and front edge to have sanitary roll rim. Provide heavy gauge s.s. wall mounting brackets 6" from ends of shelf with maximum of 4'-0" on centers.

B. Provide all over-shelves with sanitary rolled edges and bull nose corners on all four sides unless equipment is mounted on shelf (microwave, toaster, dishes, etc.) and provide 1/2" turn up at rear for that portion of the over-shelf. Provide s.s. tubular support standards as required for shelf mounted equipment and with provisions for mounting to table or counter top.

C. Provide all wall backing and/or structural support as required for shelves to support 50 pounds per square foot and coordinate installation of same with trades.

2.23 PAINTING

A. All galvanized material and black steel shall be thoroughly cleansed of all oil and foreign matter and given two (2) coats of enamel paint as selected.

2.24 ROLLED RIMS AND EDGES

A. Standard roll rim shall be coved up 3" with 1/2" diameter roll at 180 degrees and bullnose corners.

B. Square edge shall be turned down 2" at 90 degrees with 3/4" tight hem at bottom.

C. Marine edge shall be turned up 1/2" on a 45 degree angle and turned down 2" with 3/4" tight hem at bottom.

D. Wherever table tops are used in connection with sinks, the top shall be fabricated with a 1/2" high raised roll rim spillage edge unless otherwise specified. Top to be integrally raised approximately 1/2" at all edges and then rolled down 2" at 210 degrees with bull nose corners.

2.25 REINFORCED STRUCTURES:

A. Counter, table, and cabinet framework shall be constructed of steel angles horizontally and channels vertically, made in sections to permit assembly on job with tops field welded. Vertical fronts and sides of cafeteria counters and similar enclosures are to be reinforced with channels on approximately 3'-0" centers to support the tray slide brackets.

B. Unless otherwise specified, angles or channel frames and similar cross bracing on not over 2'-0" centers to be provided under all counter and table tops to stiffen tops and furnish fastening supports for leg flanges.

2.26 SINKS:

A. Provide 14 gauge s.s. coved corner sink bowls integrally welded as per plan with welded seamless construction with scored bottom towards a die stamped drain outlet with a Fisher lever handle waste and connected overflow located 1" below drain board and shall not interfere with plumbing, adjacent walls, equipment, etc. Provide 14 gauge s.s. bracket for drain stem. All multiple compartment sinks shall be double walled construction. When sinks are built into enclosed base counters, provide access holes for lever waste handle stem.

2.27 TABLE TOPS:

A. METAL - Metal table tops to be 34" high and be constructed of 14 gauge 302 s.s. with NSF roll rim construction and bull nose corners unless otherwise noted. All seams and coved corners shall be welded, ground smooth and polished. Provide ferruled access holes for cutouts for water lines, cords and plugs, etc. as required in table tops, counter tops, urn stands, etc. All open base tables shall be reinforced with 12 gauge angles or channels. Provide welded cross angle or channel members shall be placed at each pair of legs with gussets, welded cross rails and feet as previously specified.

B. One angle runner, running lengthwise shall be provided on tops up to 30" wide; two provided on tops over 30" wide. All tops shall be reinforced so that there will be no noticeable deflection and all reinforcements shall be stud welded to the underside of the top. No rivets or bolts to be

used through the top. Provide sound deadening material between tops and reinforcing members and underside of tops. Field joints are to be provided in the top where necessary.

C. RICHLITE – Read Products or Mapletex or plastic tops shall be NSF construction with 1" thick top with drop edge supported on 12 gauge framing and top reinforcement channels attached to legs as above. Provide 6" coved riser at rear and sides when specified. When drawers are specified below tops, 12 gauge reinforcement channels shall be provide for mounting of drawers or for tables with removable tops. If Read Products or Maple-Tex top tables are used as bake table, verify location and size of ingredient bins located below drawers to assure proper fit.

2.28 UNDERSHELVES:

A. The under-shelves on open base tables, dish tables, etc. shall be a solid removable 16 gauge s.s. shelf unless noted in the itemized specifications. Shelf is to be turned up at rear and down on all front and side (down on all island units) edges 1-1/2" with corners at legs cut out and mounted on the support stringers on all four sides. Provide ferruled access holes as required for drain lines, water lines, conduits, etc.

2.29 VENTILATION-HOODS-DUCTWORK

A. Unless otherwise stated in the item specifications, provide 300 series 18 gauge s.s hoods similar to Captive Air Co. or Duo Aire Co. or Accurex Co. and be manufactured in accordance with and bear the seal of NSF, UL, and NFPA 96. Hoods shall be mounted 6'-8" above finished floor and must overhang all equipment by a minimum of 6" at front (18" for drawer type broilers) and sides and be furnished with a full complement of s.s. UL filters, filter frame with grease cup, recessed LED lights inter-wired to junction box on top of hood and to switch on face of hood, duct collars, fire dampers, hangers, hemmed 18 gauge s.s. end panels, s.s. closure panels from top of hood to ceiling, cutouts and trim for power distribution system or columns, etc. Provide insulated NFPA integral 3" stand-off behind hood when installed on non-rated wall. Walls for hood mounting shall be rated as required by code.

