The Linn County Sheriff's Office

Invitation to Bid

Evidence Annex Renovation and Remodel

Bid Number 2020-229

RELEASED: AUGUST 25th, 2020

Mandatory Pre-Bid Conference:

September 1st, 2020 at 1000 hours

To be held at:
Linn County Sheriff's Office/Jail
1115 SE Jackson Street, Albany, Oregon 97322

Refer all questions to:

Micah Smith
Lieutenant
541-812-9200
msmith@linnsheriff.org

BIDS DUE:
September 24th, 2020
by
1500 hours (local time)
at
1115 SE Jackson Street, Albany, Oregon 97322

SECTION A – TABLE OF CONTENTS

SECTION B – GENERAL BIDDING INFORMATION

The Linn County Sheriff's Office (LCSO) invites qualified contractors to respond to the following Invitation to Bid (ITB) for renovation and remodel services.

B.1 Project Identification. Sheriff's Office Evidence Annex Renovation and Remodel Project encompasses: Renovate warehouse to occupied office space. Demo existing office space in other section of warehouse, and remodel office area. Construct enhanced security evidence area inside evidence warehouse. Reconstruct gated entry to secure fenced area.

B.2 Anticipated Schedule. September, 2020 completing work by approximately March, 2020

B.3 Mandatory Pre-Bid Conference.

A mandatory pre-bid conference will be held on **September 1st, 2020 at 1000 hours** (PST), located at **Linn County Sheriff's Office/Jail, 1115 SE Jackson Street, Albany, Oregon 97322.** Any statements made at this conference will not change the plans, specifications or other contract documents unless an amendment is issued by LCSO.

OFFERORS OR THEIR REPRESENTATIVE ARE REQUIRED TO ATTEND THIS MANDATORY PRE-BID CONFERENCE. BIDS WILL ONLY BE EVALUATED FROM OFFERORS OR THEIR REPRESENTATIVE WHO REGISTERED AND ATTENDED THE MANDATORY PRE-BID CONFERENCE, AND ALL OTHER BIDS WILL BE CONSIDERED NON-RESPONSIVE.

B.4 ITB Availability and Amendments

B.4.1 ITB Public Viewing. This ITB, including all Exhibits and Amendments, are available online at **www.LinnSheriff.org/rfps** and will not be mailed to prospective Offerors unless requested pursuant to Section B.4.3.

B.4.2 Point of Contact. The single contact point for questions regarding the ITB, forms, Specifications, Plans, bidding process, change, clarification, the award process, protests and any other issues that may arise, is **Lieutenant Micah Smith** at (541) 812-9200 and e-mail **msmith@linnsheriff.org**

B.4.3 Hard Copy Document Fees & Delivery. Offerors may also request hardcopies of the ITB, Amendments and most attachments from the Point of Contact listed in Section B.4.2. All costs for these documents and any associated delivery fees are at Offeror's expense.

B.4.4 Amendments. Any amendments to the original solicitation can be viewed at **www.LinnSheriff.org/rfps.** Offerors may request automatic notifications of any subsequent amendments to the ITB through the Point of Contact listed in Section B.4.2. Except to the extent required by public interest, LCSO shall not issue an amendment less than 72 hours before the closing date and time unless the amendment also extends the closing date and time.

B.4.5 Clarifications, Objections, and Questions. Any Offeror that finds discrepancies in, or omissions from any provision of the ITB, General Conditions, Supplemental Conditions, if any, Plans, or Specifications, or has doubt as to the meaning, shall make a request for clarification or modification in writing, to the contact point listed in Section B.4.2. To be considered, the request for clarification or modification must be received by LCSO at least ten (10) prior to the bid closing. Clarifications, whether verbal or in writing, do not change the Plans, Specifications, General and/or Supplemental Conditions, contractual terms, or procurement requirements of this ITB unless a formal ITB Amendment has been issued by LCSO.

B.5 Solicitation Law, Rules and Statutes. This ITB and the resulting contract are governed by Oregon Law and Linn County Code. Specific laws and rules that govern the solicitation process are found in Chapters 279A and 279C of the Oregon Revised Statues, and Divisions 246 and 249 of the Administrative Rules of the Oregon Department of Administrative Services, and the Linn County Code, Volume 3, Subtitle 2, Public Contracting Rules and Regulations. The ITB and resulting contract may be subject to other laws and rules. Offerors should obtain and become acquainted with the applicable provisions of the above laws and rules. Copies may be obtained as follows:

B.6 Prequalification Requirements. LCSO requires all Offerors to be prequalified with the Oregon Department of Transportation (ODOT) in the following Classes of Work: *BLD1 – Buildings* or *OTH1 – OTHER*

LCSO will only consider an Offer from an Offeror who submits the following with their Offer:

1) A copy of its ODOT Prequalification Approval Letter; or
2) Documentation that the Offeror submitted a complete prequalification application at least seven (7) days prior to the Bid Opening, and then, no later than fourteen (14) days following Bid Opening, submits to LCSO a copy of the applicable ODOT Prequalification Letter.

The ODOT prequalification application, along with approval time frames, procedures, and additional information on the prequalification process is available at: https://www.oregon.gov/ODOT/Business/Procurement/Pages/Bid_Award.aspx

B.7 Specialized Licensing Required. This ITB has no specialized licensing requirements.

SECTION C – OFFER SUBMITTAL

C.1 Price Submittal Form. Offerors shall enter pricing and other required information for all bid items listed in Exhibit A, Price Submittal Form. If the Price Submittal Form is replaced by amendment, Offerors shall use the amended form to provide pricing and other required information. Failure to supply the required information in the Pricing Submittal Form or subsequent Amendments may result in bid rejection as non-responsive.

C.2 Signature Required. OFFER SUBMITTED BY OFFEROR MUST BEAR AN INK SIGNATURE. FAILURE TO SUBMIT AN OFFER BEARING AN INK SIGNATURE MAY RESULT IN REJECTION OF THE BID.

C.3 Sealed Envelope; Address and Cover Information. Offers shall be submitted in sealed packages or envelopes. To ensure proper identification and handling, all packages and envelopes shall be clearly marked as follows:

ITB Number 2020-229
ATTN: Lieutenant Micah Smith
Linn County Sheriff's Office
1115 SE Jackson Street, Albany, Oregon 97322

C.4 First Tier Subcontractor Disclosure Form. The First Tier Subcontractor Disclosure Form must be submitted either with the bid submission or within two (2) working hours after the closing. Failure to comply with this requirement shall result in rejection of the offer as non-responsive. Additional information can be found within Exhibit B, First Tier Subcontractor Disclosure Form.

C.5 Offer Withdrawal Prior to Closing. Offers may be withdrawn in writing when submitted on Offeror's letterhead, signed by an authorized representative, and received by LCSO prior to closing. Offer withdrawals submitted in writing must be labeled as such and contain the ITB number. Offers may also be withdrawn in person before closing upon presentation of appropriate identification and evidence of authorization to act for Offeror. Signature confirmation of withdrawal may also be required. Offerors may not modify offers after closing.

C.6 Forms Required. The following forms must be submitted prior to closing:

- Price Submittal Form, Exhibit A
- First Tier Disclosure Form, Exhibit B
- Certifications & Acknowledgement Form, Exhibit C
- Offeror Signature Form, Exhibit D
- Copy of ODOT Prequalification Letter or Documentation of Pending Application

SECTION D – OREGON PREVAILING WAGE RATES (BOLI)

D.1 The contractor and all subcontractors shall comply with the provisions of ORS 279C.800 through 279C.870, relative to Prevailing Wage Rates. Before starting work the contractor shall file with the Construction Contractors Board, and maintain in full force and effect, the separate public works bond required by ORS 279C.836 and OAR 839-025-0015, unless otherwise exempt under those provisions. The contractor shall also include in every subcontract a provision requiring the subcontractor to have a public works bond filed with the Construction Contractors Board before starting work, unless otherwise exempt, and shall verify that the Subcontractor has filed a public works bond before permitting the Subcontractor to start work.

D.2 This ITB and the resulting contract are subject to the following Bureau of Labor and Industries (BOLI) wage requirements and the prevailing wage rates as set forth in the most recently released booklet, as amended, which is incorporated herein by reference with the same force and effect as though fully set forth herein, and is available at the following web link:

These BOLI wage rates are available on line at:
https://www.oregon.gov/boli/employers/Pages/prevailing-wage-rates.aspx

D.3 The work will take place in Linn County, in the Albany Region.

SECTION E – CLOSING AND BID/OFFER EVALUATION

E.1 Bid Closing. Bids must be received and date/time stamped at 1115 SE Jackson Street, Albany, Oregon 97322 by the closing date/time. Bids will not be accepted after the closing date/time as stated on page one (1) of this ITB, or as may be extended by any subsequently issued Amendment. Facsimile offers will not be allowed or accepted. Failure to comply with this requirement will result in rejection of the offer as non-responsive.

E.2 Bid Opening. Bids will be publicly opened and read at the bid opening at the closing date/time specified on page one (1) of the ITB, at 1115 SE Jackson Street, Albany, Oregon 97322. Only the name of the Offeror(s) and the total cost will be read at the bid opening. It is optional for Offerors to attend the bid opening. Award decisions will not be made at the bid opening.

E.3 Right to Reject. LCSO may reject all offers for good cause upon its finding that it is in the public interest to do so. Additionally, LCSO may reject a particular offer for any of the reasons listed under OAR 125-249-0440.

E.4 Time for Offer Acceptance. An Offeror's offer is a firm offer, irrevocable, valid and binding on the Offeror for not less than thirty (30) calendar days from the closing date.

E.5 Evaluation Criteria.