B. All exhaust fans shall be UL-762 rated vertical discharge fans with insulated curb, hinged base with grease collection device, mounted and inter-wired starter and disconnect, adjustable drive assembly and be sized for CFM as per plans with a sound classification of "average" and not to exceed 12 sones.

C. All makeup air units shall be sized for CFM as per plan. Unit shall be fully factory built with supply fan, filter section with bird screen, motorized inlet dampers, metal cabinet with weather proof epoxy coated finish in color as selected by Owner, 12" legs and rails, curb, vibration eliminators, factory wired control panel and disconnect with wiring harness and pigtails for interlock of exhaust fan and make-up air unit to switch panel on face of hood or remotely located. If required by code provide a pre-heat section (gas, electric, steam or hot water) which shall provide a minimum degree rise capability (as shown in item specifications and/or as required by local code) complete with full modulating controls, thermostat, etc. as required for a complete system. Provide all UL listed components.

D. All ductwork shall be constructed and installed as per SMACNA minimum gauges and requirements. Make-up air ductwork shall be insulated and of rigid metal construction. Flex duct will not be allowed. Provide welded 16 gauge black iron exhaust ductwork as per code requirements and conform to all building requirements and obstructions with all dimensions subject to verification in field. Provide all ductwork with cleanouts every 6'-0" of horizontal run (with pitch as per code) and at changes in direction, access panel, dampers, curbs, flashing, flanges, plenums, supports, insulation, etc. as required by code and to provide a watertight system. Fire rating shall be provided as noted on the food service plans and in the item specifications.

E. System is to be factory tested and balanced as required for proper operation with written report to Architect and Owner.

F. Roof openings, structural support, fire proofing, and final connections shall be provided as outline in the Construction manager scope of work.

G. If required by code, cooking exhaust hoods shall have an Ansul Co. R-102 or equal chemical fire protection system and will be listed separately in the specifications.

2.30 WALK INS AND REFRIGERATION

A. Provide NSF and UL approved walk ins as per the item specifications size and shape as per plan by 8'-6" high and furnished with prefabricated modular construction tongue and groove cam lock style panels for walls with coved vinyl screed, ceilings, and floors with 4" foamed in place UL-25 flame spread class No. 1 urethane insulation with a minimum "R" factor of 32 and a "K" factor of 0.121. Wall and ceiling panels shall have 0.040 stucco embossed aluminum or 20 gauge 304 s.s. finish and floor panels shall be 0.100 smooth aluminum or 18 gauge s.s. with a rating of 700 pounds per square foot with non-skid floor strips. All panels shall have a ten-year guarantee and be installed with a watertight seal. Provide 4" s.s. high coved base molding at all exposed exterior and interior walls securely anchored and sealed as required. Provide ceiling hangers and structural supports as required.

B. If floorless construction is required refer to the Construction Manager scope of work. Provide 4" urethane insulation and vapor barriers for sub floor and tile floor. Provide coved floor screeds below wall panels anchored to red wood vapor barriers which shall extend up thru and 1/8” above the level of the finished floor, 6 mil polyethylene vapor barrier, etc. as per the manufacturers standard requirements. Supply and coordinate installation of walk-ins to assure proper fit of floor recesses, sizes, tile, insulation, grout, vapor barriers, drainage, etc.

C. Provide one surface mounted LED light fixture mounted above door for the first 50 square feet of floor space and one additional ceiling mounted fixture as shown on the plans. Lighting shall provide a minimum of 35 foot candles at 36" above floor. The light above door shall be inter-wired to switch and junction box, but all additional lights shall be installed and wired in field with conduit located outside the compartments.

D. Provide 36" by 78" in-fitting doors with magnetic gaskets, three C.P. cam lift hinges, s.s. front, 24" high interior aluminum tread plate kick plate, cylinder locks, and automatic door closer. Doors shall be mounted in reinforced panel with FRP or s.s. door jambs with thermal break and thermostatically controlled heater strip, s.s. heavy gauge heated threshold, safety release, digital thermometer, and virgin plastic full width door curtains mounted 6" above door header. Provide non heated relief air vents for cooler and inter-wired heated vents for all freezer compartments mounted above doors.

E. Provide removable closure trim with concealed fasteners of same appearance as walk-in exterior from box to all adjacent building walls and ceilings. Provide access panels and louvers as required for service.

F. Refrigeration systems shall be complete with items as specified or as required to provide a first class system. Should any dispute arise as to the quality of equipment or workmanship, the decision shall rest with the Consultant.

G. Hermetic or scroll compressors shall be mounted on anti-noise, anti-vibration blocks, and be factory mounted in welded angle iron frame and housing with support rails, metal curbs, timed

defrost, factory installed control panel, pilot light, NEMA rated disconnects and starter, etc. Compressors to be factory pre-connected for final water and electrical connections. Verify that proper ventilation of compressors is obtained.