E.5.1 Responsiveness. For its bid to be considered responsive, the Offeror must substantially comply in all material respects with applicable solicitation procedures and requirements and the solicitation documents. In making such evaluation, the Linn County Sheriff's Office may waive minor informalities and irregularities.

E.5.2 Responsibility. Prior to award of a contract, LCSO will evaluate whether the apparent successful Offeror meets the applicable standards of responsibility identified in ORS 279C.375(3) and OAR 125-249-0390. In doing so, LCSO may investigate Offeror and request information in addition to that already required in the ITB, when LCSO, in its sole discretion, considers it necessary or advisable.

E.5.3 Oregon Preference. Awards shall be subject to preference for products produced or manufactured in Oregon, if price, fitness and quality are equal; and, solely for the purpose of evaluating bids, LCSO will add a percent increase to the bid of a non-resident Offeror equal to the percent, if any, of the preference given to the Offeror in the state in which the Offeror resides. For example, if the Offeror is from a state that grants a ten (10) percent preference to local Offerors, LCSO will add ten (10) percent to that Offeror's Offer price (OAR 125-246-0300, 125-246-0310, and 125-249-0390).

E.5.4 CCB Requirements. Offerors shall be licensed with the State of Oregon Construction Contractors Board (CCB) prior to bidding on Public Improvement Contracts. FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL RESULT IN BID REJECTION. All subcontractors participating in the project shall be similarly registered with the Construction Contractors Board at the time they propose to engage in subcontract work. The CCB registration requirements apply to all public works contracts unless superseded by federal law.

SECTION F – CONTRACT AWARD

F.1 Method of Award. Award will be made to the responsible Offeror submitting the lowest total for a responsive BASE BID and ALTERNATES selected for award. LCSO reserves the right to award any or all ALTERNATES listed, and to reject all Bids.

F.2 Intent-To-Award Announcement. LCSO reserves the right to announce its intent to award prior to formal contract award by letter or fax ("Intent-to-Award Announcement"). The Intent-to-Award Announcement shall serve as notice to all Offerors that LCSO intends to make an award.

SECTION G – PROTEST PROCEDURES

G.1 Protests Generally. In order to be an adversely affected or aggrieved Offeror, the Offeror must claim to be eligible for award of the contract as the responsible Offeror submitting the lowest responsive Offeror and that any and all lower Offerors are ineligible to receive a contract award. An actual Offeror who is adversely affected or aggrieved by the award of the contract to another Offeror may protest the award, in writing, within the timeline established. The written protest shall state the grounds upon which the protest is based. No protest of award shall be considered after the deadline established in Section G.2.

G.2 Protest Deadline. Adversely-affected or aggrieved Offerors shall have seven (7) calendar days from the date of the Intent-to-Award Announcement within which to file a written protest. Protests submitted after that date will not be considered. Protests must specify the grounds upon which the protest is based.

G.3 Response to Protests. LCSO will respond in writing to intent-to-award protests submitted by adversely-affected or aggrieved Offerors. LCSO may also respond to intent-to-award protests submitted by other Offerors for purposes of clarification. However, any response provided by LCSO is not intended to, and shall not in and of itself constitute, confirmation that the Offeror is, in fact, adversely affected or aggrieved, and therefore entitled to protest an intent to award, or that the protest was timely filed.

G.4 Contract Award upon Protest Period Expiration. After expiration of the seven (7) calendar-day intent-to-award protest period, and resolution of all protests, LCSO will proceed with final award. (If LCSO receives only one bid, LCSO may dispense with the intent-to-award protest period and proceed with award of a contract.)

SECTION H – INFORMATION TO BE SUBMITTED BY THE APPARENT SUCCESSFUL OFFEROR

H.1 Insurance. The apparent successful Offeror shall provide all required proofs of insurance to LCSO within 14 calendar days of notification of intent to award. Failure to present the required documents within the 14 calendar-day period may result in offer rejection. Offerors are encouraged to consult their insurance agent(s) about the insurance requirements as identified in Section J, Contract Provisions, prior to offer submission.

H.2 Performance Bond and Payment Bond. The successful Offeror shall be required to furnish a Performance Bond and a Payment Bond each in the total amount (100%) of the awarded contract, executed in favor of Linn County, to ensure faithful performance of the contract and payment for services and goods.

LCSO's Performance Bond and Payment Bond forms are found in Exhibit E.

The apparent successful Offeror shall provide all required bonding to LCSO within 14 calendar days of notification of award. Failure to present the required documents within 14 calendar days may be grounds for award disqualification.

H.3 Commencement of Work. The contractor shall not commence work under the contract until the Notice to Proceed has been issued.

EXHIBIT A

2020-229

PRICING SUBMITTAL FORM

Pricing Submittal Instructions. Offerors shall enter pricing and other required information for all bid Items listed in this Pricing Submittal Form. If this Pricing Submittal Form is replaced by an Amendment, Offerors shall use the amended form to provide pricing and other required information. If the Pricing Submittal Form is only modified by an Amendment, Offerors shall follow the instructions in the Amendment for making modifications to the Pricing Submittal Form. Failure to supply the required information in the Pricing Submittal Form or subsequent Amendments may result in bid rejection as non-responsive.

Base Bid, Single-Prime (All Trades) Contract. The undersigned Offeror, having carefully examined the ITB, including the General Conditions, Drawings, Specifications, and all subsequent Addenda, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services, including all scheduled allowances, necessary to complete the construction of the Evidence Annex Renovation and Remodel Project, according to the requirements of ITB, for the stipulated sum of:

TOTAL BASE BID – LUMP SUM: $_____

Voluntary Alternates. The Offeror is encouraged to review the Contract Documents for Proposed Voluntary Alternates, especially those presenting a beneficial effect to project cost, quality, and scheduling. The Offeror proposes the amount below be added to or deducted from the Base Bid if particular alternates are accepted by LCSO (attach additional sheets as needed):

1. Alternate Item: _____
    - (Increase) (Decrease) Bid by: $_____
2. Alternate Item: _____
    - (Increase) (Decrease) Bid by: $_____
3. Alternate Item: _____
    - (Increase) (Decrease) Bid by: $_____
4. Alternate Item: _____
    - (Increase) (Decrease) Bid by: $_____
5. Alternate Item: _____
    - (Increase) (Decrease) Bid by: $_____

(*Voluntary Alternates continued*)

6. Alternate Item: _____

    - (Increase) (Decrease) Bid by: $_____

TOTAL BASE BID AND ALL ALTERNATES: $_____

Amounts listed for each alternate must include costs of related coordination, modification, or adjustment. The Offeror shall be responsible for determining from the Contract Documents the effects of all alternates on the Contract Time and the Contract Sum of their work. The Offeror shall provide sufficient detailed descriptions of all proposed voluntary alternates to determine scope and intent.

LCSO reserves the right to accept or reject any alternate, in any order, and to award or amend the Contract accordingly. Acceptance or non-acceptance of any alternates by LCSO shall have no effect on the Contract Time.

OFFEROR NAME:

_____

Telephone Number: (_____)_____

Fax Number: (_____)_____

Federal ID Number: _____

EXHIBIT B

FIRST-TIER SUBCONTRACTOR DISCLOSURE INSTRUCTIONS AND FORM

(1) Pursuant to ORS 279C.370 and OAR 125-249-0360, Offerors are required to disclose information about certain first-tier subcontractors when LCSO estimates the contract value for a Public Improvement to be greater than $100,000. Specifically, when the contract amount of a first-tier subcontractor furnishing labor, or labor and materials, would be greater than or equal to: (i) 5% of the project bid, but at least $15,000, or (ii) $350,000 regardless of the percentage, the Offeror must disclose the following information about that subcontract in its bid submission or within two (2) working hours after closing:

(a) The subcontractor's name,
(b) Dollar value and,
(c) The category of work that the subcontractor would be performing.

If the Offeror will not be using any subcontractors that are subject to the above disclosure requirements, the Offeror is required to indicate "NONE" on the Disclosure Form.

LCSO MUST REJECT AN OFFER IF THE OFFEROR FAILS TO SUBMIT THE DISCLOSURE FORM WITH THIS INFORMATION BY THE STATED DEADLINE.

(2) An Offeror shall submit the disclosure form required by OAR 125-249-0360 either in its offer submission or within two (2) working hours after closing.

Compliance with the disclosure and submittal requirements is a matter of responsiveness. Offers which are submitted by closing, but for which the disclosure submittal has not been made by the specified deadline, are not responsive and shall not be considered for contract award.

(3) LCSO shall obtain, and make available for public inspection, the disclosure forms required by OAR 125-249-0360. LCSO shall also provide copies of disclosure forms to the Bureau of Labor and Industries as required by ORS 279C.835. LCSO is not required to determine the accuracy or completeness of the information submitted. Substitution of affected first-tier subcontractors shall be made only in accordance with ORS 279C.585.

FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM

PROJECT NAME: _____

BID #: _____ CLOSING: Date: _____ Time: _____

This form must be submitted at the location specified in the Invitation to Bid on the advertised closing date or within two working hours after the advertised closing time.

List below the name of each subcontractor that will be furnishing labor or will be furnishing labor and materials and that is required to be disclosed, the category of work that subcontractor will be performing and the dollar value of the subcontract. Enter "NONE" if there are no subcontractors that need to be disclosed. (ATTACH ADDITIONAL SHEETS IF NEEDED.)

SUBCONTRACTOR NAME	CATEGORY OF WORK	DOLLAR VALUE
_____	_____	$_____
_____	_____	$_____
_____	_____	$_____
_____	_____	$_____
_____	_____	$_____

Failure to submit this form by the disclosure deadline will result in a nonresponsive bid. A nonresponsive bid will not be considered for award.

Form submitted by (Offeror name):_____

Contact name: _____ Phone no.:_____

EXHIBIT C
CERTIFICATIONS & ACKNOWLEDGMENT FORM

CCB REQUIREMENTS

(1) Offerors shall be licensed with the State of Oregon Construction Contractors Board (CCB) prior to bidding on Public Improvement Contracts. FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL RESULT IN BID REJECTION.

(2) All subcontractors participating in the project shall be similarly registered with the Construction Contractors Board at the time they propose to engage in subcontract work. The CCB registration requirements apply to all public works contracts unless superseded by federal law.

Offerors shall provide their Construction Contractors Board (ORS 701.055) registration number below:

CONSTRUCTION CONTRACTORS BOARD REGISTRATION NO.: _____

EXPIRATION DATE OF CCB NO.: _____

ASBESTOS ABATEMENT LICENSING REQUIREMENTS

An asbestos abatement license under ORS 468A.720 will not be required of the contractor or its subcontractors.

RESIDENCY INFORMATION

OAR 125-249-0390 states "In determining the lowest responsive bid, LCSO must add a percentage increase to the bid of a nonresident Offeror equal to the percentage, if any, of the preference given to that Offeror in the state in which the Offeror resides."

"Resident Offeror" means a Offeror that has paid unemployment taxes or income taxes in this state during the 12 calendar months immediately preceding submission of the bid, has a business address in this county, and has stated in the bid whether the Offeror is a "resident Offeror".(OAR 125-246-0110)

"Non-resident Offeror" means a Offeror who is not a "Resident Offeror" as defined above. (OAR 125-246-0110)

a. Check one: Offeror is a ( ) Resident Offeror
( ) Non-resident Offeror

b. If a Resident Offeror, enter your Oregon business address: _____

_____

c. If a Non-resident Offeror, enter state of residency and business address: _____

_____

_____

d. Check one: Offeror is a ( ) Corporation
( ) Non-Profit Organization

FOREIGN CONTRACTOR: If the amount of the contract exceeds ten thousand dollars ($10,000), and if Contractor is not domiciled in or registered to do business in the state of Oregon, Contractor shall promptly provide to the Oregon Department of Revenue all information required by that Department relative to the contract. LCSO shall be entitled to withhold final payment under the contract until Contractor has met this requirement.

INSURANCE INFORMATION

(1) The awarded contractor may employ workers, and if the awarded contractor employs workers, the awarded contractor must obtain and at all time keep in effect Workers' Compensation insurance. Offeror represents to LCSO that it presently maintains coverage sufficient to meet the requirements of Oregon law through:

Carrier: _____ Policy No.:_____

(2) The awarded contractor must obtain and at all times keep in effect, Commercial General Liability insurance covering activities and operations of the awarded contractor. Commercial general liability shall cover bodily injury, death, and property damage, and shall include personal injury liability, products and completed operation insurance. Such liability insurance, whatever the form, shall carry at least liability coverage sufficient to meet the requirements set forth in the Oregon Tort Claims Act as codified in ORS 30.260 to 30.300. Offeror has obtained insurance required by this section through:

Carrier: _____ Policy No.:_____

(3) The awarded contractor must maintain Automobile Liability Insurance covering all owned, non-owned, and hired vehicles used in the performance of services awarded under this ITB. Automobile Liability Insurance coverage shall be sufficient to meet the requirements set forth in the Oregon Tort Claims Act as codified in ORS 30.260 to 30.300. Offeror has obtained insurance required by this section through:

Carrier: _____ Policy No.:_____

ADDENDA ACKNOWLEDGEMENT

(1) LCSO reserves the right to make changes to the Invitation to Bid and the resulting contract, by written Amendment, prior to the closing time and date. Amendments will be available online at **www.LinnSheriff.org/rfps**. LCSO is not responsible for an Offerors failure to receive notice of Amendments if such are advertised in the foregoing manner. Amendments shall only be issued by LCSO and upon issuance are incorporated into the Invitation to Bid or the resulting contract.

(2) By Offeror's signature on the Offeror Signature Form, Exhibit D, Offeror ACKNOWLEDGES, AGREES and CERTIFIES TO THE FOLLOWING:

If any Amendments are issued in connection with this ITB, Offeror has received and duly considered such Amendments, and has completed the blanks below identifying all Amendments issued, and acknowledging and agreeing to the terms of all such Amendments as those terms revise the terms, conditions, Plans and Specifications of this ITB.

Amendment: No. ___ to No. ___ inclusive.

CERTIFICATION OF COMPLIANCE WITH TAX LAWS

By my signature on the Offeror Signature Form, Exhibit D, I hereby attest or affirm under penalty of perjury: That I am authorized to act on behalf of the contractor in this matter, that I have authority and knowledge regarding the payment of taxes, and that the contractor is, to the best of my knowledge, not in violation of any Oregon Tax Laws. For purposes of this certification, "Oregon tax laws" are those tax laws imposed by ORS 320.005 to 320.150 and ORS 403.200 to 403.250 and ORS Chapters 118, 314, 316, 317, 318, 321 and 323; the elderly rental assistance program under ORS 310.630 to 310.706; and any local tax laws administered by the Oregon Department of Revenue under ORS 305.620.

CERTIFICATION OF DRUG-TESTING LAW REQUIREMENTS

Pursuant to ORS 279C.505(2), the Offeror certifies by its signature on the Offeror Signature Form, Exhibit D, that it has a Qualifying Drug Testing Program in place for its employees that includes, at a minimum, the following:

a) A written employee drug testing policy;

b) Required drug testing for all new Subject Employees or, alternatively, required testing of all Subject Employees every 12 months on a random selection basis; and
c) Required testing of a Subject Employee when the Offeror has reasonable cause to believe the Subject Employee is under the influence of drugs.

A drug testing program that meets the above requirements will be deemed a "Qualifying Employee Drug Testing Program." An employee is a "Subject Employee" only if that employee will be working on the Project job site.

If awarded a Public Improvement Contract as a result of this solicitation, the Offeror agrees that at the time of contract execution it shall represent and warrant to LCSO that its Qualifying Employee Drug Testing Program is in place and will continue in full force and effect for the duration of the Public Improvement Contract. LCSO's performance obligation (which includes, without limitation, LCSO's obligation to make payment) shall be contingent on the contractor's compliance with this representation and warranty.

If awarded a Public Improvement Contract as a result of this solicitation, Offeror also agrees that at the time of contract execution, and as a condition to LCSO's performance obligation (which includes, without limitation, LCSO's obligation to make payment), it shall require each subcontractor providing labor for the Project to:

a) Demonstrate to the contractor that it has a Qualifying Employee Drug Testing Program for the subcontractor's Subject Employees, and represent and warrant to the contractor that the Qualifying Employee Drug Testing Program is in place at the time of subcontract execution and will continue in full force and effect for the duration of the subcontract; or
b) Require that the subcontractor's Subject Employees participate in the contractor's Qualifying Employee Drug Testing Program for the duration of the subcontract.

CERTIFICATION OF COMPLIANCE WITH OREGON PREVAILING WAGE LAWS

By my signature on the Offeror Signature Form, Exhibit D, Offeror certifies that it will comply with the applicable requirements of ORS 279C.800 through 279C.870, and fully understands the provisions thereunder, including, but not limited to, the following:

a) Each worker in each trade or occupation employed in the performance of this project, either by the contractor, subcontractor, or other person doing or contracting to do or contracting for the whole or any part of the work on the project, must be paid not less than the applicable prevailing wage rate.
b) Pursuant to ORS 279C.836, the contractor must file a public works bond with a corporate surety in the amount of $30,000.00 with the Construction Contractors Board before starting work under the contract.
c) Pursuant to ORS 279C.845, the contractor, or the contractor's surety, and every subcontractor, or the subcontractor's surety, must file certified statements with LCSO in writing, on a form prescribed by BOLI, certifying:
    a. The hourly rate of wage paid each worker whom the contractor or the subcontractor has employed under the contract; and
    b. That no worker employed under the contract has been paid less than the prevailing rate of wage or less than the minimum hourly rate of wage specified in the contract.
d) LCSO is required to withhold 25% of amounts to contractors if certified payrolls are not filed by the contractor as required for work performed under this contract.

CERTIFICATION OF COMPLIANCE WITH NON-DISCRIMINATION LAWS

By my signature on the Offeror Signature Form, Exhibit D, I certify that I am authorized to act on behalf of Offeror in this matter and that Offeror has not discriminated and will not discriminate against any disadvantaged business enterprise, minority-owned business, women-owned business, emerging small business, or business that a service-disabled veteran owns, in obtaining any required subcontracts. Failure to do so shall be grounds for disqualification.

EXHIBIT D

OFFEROR SIGNATURE FORM
by
OFFEROR'S DULY AUTHORIZED REPRESENTATIVE

THIS BID MUST BE SIGNED IN INK BY AN AUTHORIZED REPRESENTATIVE OF THE OFFEROR; ANY ALTERATIONS OR ERASURES TO THE BID MUST BE INITIALED IN INK BY THE UNDERSIGNED AUTHORIZED REPRESENTATIVE.