H. Provide coil and/or compressor condensate drain lines as required and shown on the drawings. Provide drain lines terminating with trap over floor drain where shown. Drain lines to be neatly insulated with material similar to Armaflex. Any drain line run through a freezer compartment shall also have a heater coil neatly wrapped over the line, prewired and shall operate continuously. No drain piping shall interfere with shelving within the compartment nor exit through the front of a compartment. All piping shall be concealed where possible.

I. Coils shall have timed defrost and immersion type thermostat and be connected to compressors by equipment supplier using type "L" copper tubing soldered using industry acceptable refrigerant. Refrigeration lines shall be insulated in same manner and materials as coil and drain lines and shall be concealed where possible.

J. Provide refrigeration system with expansion valves, pressure controls, strainers, solenoid valves, liquid dryers, adjustable room thermostats, hangers, king and queen valves, heat exchangers, oil separators, pump-down solenoid, low ambient controls, crankcase heater, outdoor shroud, shut-off valves, sleeves, sight glass with moisture indicator and all other items necessary for a complete system.

K. All electrical components within each compartment shall be pre-wired by supplier to junction box on exterior top of compartment. Make final connections and inter-wire to lights and from walk-in coils to compressor for timed defrost in conduit as required.

L. After final connections, evacuate, pressure test, charge, start up and operate system for a period of three (3) days and make all necessary adjustment of controls as required. Operate coolers at 35 degrees and freezers at -5 degrees unless noted on plans. Provide manufacturers five-year compressor warranties and one-year free service available within 12 hour notification.

2.31 WATER INLETS:

A. Water inlet locations shall be located above positive water level to prevent syphoning of liquid into the water system.

B. Wherever conditions require water inlet placed below water level, a suitable pressure type syphon breaker or double check valve shall be placed on fixture to form a part of same to prevent back syphoning.

C. Exposed syphon breakers shall be chrome plated units with chrome plated piping and slip flanges where exposed.

2.32 MECHANICAL/ELECTRICAL MATERIALS REQUIRED IN FOOD SERVICE CONTRACT:

A. The equipment supplier shall include materials properly labelled and packaged as follows:

B. PLUMBING APPURTENANCES:

1. Check requirements for gas, water, steam, etc. on job before ordering equipment. Information shown on drawings or specifications does not relieve contractor of this responsibility.

2. Faucets, pre-rinse units, lever wastes, vacuum breakers, to be as manufactured as described in the item specifications.

3. Except as otherwise specified, provide each sink compartment with deck type or backsplash type faucet with minimum 12" swing spout soft flow. Where multiple sink compartments are provided, faucets may be located between compartments.

4. C.P. brass overflow fittings shall be 1-1/2" tubing fully connected to sinks at factory with lever handle quick opening wastes with tailpieces on each sink compartment.

5. Provide all solenoids, C.P. atmospheric or pressure type vacuum breakers with C.P. stems above counter tops, shock absorbers, check valves, mixing valves, gas regulators, etc. required by code or for proper operation of equipment with mounting brackets as required. Valves shall be installed where required, accessible and convenient to the operator.

6. Provide swivel gas hoses assemblies 36" or of proper length as required with quick disconnect, ball valve, caster floor locks and 3000 pound coiled restraining device, and wall brackets.

7. All steam equipment shall have valves provided with heat resistant handles, traps, gauges, etc. as required for proper operation

C. ELECTRICAL APPURTENANCES:

1. Check voltage on job before ordering equipment. Information shown on drawings or specifications does not relieve contractors of this responsibility.

2. Except where noted under item specifications, current characteristics for motors 3/4 HP or less, solenoid valves and lighting shall be 120 volt, single phase, 60 cycle, A.C. Unless otherwise noted under item specifications, motors 3/4 HP and over shall be wound for 208/240 volts, three phase, 60 cycle, A.C.

3. Provide 120 volt control circuit on all equipment that operates on voltages on or over 208 volt. All equipment requiring 120 volt control circuits (120/480 volt, 120/208 volt, etc.) shall have transformers pre-wired on equipment.

4. Cords and plugs and receptacles for equipment shall be three or four wire all rubber coiled retractable style cord with ground as required and match receptacles provided and as best suited for the equipment. Units shall be mounted in NEMA type enclosures as per code with s.s. faceplates and boxes where receptacles are exposed.

5. Thermostats, unless otherwise noted on plans or in the item specifications, shall be provided at all equipment (bain-marie, urns, dish machines, hot food table, warming cabinets, etc.) with thermostatic control.

6. Heating elements to be of voltage and phase as specified or as required to suit job.

7. Controls, thermostats, switches, contactors, low water cut off, light fixtures and bulbs, etc., necessary for the installation and proper operation of equipment shall be furnished as required along with all starters and/or motor control switches for the proper function of the equipment specified. Controls mounted on vertical surfaces shall be recessed.

8. Controls that are an integral part of equipment shall be factory installed. Controls which are to be separately mounted shall be shipped loose for field installation. Coordinate all field installation so as to not interfere with access and/or operation.