The undersigned acknowledges, attests and certifies individually and on behalf of the Offeror that:

(1) He/she is a duly authorized representative of the Offeror, has been authorized by Offeror to make all representations, attestations, and certifications contained in this bid and all Amendments, if any, issued;

(2) Offeror, acting through its authorized representatives, has read and understands all bid instructions, Specifications, Plans, terms and conditions contained in these contract documents (including all listed exhibits and Amendments, if any, issued);

(3) The bid submitted is in response to the specific language contained in the ITB, and Offeror has made no assumptions based upon either (a) verbal or written statements not contained in the ITB, or (b) any previously-issued ITB, if any;

(4) LCSO shall not be liable for any claims or be subject to any defenses asserted by Offeror based upon, resulting from, or related to, Offeror's failure to comprehend all requirements of the ITB;

(5) LCSO shall not be liable for any expenses incurred by Offeror in preparing and submitting its offer or in participating in the offer evaluation/selection process;

(6) The Offeror agrees to be bound by and comply with all applicable requirements of ORS 279C.800 through ORS 279C.870 and the administrative rules of the Bureau of Labor and Industries (BOLI) regarding prevailing wage rates;

(7) No officer, agent, or employee of Linn County has a financial interest in this response, and the offer was prepared independently from all other Offerors, and without collusion, fraud, or other dishonesty;

(8) Offeror is bound by and will comply with all requirements, Specifications, Plans, terms and conditions contained in this bid (including all listed attachments and Amendments, if any, issued);

(9) Offeror will furnish the designated item(s) or service(s) in accordance with the Specifications, Plans and requirements, and will comply in all respects with the terms of the resulting contract upon award;

(10) Offeror certifies, to the best of its knowledge and belief that neither it nor any of its principals are presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from submitting bids or proposals by any federal, state or local entity, department or agency;

(11) Offeror certifies that it has not and will not discriminate against a subcontractor in the awarding of a subcontractor because the subcontractor is a minority, women, or emerging small business enterprise certified under ORS 200.055;

(12) Offeror represents and warrants that Offeror has the power and authority to enter into and perform the contract and that the contract, when executed and delivered, shall be a valid and binding obligation of the contractor enforceable in accordance with its terms; and

(13) All affirmations and certifications contained in this bid response are true and correct.

Offeror Business Name: _____

Federal Employer Identification No.: _____

Name and Title of Duly Authorized Representative: _____

Authorized Signature: _____ Date: _____

EXHIBIT E-1

PAYMENT BOND

Bond No. _____

KNOW ALL PERSONS BY THESE PRESENTS, That we _____

_____

as principal, hereinafter called Contractor, and (name and address of principal place of business of surety)_____

_____

_____as surety, are jointly and severally held and bound unto County of Linn in

the sum of _____

_____

for the payment of which we jointly and severally bind ourselves, our heirs, executors, administrators, and assigns or successors and assigns, firmly by these presents.

THE CONDITION OF THIS BOND IS SUCH

That, whereas, the said Contractor herein has made and entered into a certain contract with Linn County, which contract is by this reference made part hereof, whereby the said Contractor agrees to do in accordance with the certain terms, conditions, requirements, plans and specifications set out in said contract and all authorized modifications of the contract which increase the amount of work and the amount of the contract. Notice to the surety of any of the immediately foregoing are waived.

NOW, THEREFORE, if the Contractor herein shall make payment promptly, as due to all subcontractors and to all persons supplying to the Contractor or its subcontractors, equipment, supplies, labor or materials for the prosecution of the work, or any part thereof, provided for in said contract, and shall pay all contributions of amounts due its workers compensation carrier and the State Unemployment Compensation Trust Fund from such Contractor or subcontractors incurred in the performance of said contract, and pay all sums of money withheld from the Contractor's employees and payable to the Revenue Department, and shall pay all other just debts, dues and demands incurred in the performance of the said contract and shall pay to Linn County, by and through its Board of Commissioners, such damages as may accrue to LCSO under said contract, then this obligation is to be void, otherwise to remain in full force and effect.

Nonpayment of the bond premium will not invalidate this bond nor shall Linn County, by and through its Board of Commissioners, be obligated for the payment thereof.

Witness our hands this _____ day of _____, 20___.

_____
Authorized Signature, Contractor

_____
Authorized Signature, Attorney in Fact
(A Power of Attorney for the Attorney in Fact must be attached to this bond.)

_____
Authorized Signature, Surety

EXHIBIT E-2

PERFORMANCE BOND

Bond No. _____

Project _____

KNOW ALL PERSONS BY THESE PRESENTS, That we _____as principal, hereinafter called Contractor, and (name and address of principal place of business of surety)_____

_____

_____as surety, are jointly and severally held and bound unto Linn County in the sum of _____

_____for the payment of which we jointly and severally bind ourselves, our heirs, executors, administrators, and assigns or successors and assigns, firmly by these presents.

THE CONDITION OF THIS BOND IS SUCH

That, whereas, the said Contractor herein has made and entered into a certain contract with Linn County, which contract is by this reference made part hereof, whereby the said Contractor agrees to do in accordance with the certain terms, conditions, requirements, plans and specifications set out in said contract and all authorized modifications of the contract which increase the amount of work and the amount of the contract. Notice to the surety of any of the immediately foregoing is waived.

NOW, THEREFORE, if the Contractor herein shall faithfully and truly observe and comply with the terms, conditions and provisions of the said contract, in all respects, and shall well and truly and fully do and perform all matters and things by him undertaken to be performed during said contract, upon the terms set forth therein, within the time prescribed therein, or as extended as provided in the contract, including, but not limited to the terms of any warranty and guarantee required under said contract, and shall indemnify and save harmless Linn County, the Linn County Board of Commissioners, and members thereof, its officers, employees, and agents, against any direct or indirect damages of every kind and description that shall be suffered or claimed to be suffered in connection with or arising out of the performance of the said contract by the said Contractor or its subcontractors and shall in all respects perform said contract according to law, then this obligation is to be void, otherwise to remain to full force and effect.

Nonpayment of the bond premium will not invalidate this bond nor shall Linn County, by and through its Board of Commissioners, be obligated for the payment thereof.

Witness our hands this _____ day of _____, 20____.

_____
Authorized Signature, Contractor

_____
Authorized Signature, Surety

_____
Authorized Signature, Attorney in Fact
(A Power of Attorney for the Attorney in Fact must be attached to this bond)

_____
Surety's Seal Must be Affixed

EXHIBIT F
Sample Linn County Sheriff's Office Construction Agreement Form

COPIES OF THIS CONTRACT AGREEMENT FORM WILL BE SENT TO THE INTENDED AWARDEE (CONTRACTOR) BY THE LINN COUNTY SHERIFF'S OFFICE AT THE TIME OF LCSO'S INTENT TO AWARD NOTICE. THE BLANKS IN THIS SAMPLE WILL BE FILLED IN BY THE SHERIFF'S OFFICE. THE INTENDED AWARDEE WILL THEN COMPLETE AND SIGN THE AGREEMENT. AFTER ALL REQUIREMENTS ARE MET, LCSO WILL THEN SIGN THE PUBLIC IMPROVEMENT AGREEMENT FORM AND SEND AN ORIGINAL, SIGNED FULLY EXECUTED CONTRACT AGREEMENT FORM TO THE CONTRACTOR ALONG WITH THE NOTICE TO PROCEED.

LINN COUNTY SHERIFF'S OFFICE CONSTRUCTION AGREEMENT
for
(Insert Project Name)

(Insert Contract Number)

THIS AGREEMENT is made and entered into by and between **LINN COUNTY**, a political subdivision of the State of Oregon (the "Owner"), and **(Insert Name of Business)** (the "Contractor"), (collectively the "Parties".) This Agreement is effective on the date this Agreement has been signed by all the Parties. Unless otherwise defined in the Invitation to Bid or in this Agreement, the capitalized terms used herein are defined in Section A.1 of the Linn County Sheriff's Office General Conditions for Construction Contracts.

WITNESSETH:

1. Contract Price, Contract Documents and Work.
The CONTRACTOR, in consideration of the sum of **(Insert Price)** (the "Contract Price"), to be paid to the CONTRACTOR by OWNER in the manner and at the time hereinafter provided, and subject to the terms and conditions provided for in the Invitation to Bid, this Construction Agreement and other Contract Documents, all of which are incorporated herein by reference, hereby agrees to perform all Work described and reasonably inferred from the Contract Documents.

The Contract Price includes the following items: (Insert Items)

2. Representatives.
Unless otherwise specified in the Contract Documents, the OWNER designates **(Insert Name),** as its Authorized Representative in the administration of this Contract. The above-named individual shall be the initial point of contact for matters related to performance, payment, authorization, and to carry out the responsibilities of the OWNER. CONTRACTOR has named **(Insert Name)** its Authorized Representative to act on its behalf.

3. Contract Dates.
PROJECT START DATE: **[Insert #]** calendar days from issuance of Notice to Proceed.
SUBSTANTIAL COMPLETION: **[Insert #]** calendar days from issuance of Notice to Proceed or **[Enter date]**
FINAL COMPLETION: **[Insert #]** calendar days from issuance of Notice to Proceed or **[Enter a date]**

4. Liquidated Damages.
Failure to complete the project known as [Insert Project Name] by the specified time will result in damage to the Linn County Sheriff's Office. Since actual damage will be difficult to determine, it is agreed that the Contractor shall pay to the Linn County Sheriff's Office, not as a penalty but as liquidated damages, [$ XXX.XX insert applicable amount] per calendar day for each day elapsed in excess of the Substantial Completion date stated in Section 3 of this Agreement.

5. Integration
THE CONTRACT DOCUMENTS CONSTITUTE THE ENTIRE AGREEMENT BETWEEN THE PARTIES. NO WAIVER, CONSENT, MODIFICATION OR CHANGE OF TERMS OF THIS CONTRACT SHALL BIND EITHER PARTY UNLESS IN WRITING AND SIGNED BY BOTH PARTIES. SUCH WAIVER, CONSENT, MODIFICATION OR CHANGE, IF MADE, SHALL BE EFFECTIVE ONLY IN THE SPECIFIC INSTANCE AND FOR THE SPECIFIC PURPOSE GIVEN. THERE ARE NO OTHER UNDERSTANDINGS, AGREEMENTS, OR REPRESENTATIONS, ORAL OR WRITTEN, NOT SPECIFIED HEREIN REGARDING THIS CONTRACT. CONTRACTOR, BY THE SIGNATURE BELOW OF ITS AUTHORIZED REPRESENTATIVE, HEREBY ACKNOWLEDGES THAT IT HAS READ THIS CONTRACT, UNDERSTANDS IT, AND AGREES TO BE BOUND BY ITS TERMS AND CONDITIONS.