9. Provide properly sized magnetic starters line voltage type with thermal overload relays and reset for normal operation by automatic control or pushbutton station for 208/240 volt control.

Enclosures shall be general purpose NEMA type 1, A.C. voltage, unless located outdoors which will require a waterproof enclosure. Remote control motors shall have magnetic starters.

10. Disconnect switches shall be type non-fusible, single throw, heavy duty industrial, quick make, quick break. Circuit breakers may be used in lieu of above disconnects as per code.

11. Provide equipment with required internal wiring between elements, switches, motors, receptacles, starters, etc. complete to a junction box. Disconnect, starter, etc. as required and are to be “left ready” for final connections. All control circuits shall be 120 volt to ground.

PART 3 - GENERAL SPECIFICATIONS - EXECUTION

3.01 INSTALLATION AND MATERIALS:

A. All work required under this section shall be installed by the proper trades having jurisdiction in this area concurrent with job progress, Construction manager scope of work and related field conditions. Such installation shall be under the direction of a competent supervisor. A site inspection is recommended prior to bidding if applicable.

B. Provide for the conveyance, uncrating, erection, assembling, setting in place, trim, cutting of holes and ferrules in equipment for piping, drains, electrical outlets, etc.

A. Coordinate installation with all trades, repairing of any damage done to equipment during installation, removal of debris created by installation, startup, testing, and cleaning of all equipment (new, existing, or relocated).

D. Where necessary to move equipment to make final connections, coordinate and assist all in moving equipment and be on the job to carefully level and adjust equipment as the connections are being made. During installation, coordinate with all trades on connection details and be responsible for meeting the individual equipment manufacturer's connection requirements. Report any infractions of installation procedure in written form.

E. The fit of all equipment as it joins all walls, floors, and corners shall be tight (within 1/4") to adjacent walls, seal all equipment with NSF approved clear sealing compound and/or s.s. trim molding of proper size with concealed fasteners. Inspect the site and advise in writing and/or on shop drawings all necessary building requirements door sizes, etc. to receive the equipment and assure accuracy of fit and installation.

E. All cabinet bases and pieces of equipment which are to be set on bases or machine platforms shall be set into a sealing compound of color to match the tile mortar. Enclosures, backsplashes, and turn-backs to wall shall be pressed into a ribbon of the same material with the excess wiped out to a radius fillet. Where necessary, and to eliminate shifting and the subsequent breaking of this seal, item shall be anchored to floor and wall with suitable masonry anchors. All equipment with utility connections (island style sinks, dish tables, etc.) shall also be anchored to floor with s.s. flange type feet.

F. All equipment and materials shall be new, of prime quality, full gauge thickness of compositions indicated by names or abbreviations stated in itemized specifications.

G. Equipment batteries of one manufacturer are to be pre-fitted at the factory and provide photographic proof of such work.

H. If equipment is noted as relocated or removed during the construction period, said equipment shall be disconnected and be re-connected as directed in the Construction Manager scope of work and removed and stored unless noted in the item specifications. Coordinate and supervise this work and label equipment for reuse. Reinstall and clean equipment as per the

plans and specifications. Existing equipment not scheduled for reuse shall be removed as directed in the Construction Manager scope of work.

3.02 LIMIT OF OTHER SUBCONTRACTORS/TRADES RESPONSIBILITY:

A. Hood Connections:

1. Note that kitchen grease and/or dishwasher hoods and ducts may or may not be furnished as part of this contract. Refer to the plans and item specifications. Make connections to hood and connect to exhaust fan and make up air unit as directed in the Construction Manager scope of work. All ductwork shall have welded and/or watertight joints. All roof holes, flashing, structural support, fire rating, and final connections are to be provided as directed in the Construction Manager scope of work.

B. Plumbing:

1. Provide rough-ins and piping with stop valves, elbows, nipples, couplers, traps, waste vents, gas regulators, for water, steam, gas, etc. and make final connections to the equipment as directed in the Construction Manager scope of work.

2. Install equipment accessories (faucets, lever wastes, solenoids, valves, gas hoses, nipples, etc.) as directed in the Construction Manager scope of work.
3. Provide water heater and janitors sink unless otherwise indicated on the plans as directed in the Construction Manager scope of work.

4. Disconnect and reconnect relocated equipment if applicable as directed in the Construction Manager scope of work.

C. Electrical:

1. Provide rough-ins, controls, panels, switches, wall receptacles to match equipment cords and plugs, starters, junction boxes, canopy light and fan switches, conduit, wiring, wall outlets, disconnects, etc. and make final connections to the equipment as directed in the Construction Manager scope of work.

2. Install equipment accessories (cords, light switches, drop-in equipment switches, wiring harnesses, disconnect switches, tracks for heat lamps, etc.) as required by code and as directed in the Construction Manager scope of work.

3. Disconnect and reconnect relocated equipment as directed in the Construction Manager scope of work.

D. General:

1. All concrete platforms, bases, etc. will be provided as directed in the Construction Manager scope of work. Grouting of drip pans and/or floor troughs to be installed as directed in the Construction Manager scope of work.

2. All required holes and recesses for piping and ducts will be coordinated with all trades and as directed in the Construction Manager scope of work. Provide location, size, etc. This information is to be provided in adequate time to be incorporated in the work.

3. Unless stated in the item specifications, provide all floor recesses, insulated sub floors, tile floors and vapor barriers for walk-ins as noted in the plans and as directed in the Construction Manager scope of work.

4. If applicable, remove relocated equipment from kitchen and store in adjacent area during Kitchen construction period. Coordinate removal, inspection, storage, labeling, etc. of equipment. Reinstall relocated equipment as per plan after construction is completed as directed in the Construction Manager scope of work.

5. Provide fire rated walls in kitchen for cooking equipment exhaust hoods and non-combustible materials within 18" of top of hood or as required by fire codes as directed in the Construction Manager scope of work.

3.03 TESTING:

A. After installation and hook, inspect, start up, clean, adjust and test all equipment under operating conditions for 48 hours prior to acceptance by Owner. If inspection or test shows defects, such defects shall be corrected and inspection and test repeated. Certify in writing that all equipment is performing in full compliance with the plans and specifications.

3.04 DEMONSTRATION:

A. After utility connections to the equipment is completed, schedule and conduct the inspection and start up and final test of equipment prior to final inspection. Schedule the demonstration with the Owner and perform the demonstration in the presence of the Owner and/or their authorized representative with a minimum of seven days notification to owner.

B. Before final inspection, remove any and all protective covering from his work and give all parts of all equipment a thorough cleaning and servicing, leaving items free from defects and remove trash from premises.

C. Provide required competent personnel for two eight-hour periods as instructors to operating and maintenance personnel on the safe and proper operation and maintenance of all equipment. Provide additional instructions up to eight additional hours during the one-year guarantee period as requested by the Owner.

D. Present all maintenance manuals and as built drawings as previously specified or requested by Consultant.

3.05 FINAL INSPECTION AND PUNCH LIST:

A. After installation is completed and tested, notify the Consultant who will review all equipment and submit a repair or punch list of all items that are not in compliance with the documents. All items shall be completed immediately and not to exceed 14 days unless written notice is submitted and approved.

3.06 SCHEDULE OF EQUIPMENT:

A. The following specifications refer to items of food service equipment on the drawings which shall form a part of these specifications and are binding as written herein, and will indicate the required quantity, size, etc. of each item.

Item Specifications:

Item #101 - Refrigerator - Qty. of 1
Base Manufacturer: Traulsen Co. Base Model: G10010
Alternate Manufacturer: Continental Co.
Alternate Manufacturer: True Co.

Minimum specifications:
1. Unit to operate on 120 volt with cord and plug and have top mount compressor.
2. Stainless steel exterior front and right door hinging.
3. Digital thermometer.
4. Three coated shelves.
5. 5” heavy duty locking casters.
6. Provide a five year warranty on compressor and one year free service plan as per G.S.

Item #102 - Utility Cart - Qty. of 1
Base Manufacturer: Lakeside Co. Base Model: 744
Alternate Manufacturer: Eagle Metalmasters Co.
Alternate Manufacturer: Metro Co.

Minimum specifications:
1. Unit to be fully welded, and constructed of stainless steel.
2. Shelf mounted bumper strip.
3. Three shelves.
4. Heavy duty locking swivel casters.
5. 700 lbs. capacity.

Item #103 - Shelving - Qty. of 7
Base Manufacturer: Eagle Co. Base Model: 1836E
Alternate Manufacturer: Inter-Metro Co.

Minimum specifications:
1. Provide wire unit size and shape as per plan with four posts and shelves per section.
2. Units shall have 74” posts.
3. Green epoxy “Sani-Gard” coating.
4. Two swivel and two locking casters.

Item #103A - Shelving - Qty. of 1
Base Manufacturer: Eagle Co. Base Model: 2448E
Alternate Manufacturer: Inter-Metro Co.

Minimum specifications:
1. Provide wire unit size and shape as per plan with four posts and shelves per section.
2. Units shall have 54” posts.
3. Green epoxy “Sani-Gard” coating.
4. Two swivel and two locking casters.

Item #201 – Trash Bin – By Owner

Item #202 – Spare Number

Item #203 – Work Table - Qty. of 2
Base Manufacturer: Eagle Metalmasters Co. Base Model: YJRAN30-SE
Alternate Manufacturer: Approved Manufacturer as listed in Section 2.03 of the General Specifications

Minimum specifications:
1. Provide 14 gauge 304 stainless steel table size and shape as per plan by 34" high with sound deadened top.
2. Stainless steel legs and gussets.
3. 5” heavy duty locking casters.
4. 16 gauge stainless steel under shelf.
5. One 20" by 20" by 5" deep roller bearing drawer assembly with stainless-steel or plastic insert and an 18” by 24” white poly cutting board mounted below drawer.