In witness whereof, LINN COUNTY, acting on behalf of the Linn County Sheriff's Office, executes this Agreement and the CONTRACTOR does execute the same as of the day and year of this Agreement first above written.

CONTRACTOR DATA:

CONTRACTOR NAME _____
CONTRACTOR ADDRESS _____
CONTRACTOR ADDRESS _____
CONTRACTOR'S FEIN _____
CONTRACTOR'S CCB # _____ Expiration Date:_____

IN WITNESS WHEREOF, the Parties have caused this instrument to be executed in duplicate by the duly authorized persons whose signature appear below. Each party, by the signature below of its authorized representative, hereby acknowledges that it has read this Agreement, understands it, and agrees to be bound by its terms and conditions. Each person signing this Agreement represents and warrants to have the authority to execute this Agreement.

CONTRACTOR	BOARD OF COUNTY COMMISSIONERS FOR LINN COUNTY
_____	_____
Signature	Roger Nyquist, Chairman
_____	_____
Name, Typed or Printed	John K. Lindsey, Commissioner
_____	_____
Title	William C. Tucker, Commissioner
_____	_____
Date	Date

APPROVED AS TO CONTENT:	APPROVED AS TO FORM:
_____	_____
Jim Yon, Linn County Sheriff Linn County Sheriff's Office	(Attorney Name) Deputy/County Attorney for Linn County

EXHIBIT G

GENERAL CONDITIONS

LINN COUNTY SHERIFF'S OFFICE
GENERAL CONDITIONS FOR CONSTRUCTION CONTRACTS

TABLE OF SECTIONS

SECTION A: GENERAL PROVISIONS

A.1 Basic Definitions

In the Contract Documents, the following terms shall be as defined below:

ARCHITECT/ENGINEER, means the Person appointed by Owner to make drawings and specifications and, to provide contract administration of the Work contemplated by the Contract to the extent provided herein or by supplemental instruction of Owner (under which Owner may delegate responsibilities of Owner's Authorized Representative to the Architect/Engineer), in accordance with ORS Chapter 671 (Architects) or ORS Chapter 672 (Engineers) and administrative rules adopted thereunder.

CHANGE ORDER, means a written order issued by Owner's Authorized Representative to Contractor requiring a change in the Work within the general scope of the Contract Documents, issued under the changes provisions of Section D.3 including Owner's written change directives as well as changes reflected in a writing executed by the parties to this Contract and, if applicable, establishing a Contract Price or Contract Time adjustment for the changed Work.

CLAIM, means a demand by Contractor for review of the denial of Contractor's initial request for an adjustment of Contract terms, payment of money, extension of Contract Time or other relief, submitted in accordance with the requirements and within the time limits established for review of Claims in these General Conditions.

CONTRACT, means the written agreement between Owner and Contractor comprised of the Contract Documents which describe the Work to be done and the obligations between the parties.

CONTRACT DOCUMENTS, means the Solicitation Document and addenda thereto, the Linn County Sheriff's Office Public Improvement Agreement Form, General Conditions, Supplemental General Conditions, if any, the accepted Offer, Plans, Specifications, amendments and Change Orders.

CONTRACT MODIFICATION, means a change in the Contract Documents that is permitted hereunder pursuant to Section D.

CONTRACT PERIOD, as set forth in the Contract Documents, means the total period of time beginning with the issuance of the Notice to Proceed and concluding upon Final Completion.

CONTRACT PRICE, means the total of the awarded Offer amount, as increased or decreased by the price of approved alternates and Change Orders.

CONTRACT TIME, means any incremental period of time allowed under the Contract to complete any portion of the Work as reflected in the project schedule.

CONTRACTOR, means the Person awarded the Contract for the Work contemplated.

DAYS, are calendar days, including weekdays, weekends and holidays, unless otherwise specified.

DEDUCTIVE CHANGES, means changes to the Contract that reduce the scope of the Work.

DIRECT COSTS, means, unless otherwise provided in the Contract Documents, the cost of materials, including sales tax, cost of delivery; cost of labor, including social security, old age and unemployment insurance, and fringe benefits required by agreement or custom; worker's compensation insurance; project specific insurance (including, without limitation, Builder's Risk Insurance and Builder's Risk Installation Floater); bond premiums, rental cost of equipment, and machinery required for execution of the work; and the additional costs of field personnel directly attributable to the Work.

FIELD ORDER, means an Order from Owner to Contractor to perform a change in Work prior to an agreement on the cost and/or additional time.

FINAL COMPLETION, means the final completion of all requirements under the Contract, including Contract Closeout as described in Section K but excluding Warranty Work as described in Section I.2, and the final payment and release of all retainage, if any, released.

FORCE MAJEURE, means an act, event or occurrence caused by fire, riot, war, acts of God, nature, sovereign, or public enemy, strikes, freight embargoes or any other act, event or occurrence that is beyond the control of the party to this Contract who is asserting Force Majeure.

JOB SITE, means the physical location where the Work is to be performed.

NOTICE TO PROCEED, means the official written notice from Owner stating that Contractor is to proceed with the Work defined in the Contract Documents. Notwithstanding the Notice to Proceed, Contractor shall not be authorized to proceed with the Work until all initial Contract requirements, including the Contract, performance bond and payment bond, and certificates of insurance, have been fully executed and submitted to Owner in a suitable form.

OFFER, means a bid in connection with an invitation to bid and a proposal in connection with a request for proposals.

OFFEROR, means a bidder in connection with an invitation to bid and a proposer in connection with a request for proposals.

OVERHEAD, means those items which may be included in Contractor's markup (general and administrative expense and profit) and that shall not be charged as Direct Cost of the Work, including without limitation such Overhead expenses as wages or salary of personnel above the level of foreman (i.e., superintendents and project managers), expenses of Contractor's offices at the Job Site (e.g. job trailer) including expenses of personnel staffing the Job Site office, and Commercial General Liability Insurance and Automobile Liability Insurance.

OWNER, means Linn County acting by and through the Linn County Sheriff's Office.

OWNER'S AUTHORIZED REPRESENTATIVE, means those individuals identified in writing by Owner to act on behalf of Owner for this project. Owner may elect, by written notice to Contractor, to delegate certain duties of Owner's Authorized Representative to more than one party, including without limitation, to an Architect/Engineer. However, nothing in these General Conditions is intended to abrogate the separate design professional responsibilities of Architects under ORS Chapter 671 or of Engineers under ORS Chapter 672.

PERSON, means an entity doing business as a sole proprietorship, a partnership, a joint venture, a corporation, a limited liability company or partnership, or any other entity possessing the legal capacity to contract.

PHOTO ID BADGE, means a badge worn by employees of the Contractor and/or subcontractor(s) while at the Job Site. All Photo ID Badges shall include, at minimum, the name of the individual and photo identification.

PLANS, means the drawings which show the location, type, dimensions, and details of the Work to be done under the Contract.

PUNCH LIST, means the list of Work yet to be completed or deficiencies which need to be corrected in order to achieve Final Completion of the Contract.

RECORD DOCUMENT, means the as-built Plans, Specifications, testing and inspection records, product data, samples, manufacturer and distributor/supplier warranties evidencing transfer to Owner, operational and maintenance manuals, shop drawings, Change Orders, correspondence, certificate(s) of occupancy, and other documents listed in Subsection A.3.1 of these General Conditions, recording all Services performed.

SOLICITATION DOCUMENT, means an invitation to bid or request for quotes.

SPECIFICATION, means any description of the physical or functional characteristics of the Work, or of the nature of a supply, service or construction item. Specifications may include a description of any requirement for inspecting, testing or preparing a supply, service or construction item for delivery and the quantities or qualities of materials to

be furnished under the Contract. Specifications generally will state the results or products to be obtained and may, on occasion, describe the method and manner of doing the work to be performed. Specifications may be incorporated by reference and/or may be attached to the Contract.

SUBCONTRACTOR, means a Person having a direct contract with Contractor, or another Subcontractor, to perform one or more items of the Work.

SUBSTANTIAL COMPLETION, means the date when Owner accepts in writing the construction, alteration or repair of the improvement to real property or any designated portion thereof as having reached that state of completion when it may be used or occupied for its intended purpose. Substantial Completion of facilities with operating systems occurs only after thirty (30) continuous Days of successful, trouble-free operation of the operating systems as provided in Section K.4.2.

SUBSTITUTIONS, means items that in function, performance, reliability, quality, and general configuration are the same or better than the product(s) specified. Approval of any substitute item shall be solely determined by Owner's Authorized Representative. The decision of Owner's Authorized Representative is final.

SUPPLEMENTAL GENERAL CONDITIONS, means those conditions that remove from, add to, or modify these General Conditions. Supplemental General Conditions may be included in the Solicitation Document or may be a separate attachment to the Contract.

SUPPLEMENTAL INSTRUCTIONS, means formal notice issued from the Architect/Engineer to Contractor in order to address and resolve minor non-contractual issues that might arise during construction.

WORK, means the furnishing of all materials, equipment, labor, transportation, services and incidentals necessary to successfully complete any individual item or the entire Contract and the carrying out of duties and obligations imposed by the Contract Documents.