Item #204 – Hot Food Cabinet - Qty. of 2
Base Manufacturer: Cres-Cor Co. Base Model: H-137-SUA-12D
Alternate Manufacturer: Metro Co.
Alternate Manufacturer: FWE Co.

Minimum specifications:
1. Provide stainless steel insulated cabinet that operates on 120 volt with cord and plug.
2. Universal angles sized for 12" by 20" and 18" by 26" pans.
3. 5" heavy duty locking casters.
4. Perimeter bumpers.
5. Field reversible Dutch doors.
6. Top mounted controls.
7. Transport latch and wire transport angles.

Item #301 – Spare Number

Item #401 – Hot Food Table – Qty. of 1
Base Manufacturer: LTI Co. Base Model: EF4-CPA Modified
Alternate Manufacturer: Randell Co.
Alternate Manufacturer: Delfield Co.

Minimum specifications:
1. Provide 34” high unit size and shape per plan that operates on 120/208 volt with cord and plug.
2. Stainless steel top, latching assembly and stainless steel undershelf and intermediate shelf where possible.
3. Wet or dry hot food wells with drains, drain manifold with individual and master valves. Drain valves to be easily accessible from the employee side of the counter.
4. Open rear with plastic laminate front and end panels in Formica Sculpted Finish, Neutral White 918-SP and stainless steel edge guards on all corners and bottom edge.
5. One 12” solid folding inverted “V” style stainless steel tray slide mounted 32” above finished floor and one 8” stainless steel solid folding work shelf mounted on rear.
6. Set of 5” heavy duty locking casters.
7. Furnish and install BSI Co., PMG Co., or Delfield Co. Model #ZG9930 sneeze guard with brushed aluminum uprights and undermounted hardware, slim/stealth heat lamp, light, glass top, ends, and adjustable front. Unit shall meet current NSF standards. Center posts not acceptable.
8. Sneeze guard assembly and hot food table to be inter-wired to a common point to provide one electrical connection for entire unit and be supplied with a cord and plug.
9. Dormont Co. or T&S Co. W50B2Q-36 uncoated flexible water hose with two LFW50QD 2-way quick disconnects.

10. T&S Co. B-0208 Hot water fill faucet with red index ring.
11. Drain tailpiece and shut off valve, garden style of drain connection is not acceptable.

Item #402 – Utility Counter - Owner's existing equipment to remain in place throughout construction.

Item #402A – Utility Counter – Qty. of 1
Base Manufacturer: LTI Co. Base Model: Flex Line
Alternate Manufacturer: Randell Co.
Alternate Manufacturer: Delfield Co.

Minimum specifications:
1. Provide 34" high unit as per plan.
2. Stainless steel top.
3. Plastic laminate front and end panels in Formica Sculpted Finish, Neutral White 918-SP and stainless steel edge guards on all corners and bottom edge.
4. One 12" solid folding inverted "V" style stainless steel tray slide mounted 32" above finished floor.
5. Set of 5" heavy duty locking casters.
6. All equipment ventilation shall be accommodated through the means of cut-in ventilation louvers. No add-on metal louvers.
7. Stainless steel undershelf and intermediate shelf where possible.

Item #402B – Utility Counter – Qty. of 1
Base Manufacturer: LTI Co. Base Model: Flex Line
Alternate Manufacturer: Randell Co.
Alternate Manufacturer: Delfield Co.

Minimum specifications:
1. Provide 34" high unit as per plan.
2. Stainless steel top.
3. Plastic laminate front and end panels in Formica Sculpted Finish, Neutral White 918-SP and stainless steel edge guards on all corners and bottom edge.
4. One 12" solid folding inverted "V" style stainless steel tray slide mounted 32" above finished floor.
5. Set of 5" heavy duty locking casters.
6. Provisions for undermounted sneeze guard assemblies as shown on plan.
7. Top cutouts to accommodate drop-in equipment and partial apron for equipment concealment and mounting of controls.
8. All equipment ventilation shall be accommodated through the means of cut-in ventilation louvers. No add-on metal louvers.
9. Stainless steel undershelf and intermediate shelf where possible.

Item #402C – Utility Counter – Qty. of 1
Base Manufacturer: LTI Co. Base Model: Flex Line
Alternate Manufacturer: Randell Co.
Alternate Manufacturer: Delfield Co.

Minimum specifications:
1. Provide 34" high unit as per plan.
2. Stainless steel top.
3. Plastic laminate front and end panels in Formica Sculpted Finish, Neutral White 918-SP and stainless steel edge guards on all corners and bottom edge.
4. One 12" solid folding inverted "V" style stainless steel tray slide mounted 32" above finished floor.
5. Set of 5" heavy duty locking casters.

6. Provisions for undermounted sneeze guard assemblies as shown on plan.
7. Top cutouts to accommodate drop-in equipment and partial apron for equipment concealment and mounting of controls.
8. All equipment ventilation shall be accommodated through the means of cut-in ventilation louvers. No add-on metal louvers.
9. Stainless steel undershelf and intermediate shelf where possible.