A.2 Scope of Work

The Work contemplated under this Contract includes all labor, materials, transportation, equipment and services for, and incidental to, the completion of all construction work in connection with the project described in the Contract Documents. Contractor shall perform all Work necessary so that the project can be legally occupied and fully used for the intended use as set forth in the Contract Documents.

A.3 Interpretation of Contract Documents

A.3.1 Unless otherwise specifically defined in the Contract Documents, words which have well-known technical meanings or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings. Contract Documents are intended to be complementary. Whatever is called for in one, is interpreted to be called for in all. However, in the event of conflicts or discrepancies among the Contract Documents, interpretations will be based on the following descending order of precedence:

1. Contract amendments and Change Orders, with those of later date having precedence over those of an earlier date;
2. The Supplemental General Conditions, if any;
3. The Linn County Sheriff's Office Agreement Form;
4. The General Conditions;
5. The Plans and Specifications;
6. The Solicitation Document and any addenda thereto;
7. The accepted Offer.

A.3.2 In the case of an inconsistency between Plans and Specifications or within either document not clarified by addendum, the better quality or greater quantity of Work shall be provided in accordance with Owner or Owner's Authorized Representative's interpretation in writing.

A.3.3 If Contractor finds discrepancies in, or omissions from the Contract Documents, or if Contractor is in doubt as to their meaning, Contractor shall at once notify Owner or Owner's Authorized Representative. Matters

concerning performance under, and interpretation of requirements of, the Contract Documents will be decided by Owner's Authorized Representative, who may delegate that duty in some instances to the Architect/Engineer. Responses to Contractor's requests for interpretation of Contract Documents will be made in writing by Owner's Authorized Representative (or the Architect/Engineer) within any time limits agreed upon or otherwise with reasonable promptness.

A.3.4 References to standard specifications, manuals, codes of any technical society, organization or association, to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code, laws or regulations in effect in the jurisdiction where the project is occurring on the first published date of the Solicitation Document, except as may be otherwise specifically stated.

A.3.5 The characterization of provisions of the Contract as material provisions or the failure to comply with certain provisions as a material breach of the Contract shall in no way be construed to mean that any other provisions of the Contract are not material or that failure to comply with any other provisions is not a material breach of the Contract.

A.4 Examination of Plans, Specifications, and Job Site

A.4.1 It is understood that Contractor, before submitting an Offer, has made a careful examination of the Contract Documents; has become fully informed as to the quality and quantity of materials and the character of the Work required; and has made a careful examination of the location and conditions of the Work and the sources of supply for materials. Owner will in no case be responsible for any loss or for any unanticipated costs that may be suffered by Contractor as a result of Contractor's failure to acquire full information in advance in regard to all conditions pertaining to the Work. No oral agreement or conversation with any officer, agent, or personnel of Owner, or with the Architect/Engineer either before or after the execution of this Contract, shall affect or modify any of the terms or obligations herein contained.

A.4.2 Should the Plans or Specifications fail to particularly describe the materials, kind of goods, or details of construction of any aspect of the Work, Contractor shall have the duty to make inquiry of Owner and Architect/Engineer as to what is required prior to performance of the Work. Absent Specifications to the contrary, the materials or processes that would normally be used to produce first quality finished Work shall be considered a part of the Contract requirements.

A.4.3 Any design errors or omissions noted by Contractor shall be reported promptly to Owner's Authorized Representative, including without limitation, any nonconformity with applicable laws, statutes, ordinances, building codes, rules and regulations.

A.4.4 If Contractor believes that additional cost or Contract Time is involved because of clarifications or instructions issued by Owner's Authorized Representative (or Architect/Engineer) in response to Contractor's notices or requests for information, Contractor must submit a written request to Owner's Authorized Representative, setting forth the nature and specific extent of the request, including all time and cost impacts against the Contract as soon as possible, but no later than thirty (30) Days after receipt by Contractor of the clarifications or instructions issued. If Owner's Authorized Representative denies Contractor's request for additional compensation, additional Contract Time, or other relief that Contractor believes results from the clarifications or instructions, Contractor may proceed to file a Claim under Section D.3, Claims Review Process. If Contractor fails to perform the obligations of Sections A.4.1 to A.4.3, Contractor shall pay such costs and damages to Owner as would have been avoided if Contractor had performed such obligations.

A.5 Declaration of the Nature of the Contractual Relationship

Contractor agrees that Contractor is an independent contractor and not an employee of or agent of Linn County, or any agency thereunder. Owner shall not be responsible for any claims, demands or causes of action of any kind or

character arising in favor of any person, on account of personal injuries, or death, or damage to property occurring, growing out of, incident to, or resulting directly or indirectly from the operations or activities of Contractor.

SECTION B: ADMINISTRATION OF THE CONTRACT

B.1 Owner's Administration of the Contract

B.1.1 Owner's Authorized Representative will provide administration of the Contract as described in the Contract Documents (1) during construction (2) until final payment is due and (3) during the one-year period for correction of Work. Owner's Authorized Representative will act on behalf of Owner to the extent provided in the Contract Documents, unless modified in writing in accordance with other provisions of the Contract. In performing these tasks, Owner's Authorized Representative may rely on the Architect/Engineer or other consultants to perform some or all of these tasks.

B.1.2 Owner's Authorized Representative will visit the Job Site at intervals appropriate to the stage of Contractor's operations (1) to become generally familiar with and to keep Owner informed about the progress and quality of the portion of the Work completed, (2) to endeavor to guard Owner against defects and deficiencies in the Work, and (3) to determine in general if Work is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. Owner's Authorized Representative will not make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. Owner's Authorized Representative will neither have control over or charge of, nor be responsible for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work.

B.1.3 Except as otherwise provided in the Contract Documents or when direct communications have been specifically authorized, Owner and Contractor shall endeavor to communicate with each other through Owner's Authorized Representative or designee about matters arising out of or relating to the Contract. Communications by and with the Architect/Engineer's consultants shall be through the Architect/Engineer. Communications by and with Subcontractors and material suppliers shall be through Contractor. Communications by and with separate contractors shall be through Owner's Authorized Representative.

B.2 Contractor's Means and Methods, Materials, and General Workmanship

B.2.1 Contractor shall supervise and direct the Work, using Contractor's best skill and attention. Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, Contractor shall evaluate the Job Site safety thereof and, except as stated below, shall be fully and solely responsible for the Job Site safety of such means, methods, techniques, sequences or procedures.

B.2.2 Contractor is responsible to protect and maintain the Work during the course of construction and to mitigate any adverse impacts to the project, including those caused by authorized changes, which may affect cost, schedule, or quality.

B.2.3 Contractor is responsible for the actions of all its personnel, laborers, suppliers, and Subcontractors on the project. Contractor shall enforce strict discipline and good order among Contractor's employees and other persons carrying out the Work. Contractor shall not permit employment of persons who are unfit or unskilled for the tasks assigned to them.

B.2.4 The intent of the Contract Documents is to provide for the construction and completion in every detail of the Work described. All Work shall be performed in a professional manner and, unless the means or methods of performing a task are specified elsewhere in the Contract Documents, Contractor shall employ methods that are generally accepted and used by the industry, in accordance with industry standards.

B.2.5 Contractor is responsible to perform the Work as required by the Contract Documents. Defective Work shall be corrected at Contractor's expense.

B.2.6 Work done and materials furnished shall be subject to inspection and/or observation and testing by Owner's Authorized Representative to determine if they conform to the Contract Documents. Inspection of the Work by Owner's Authorized Representative does not relieve Contractor of responsibility for the Work in accordance with the Contract Documents.

B.2.7 Contractor shall furnish adequate facilities, as required, for Owner's Authorized Representative to have safe access to the Work including without limitation walkways, railings, ladders, tunnels, and platforms. Producers, suppliers, and fabricators shall also provide proper facilities and access to their facilities.

B.2.8 Contractor shall furnish Samples of materials for testing by Owner's Authorized Representative and include the cost of the Samples in the Contract Price.

B.3 Submittals, Shop Drawings, Product Data, and Samples

B.3.1 Contractor shall prepare and keep current, for the approval of Owner's Authorized Representative (or for approval of the Architect/Engineer if authority has so been delegated), a schedule and list of submittals which is coordinated with Contractor's construction schedule and allows the Owner's Authorized Representative reasonable time to review submittals. Owner reserves the right to finally approve the schedule and list of submittals. Submittals include, without limitation, Shop Drawings, Product Data, and Samples which are described below: (a) Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by Contractor or a Subcontractor (including any sub-subcontractor), manufacturer, supplier or distributor to illustrate some portion of the Work. (b) Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by Contractor to illustrate materials or equipment for some portion of the Work. (c) Samples are physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

B.3.2 Contractor shall review for compliance with the Contract Documents, approve, and submit to Owner's Authorized Representative Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors. Submittals which are not marked as reviewed for compliance with the Contract Documents and approved by Contractor may be returned by the Owner's Authorized Representative without action.

B.3.3 By approving and submitting Shop Drawings, Product Data, Samples and similar submittals, Contractor represents that Contractor has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents. Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by Owner's Authorized Representative.

B.3.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required by the Contract Documents the way by which Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents. Review of submittals by Owner's Authorized Representative is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, or for approval of safety precautions or, unless otherwise specifically stated by the Architect/Engineer, of any construction means, methods, techniques, sequences or procedures, all of which remain the responsibility of Contractor as required by the Contract Documents. Owner's Authorized Representative review of Contractor's submittals shall not relieve Contractor of its obligations under the Contract Documents.

B.3.5 The Work shall be in accordance with approved submittals except that Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by Owner's Authorized Representative's review or approval of Shop Drawings, Product Data, Samples or similar submittals unless Contractor has specifically informed the Architect/Engineer in writing of such deviation at the time of submittal and (i) the Owner's Authorized Representative has given written approval to the specific deviation as a minor change in the Work, or (ii) a Change Order has been executed by Owner authorizing the deviation. Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by Owner's Authorized Representative's review or approval thereof.