Item #402D – Utility Counter – Qty. of 1
Base Manufacturer: LTI Co. Base Model: Flex Line
Alternate Manufacturer: Randell Co.
Alternate Manufacturer: Delfield Co.

Minimum specifications:
1. Provide 34” high unit as per plan.
2. Stainless steel top.
3. Plastic laminate front and end panels in Formica Sculpted Finish, Neutral White 918-SP and stainless steel edge guards on all corners and bottom edge.
4. One 12” solid folding inverted “V” style stainless steel tray slide mounted 32” above finished floor.
5. Set of 5” heavy duty locking casters.
6. Provide finished recess to accommodate Item #410 – Sandwich Top Refrigerator.
7. All equipment ventilation shall be accommodated through the means of cut-in ventilation louvers. No add-on metal louvers.
8. Stainless steel undershelf and intermediate shelf where possible.

Item #403 – Cold Food Table – Qty. of 1
Base Manufacturer: LTI Co. Base Model: 74-CFMA Modified
Alternate Manufacturer: Randell Co.
Alternate Manufacturer: Delfield Co.

Minimum specifications:
1. Provide 34” high unit as per plan with NSF-7 drop-in self-contained refrigerated cold pan with drain and shut off valve, on/off switch, and pan adapter bars. Unit shall operate on 120 Volt with cord and plug.
2. Provide enclosed base unit with hinged doors, interior partial aprons for control mounting, stainless steel under and intermediate shelf where possible. Stainless steel top and latch assembly.
3. Plastic laminate exterior in Formica Sculpted Finish, Neutral White 918-SP and stainless steel edge guards on all corners and bottom edge.
4. One 12” solid folding inverted “V” style stainless steel tray slide on each side as shown on plan mounted 32” above finished floor.
5. Set of 5” heavy duty locking casters.
6. Furnish and install BSI Co., PMG Co., or Delfield Co. Model #ZG9930-2 sneeze guard with brushed aluminum uprights and undermounted hardware, light, glass top, ends, and fixed self-serve front. Unit shall meet current NSF standards. Center posts not acceptable.
7. Sneeze guard assembly and cold food table to be inter-wired to a common point to provide one electrical connection for entire unit and be supplied with a cord and plug.
8. Garden hose hook style of drain connection is not acceptable.

Item #404 – Drop-In Hot/Cold Well – Qty. of 1
Base Manufacturer: LTI Co. Base Model: QSCHP-3
Alternate Manufacturer: Duke Co.
Alternate Manufacturer: Delfield Co.

Minimum specifications:
1. Provide drop in individual hot/cold food wells with NSF-7 drop-in self-contained refrigerated cold pan with individual controls and thermostatic controlled heating elements, compressor on/off switch, and pan adapter bars. Unit shall operate on 120/208 Volt 1 Phase.
2. Wells to be provided with drains with drain manifold with individual and master valves. Valves must be easily accessible from the employee side of the counter.
3. A Garden hose hook-up style of drain connection is not acceptable.
4. Provide a five year warranty on compressor and one year free service plan as per G.S.

Item #404A – Sneeze Guard - Qty. of 1
Base Manufacturer: BSI Co. Base Model: ZG-9930
Alternate Manufacturer: PMG Co.
Alternate Manufacturer: Delfield Co.

Minimum specifications:
1. Furnish and install unit with brushed aluminum uprights, glass top, ends (where required), and adjustable front.
2. Unit shall meet current NSF standards.
3. Stainless steel thru the countertop posts with grommets and below the countertop reinforcement and mounting hardware.
4. LED light assembly. Light to be factory inter-wired to junction box located in counter base.
5. Center posts not acceptable.

Item #405 – Ice Cream Display Freezer - After disconnect by the trades, the FSEC shall remove owner's existing equipment from kitchen and place in a storage area as directed by the Owner or Contractor. Upon completion of construction, FSEC to place equipment back in location as shown on the plan. Reconnection of utilities shall be by the Trades.

Item #406 – Cashier Counter – Qty. of 1
Base Manufacturer: LTI Co. Base Model: Flex Line
Alternate Manufacturer: Randell Co.
Alternate Manufacturer: Delfield Co.

Minimum specifications:
1. Counter to be 34" high, size and shape as per plan.
2. Stainless steel top.
3. Plastic laminate front and end panels in Formica Sculpted Finish, Neutral White 918-SP and stainless steel edge guards on all corners and bottom edge.
4. One 12" solid folding inverted "V" style stainless steel tray slide as shown on plan mounted 32" above finished floor.
5. Provide enclosed base with locking ventilated door at end, one locking cash drawer and stainless steel interior under shelf.
6. Latch assembly.
7. 5" heavy duty locking casters.

Item #406A – Cashier Counter – Qty. of 1
Base Manufacturer: LTI Co. Base Model: Flex Line
Alternate Manufacturer: Randell Co.
Alternate Manufacturer: Delfield Co.