B.4 Permits

Owner has obtained and paid for *specific permit* from the City of Albany. Contractor shall verify the existing permits and shall obtain and pay for all additional and necessary permits and licenses, if any, for the construction of the Work, for temporary obstructions, enclosures, opening of streets for pipes, walls, utilities, environmental Work, etc., as required for the project. Contractor shall be responsible for all violations of the law, in connection with the construction or caused by obstructing streets, sidewalks or otherwise. Contractor shall give all requisite notices to public authorities. Contractor shall pay all royalties and license fees. Contractor shall defend all suits or claims for infringement of any patent or other proprietary rights and save harmless and blameless from loss, on account thereof, Linn County and its departments, divisions, members and employees.

B.5 Substitutions

Contractor may make Substitutions only with the consent of Owner, after evaluation by Owner's Authorized Representative, and only in accordance with a Change Order. Substitutions shall be subject to the requirements of the bid documents. By making requests for Substitutions, Contractor represents that Contractor has personally investigated the proposed substitute product; represents that Contractor will provide the same warranty for the Substitution that Contractor would for the product originally specified unless approved otherwise; certifies that the cost data presented is complete and includes all related costs under this Contract including redesign costs and waives all claims for additional costs related to the Substitution which subsequently become apparent; and will coordinate the installation of the accepted Substitution, making such changes as may be required for the Work to be completed in all respects.

B.6 Use of Plans and Specifications

Plans, Specifications and related Contract Documents furnished to Contractor by Owner or Owner's Architect/Engineer shall be used solely for the performance of the Work under this Contract. Contractor and its Subcontractors and suppliers are authorized to use and reproduce applicable portions of such documents appropriate to the execution of the Work, but shall not claim any ownership or other interest in them beyond the scope of this Contract, and no such interest shall attach. Unless otherwise indicated, all common law, statutory and other reserved rights, in addition to copyrights, are retained by Owner.

B.7 Superintendent to be Onsite

Contractor shall keep at the Job Site, during the progress of the Work, a competent superintendent and any necessary assistants who shall be satisfactory to Owner and who shall represent Contractor at the Job Site. Directions given to the superintendent by Owner's Authorized Representative shall be confirmed in writing to Contractor.

B.8 Criminal History Check & Photo ID Required

B.8.1 No individual found to have been convicted of any crime listed in ORS 342.143, or of an attempt to commit one of the listed crimes, shall be allowed access to the Job Site. Crimes listed in ORS 342.143 which automatically bar an individual from employment with or contracting with Owner are primarily crimes of violence, crimes against children, and sex related crimes.

B.8.2 Contractor shall submit to Owner the names of all Contractor and/or subcontractor employees that will be on the Job Site for more than one day. Contractor shall ensure that all such employees: 1) complete a criminal history form as provided by the Owner, and 2) submit to a criminal history check by Owner pursuant to the procedures outlined in ORS 326.603. Owner shall bear the cost of processing such criminal history checks.

B.8.3 Owner reserves the right to refuse access to the Job Site to any employee who: 1) refuses to consent to a criminal history check, 2) refuses to be fingerprinted, or 3) falsely swears to the non-conviction of any crime. Contractor shall ensure that all employees accurately complete their criminal history forms and shall further inform their employees that falsely swearing to the non-conviction of any crime, even if the crime is not listed in ORS 342.143, will result in Owner refusing the employee access to the Job Site.

B.8.4 Contractor shall provide a Photo ID Badge to all Contractor and/or subcontractor employees working at the Job Site for more than one day. Owner shall provide Contractor with visitor badges to be used by employees that will be at the Job Site for less than one day. Contractor shall ensure that each employee visiting or working at the Job Site shall have their respective badges displayed at all times.

B.9 Inspection

B.9.1 Owner's Authorized Representative shall have access to the Work at all times.

B.9.2 Inspection of the Work will be made by Owner's Authorized Representative at its discretion. Owner's Authorized Representative will have authority to reject Work that does not conform to the Contract Documents. Any Work found to be not in conformance with the Contract Documents, in the discretion of Owner's Authorized Representative, shall be removed and replaced at Contractor's expense.

B.9.3 Contractor shall make or obtain at the appropriate time all tests, inspections and approvals of portions of the Work required by the Contract Documents or by laws, ordinances, rules, regulations or orders of public authorities having jurisdiction. Unless otherwise provided, Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work. Contractor shall give Owner's Authorized Representative timely notice of when and where tests and inspections are to be made so that Owner's Authorized Representative may be present for such procedures. Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by Contractor and promptly delivered to Owner's Authorized Representative.

B.9.4 As required by the Contract Documents, Work done or material used without inspection or testing by Owner's Authorized Representative may be ordered removed at Contractor's expense.

B.9.5 If directed to do so any time before the Work is accepted, Contractor shall uncover portions of the completed Work for inspection. After inspection, Contractor shall restore such portions of Work to the standard required by the Contract. If the Work uncovered is unacceptable or was done without sufficient notice to Owner's Authorized Representative, the uncovering and restoration shall be done at Contractor's expense. If the Work uncovered is acceptable and was done with sufficient notice to Owner's Authorized Representative, the uncovering and restoration will be paid for as a Change Order.

B.9.6 If any testing or inspection reveals failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for Owner's Authorized Representative's and Architect/Engineer's services and expenses, shall be at Contractor's expense.

B.10 Compliance with Government Laws and Regulations

B.10.1 Contractor shall comply with all federal, state and local laws, codes, regulations and ordinances applicable to the Work and the Contract. Failure to comply with such requirements shall constitute a breach of Contract and shall be grounds for Contract termination. Without limiting the generality of the foregoing, Contractor expressly agrees to comply with the following as applicable: i) Title VI and VII of Civil Rights Act of 1964, as amended; (ii) Section 503 and 504 of the Rehabilitation Act of 1973, as amended; (iii) the Health Insurance Portability and Accountability Act of 1996; (iv) the Americans with Disabilities Act of 1990, as amended; (v) ORS Chapter 659A; as amended (vi) all regulations and administrative rules established pursuant to the foregoing laws; and (vii) all other applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations. All rights and remedies available to Owner under applicable federal, state and local laws are also incorporated by reference herein and are cumulative with all rights and remedies under the Contract.

B.10.2 Contractor shall make payment promptly, as due, to all persons supplying to Contractor labor or material for the performance of the work provided for in this contract (ORS 279C.505(1)(a)).

B.10.3 Contractor shall pay all contributions or amounts due the Industrial Accident Fund from Contractor or subcontractor incurred in the performance of this contract (ORS 279C.505(1)(b)).

B.10.4 Contractor shall not permit any lien or claim to be filed or prosecuted against Owner, or any subdivision thereof, on account of any labor or material furnished (ORS 279C.505(1)(c)).

B.10.5 Contractor shall demonstrate that an employee drug-testing program is in place as required under ORS 279C.505 (1)(d).

B.10.6 Contractor shall pay to the Department of Revenue all sums withheld from employees under ORS 316.617.

B.10.7 Contractor shall salvage or recycle construction and demolition debris if feasible and cost effective. In contracts for lawn and landscape maintenance, Contractor shall compost or mulch yard waste material at an approved site if feasible and cost-effective (ORS 279C.510(1)).

B.10.8 Contractor shall promptly pay, as due, all persons supplying labor and services furnished to Contractor or a subcontractor by any person in connection with this contract as the claim becomes due. If Contractor fails to pay any such claim, Owner may pay the claim and charge the payment against the funds due or to become due Contractor by reason of the Contract, pursuant to ORS 279C.515(1).

B.10.9 If Contractor or first-tier subcontractor fails, neglects, or refuses to make payment to a person furnishing labor or materials in connection with the public contract for a public improvement within 30 days after receipt of payment from Owner, Contractor or first tier subcontractor shall owe the person the amount dues plus interest commencing at the end of the 10 day period that payment is due under ORS 279C.580 and ending upon final payment, unless payment is subject to a good faith dispute as defined in ORS 279C.580.

B.10.10 Contractor shall make payment to any person furnish labor or materials in connection with this Contract within 30 days after receipt of payment from Owner or Contractor, Contractor or first-tier subcontractor shall owe the person the amount due plus interest charges commencing at the end of the 10-day period that payment is due under ORS 279C.580 (4) and ending upon final payment, unless payment is subject to a good faith dispute as defined in ORS 279C.580. The rate of interest charged to Contractor or first-tier subcontractor on the amount due shall equal three times the discount rate on 90-day commercial paper in effect at the Federal Reserve Bank in the Federal Reserve district that includes Oregon on the date that is 30 days after the date when payment was received from the contracting agency or from Contractor, but the rate of interest may not exceed 30 percent. The amount of interest may not be waived (ORS 279C.515(2)).

B.10.11 Contractor shall make payment to any person furnishing labor or materials in connection with this contract, the person may file a complaint with the Construction Contractors Board, unless payment is subject to a good faith dispute as defined in ORS 279C.580 (ORS 279C.515(3)).

B.10.12 Contractor shall comply with all applicable provisions of federal, state or local statutes, ordinances and regulations dealing with the prevention of environmental pollution and the preservation of natural resources that affect the work under the Contract (ORS 279C.525).

B.10.13 Contractor shall pay promptly, as due, any payment to any person, co-partnership, association or corporation furnishing medical, surgical and hospital care services or the needed care and attention, incident to sickness or injury, to the employees of the Contract, of all sums that Contractor agrees to pay for the services and all moneys and sums that Contractor collected or deducted from the wages of employees under any law, contract or agreement for the purpose of providing or paying for the services, pursuant to ORS 279C.530(1).