Minimum specifications:
1. Counter to be 34" high, size and shape as per plan.
2. Stainless steel top.
3. Plastic laminate front and end panels in Formica Sculpted Finish, Neutral White 918-SP and stainless steel edge guards on all corners and bottom edge.
4. Two 12” solid folding inverted “V” style stainless steel tray slide as shown on plan mounted 32” above finished floor.
5. Provide enclosed base with locking ventilated door at end, one locking cash drawer and stainless steel interior under shelf.
6. Latch assembly.
7. 5” heavy duty locking casters.

Item #407 – Cash Registers / POS – By Owner.

Item #408 – Drop-In Heated Surface - Qty. of 1
Base Manufacturer: Hatco Co. Base Model: GRSBF-66-I
Alternate Manufacturer: APW Co.

Minimum specifications:
1. Flush mount drop-in heated surface with thermostatic controls.
2. Unit to operate on 120 volt and be wired to junction box in counter base.

Item #408A – Sneeze Guard – Qty. of 1
Base Manufacturer: BSI Co. Base Model: ZG-9500
Alternate Manufacturer: PMG Co.
Alternate Manufacturer: Delfield Co.

Minimum specifications:
1. Furnish and install unit with brushed aluminum uprights, 14” angle adjustable glass front and fixed ends.
2. Unit shall meet current NSF standards.
3. Stainless steel thru the countertop posts with grommets and below the countertop reinforcement and mounting hardware.

Item #409 – Spare Number

Item #410 – Sandwich Top Refrigerator – Qty. of 1
Base Manufacturer: Continental Co. Base Model: SW48-18M-HGL-FB
Alternate Manufacturer: Randell Co.

Minimum specifications:
1. Provide self-contained unit that operates on 120 volt with cord and plug.
2. Stainless steel top, front and sides with hydraulically assisted hinged glass lid.
3. Recessed pan rail with adapter bars.
4. Interior hanging thermometer.
5. Full length cutting board.

6. Two doors.
7. Properly sized heavy duty locking casters to obtain a 34” to 36” work surface.
8. Provide a five year warranty on compressor and one year free service plan as per G.S.

Item #411 – Heated Sandwich Slide – Qty. of 1
Base Manufacturer: Hatco Co. Base Model: GR2SDS-60D
Alternate Manufacturer: APW Co.

Minimum specifications:
1. Provide slanted heated shelf as per plan with on/off switch.
2. Thermostatically controlled base.
3. Infra-red overhead heat.
4. Legs and corner caps.
5. Display lights.
6. Glass ends.
7. Unit shall operate on 120/208 volt with cord and plug.
8. Divider rods.
9. Designer panels in color as selected by Architect.

Item #412 – Snack Rack – By Owner

Item #413 – Decorative Heat Lamp Assembly - Qty. of 1
Base Manufacturer: Hatco Co. Base Model: DL-760-STL
Alternate Manufacturer: Baselight Co.
Alternate Manufacturer: APW Wyott Co.

Minimum specifications:
1. Provide track mounted heat lamp assembly consisting of four Model 760 shades in color as selected by Architect.
2. Provide 72” black track that is connected to a 120 Volt DIRECT connection by the Trades.
3. Shades to be provided with clear coated 250 Watt heat bulbs, lower shroud mounted switch, and rigid stem. Shades to be mounted 12”-13” above heated surface or 10” above surface if no lower heat is provided.
4. FSEC to verify ceiling or bulkhead height to ensure proper stem length is provided.

Item #414 - Air Curtain Refrigerator - Qty. of 1
Base Manufacturer: Structural Concepts Co. Base Model: B5932
Alternate Manufacturer: Federal Co.
Alternate Manufacturer: Regal Pinnacle Co.

Minimum specifications:
1. 80" high unit shall operate on 208 volt single phase with cord and plug.
2. Plastic laminate exterior in Formica Sculpted Finish, Neutral White 918-SP.
3. Top mounted shielded lighting and shelf lighting.
4. Black base, black trim, stainless steel display deck, black interior back panel, and glass cut way ends.
5. Pull down energy saving night shade.
6. Interior mechanical thermometer attached to the front of the top shelf.
7. Four shelves.
8. Electronic temperature sensors with front visible digital temperature indicator.
9. Self-contained refrigeration system with condensate evaporator, and front accessible compressor and lighting on/off switch.

10. Provide a 5 Year warranty on compressor and a 1 Year free service plan as per G.S.

Item #501 – Spare Number

Item #502 - Hand Sink - Qty. of 2
Base Manufacturer: Eagle Metalmasters Co. Base Model: HSA-10-LRS
Alternate Manufacturer: Approved Manufacturer as listed in Section 2.03 of the General Specifications

Minimum specifications:
1. 10” X 14” X 5” deep stainless steel sink with fully welded side splashes.
2. T&S Co. or Krowne Co. 5F-4WWX05.
3. Rear connector kit.
4. Wrist blades.
5. Soap and towel dispenser shall be provided and installed by the Contractor.

END OF SECTION 11 4000 – FOOD SERVICE EQUIPMENT