B.10.14 If Contractor is a subject employer, Contractor will comply with ORS 656.017 (ORS 279C.530(2)).

B.10.15 Pursuant to ORS 279C.520, no person may be employed for more than ten hours in any one day, or 40 hours in any one week, except in cases of necessity, emergency or when the public policy absolutely requires it, and in such cases, the employee shall be paid at least time-and-a-half pay for all overtime in excess of 40 hours a week and for work performed on any legal holiday specified in ORS 279C.540.

B.10.16 Contractor shall comply with ORS 279C.550 through 570 regarding withholding of retainage. The withholding of retainage by Contractor or subcontractor shall be in accordance with ORS 701.420 and 701.430.

B.10.18 Contractor shall comply with ORS 279C.570 regarding prompt payment, progress payments and rate of interest.

B.10.19 Contractor shall include in each subcontract for property or services entered into by Contractor and a first-tier subcontractor, including a material supplier, for the purpose of performing a construction contract: a payment clause that obligates Contractor to pay the first-tier subcontractor for satisfactory performance under its subcontract within 10 days out of such amounts as are paid to Contractor by the contracting agency under the Contract; and an interest penalty clause that obligates Contractor, if payment is not made within 30 days after receipt of payment from the contracting agency, to pay to the first-tier subcontractor an interest penalty on amounts due in the case of each payment not made in accordance with the payment clause included in the subcontract. These clauses must also be included in each of Contractor's subcontracts and in each of the first-tier subcontractor's subcontracts and each of the first-tier subcontractor's, subcontractors shall include these clauses in their subcontracts with each lower-tier subcontractor or supplier (ORS 279C.580.)

B.10.20 Contractor shall comply with ORS 279C.605 regarding Notice of Claim.

B.10.21 When applicable, Contractor shall certify that Contractor has a policy and practice of preventing sexual harassment, sexual assault, and discrimination against employees who are members of a protected class that complies with the requirements of ORS 279A.112(2)(b).

B.10.22 Pursuant to ORS 279A.110, Contractor shall not discriminate against a disadvantaged business enterprise, a minority-owned business, a woman-owned business, a business that a service-disabled veteran owns or an emerging small business, in the awarding of subcontracts.

B.10.23 Unless contrary to federal law, Contractor shall certify that it shall not accept a bid from Subcontractors to perform Work as described in ORS 701.005 under this Contract unless such Subcontractors are registered with the Construction Contractors Board in accordance with ORS 701.035 to 701.055 at the time they submit their bids to Contractor.

B.10.24 Unless contrary to federal law, Contractor shall certify that each landscape contractor, as defined in ORS 671.520(2), performing Work under this Contract holds a valid landscape contractor's license issued pursuant to ORS 671.560.

B.10.25 The following notice is applicable to Contractors who perform excavation Work.

ATTENTION: Oregon law requires you to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952-001-0010 through OAR 952-001-0090. You may obtain copies of the rules by calling the center at (503)232-1987.

B.10.26 Failure to comply with any or all of the requirements of B.10.1 through B.10.26 shall be a breach of Contract and constitute grounds for Contract termination. Damages or costs resulting from such noncompliance shall be the responsibility of Contractor.

B.11 Severability

If any provision of this Contract shall be held invalid or unenforceable by any court or tribunal of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision, and the obligations of the parties shall be construed and enforced as if the Contract did not contain the particular term or provision held to be invalid.

B.12 Waiver

The failure of either party to enforce any provision of this agreement shall not constitute a waiver by that party of that or any other provision of this agreement, or the waiver by that party of the ability to enforce that or any other provision in the event of any subsequent breach.

B.13 Records Maintenance; Access

Contractor shall maintain all fiscal records relating to this Contract in accordance with generally accepted accounting principles. In addition, Contractor shall maintain any other records pertinent to this Contract in such a manner as to clearly document Contractor's performance hereunder. Contractor acknowledges and agrees that Owner, the Oregon Secretary of State's Office, the Federal Government and their duly authorized representatives shall have access to such fiscal records and all other documents that are pertinent to this Contract for the purpose of performing audits and examinations and making transcripts and excerpts. All such fiscal records and pertinent documents shall be retained by Contractor for a minimum of ten (10) years (except as required longer by law) following final payment and termination of this Contract, or until the conclusion of any audit, controversy or litigation arising out of or related to this Contract, whichever date is later.

B.14 Subcontractors; Assignment; Delegation; Successors

B.14.1 Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound by the terms and conditions of these General Conditions, and to assume toward Contractor all of the obligations and responsibilities which Contractor assumes toward Owner thereunder, unless (1) the same are clearly inapplicable to the subcontract at issue because of legal requirements or industry practices, or (2) specific exceptions are requested by Contractor and approved in writing by Owner. Where appropriate, Contractor shall require each Subcontractor to enter into similar agreements with sub-subcontractors at any level.

B.14.2 Contractor shall not assign, delegate, nor transfer any of its rights or obligations under this Contract without Owner's prior written consent. Owner's written consent does not relieve Contractor of any obligations under this Contract, and any assignee, transferee, or delegate is considered Contractor's agent. The provisions of this Contract shall be binding upon and shall inure to the benefit of the parties to the Contract and their respective successors and assigns.

B.15 Other Contracts

B.15.1 In all cases and at any time, Owner has the right to execute other contracts related to or unrelated to the Work of this Contract. Contractor shall fully cooperate with any and all other contractors without additional cost to Owner.

B.15.2 Owner's Authorized Representative will resolve any disagreements that may arise between or among Contractor and the other contractors over the method or order of doing all work (including the Work). In case of unavoidable interference, Owner's Authorized Representative will establish work priority (including the Work) which generally will be in the sequence that the contracts were awarded.

B.16 Foreign Contractor

If Contractor is not domiciled in or registered to do business in the State of Oregon, Contractor shall promptly provide to the Oregon Department of Revenue and the Secretary of State Corporation Division all information required by those agencies relative to this Contract. Owner shall withhold final payment under this Contract until Contractor has met this requirement.

B.17 Governing Law, Jurisdiction, Venue, & Attorney Fees

This Contract shall be governed and construed in accordance with the laws of the State of Oregon, without resort to any jurisdiction's conflict of laws rules or doctrines. Any claim, action, suit, or proceeding (collectively, "the claim") between Owner (and/or any other agency or department of Linn County) and Contractor that arises from or relates to this Contract shall be brought and conducted solely and exclusively within the Circuit Court of Linn County for the State of Oregon. Provided, however, if the claim must be brought in a federal forum, then it shall be brought and conducted solely and exclusively within the United States District Court for the District of Oregon. Contractor hereby consents to the *in personam* jurisdiction of said courts. Each party shall be responsible for the party's attorney fees, costs and disbursements at all times including appeals.

SECTION C: PREVAILING WAGE

C.1 Minimum Wage Rates On Public Works

Contractor shall comply fully with the provisions of ORS 279C.800 through 279C.870. Documents establishing those conditions, as determined by the Commissioner of the Bureau of Labor and Industries (BOLI), are included as attachments to or are incorporated by reference in the Contract Documents. Contractor shall pay workers at not less than the specified minimum hourly rate of wage, and shall include that requirement in all subcontracts.

C.2 Payroll Certification; Additional Retainage; Fee Requirements

C.2.1 In accordance with ORS 279C.845, Contractor and every Subcontractor shall submit written certified statement to Owner's Authorized Representative, on the form prescribed by the Commissioner of the Bureau of Labor and Industries, certifying the hourly rate of wage paid each worker which Contractor or the Subcontractor has employed on the project and further certifying that no worker employed on the project has been paid less than the prevailing rate of wage or less than the minimum hourly rate of wage specified in the Contract, which certificate and statement shall be verified by the oath of Contractor or the Subcontractor that Contractor or Subcontractor has read the certified statement, that Contractor or Subcontractor knows the contents of the certified statement and that to Contractor's or Subcontractor's best knowledge and belief the certified statement is true. The certified statements shall set out accurately and completely the payroll records for the prior week including the name and address of each worker, the worker's correct classification, rate of pay, daily and weekly number of hours worked, deductions made and actual wages paid. Certified statements for each week during which Contractor or Subcontractor has employed a worker on the project shall be submitted once a month, by the fifth business day of the following month. Contractor and Subcontractors shall preserve the certified statements for a period of ten (10) years from the date of completion of the Contract.

C.2.2 Pursuant to ORS 279C.845(7), Owner shall retain 25 percent of any amount earned by Contractor on this public works project until Contractor has filed the certified statements required by section C.2.1. Owner shall pay to Contractor the amount retained under this subsection within 14 days after Contractor files the required certified statements, regardless of whether a Subcontractor has failed to file certified statements.

C.2.3 Pursuant to ORS 279C.845(8), Contractor shall retain 25 percent of any amount earned by a first-tier Subcontractor on this public works project until the first-tier Subcontractor has filed with Owner the certified statements required by C.2.1. Before paying any amount retained under this subsection, Contractor shall verify that the first-tier Subcontractor has filed the certified statement, Within 14 days after the first-tier Subcontractor files the required certified statement Contractor shall pay the first-tier Subcontractor any amount retained under this subsection.

C.2.4 In accordance with statutory requirements, and administrative rules promulgated by the Commissioner of the Bureau of Labor and Industries, the fee required by ORS 279C.825(1) will be paid by Owner to the Commissioner.

C.3 Public Works Bond Required

Pursuant to ORS 279C.836, Contractor shall have a public works bond filed with the Construction Contractors Board before starting work on the project, unless exempt under ORS 279C.836(7) or (8), and shall include in every subcontract a provision requiring the subcontractor to have a public works bond filed with the Construction Contractors Board before starting work on the project, unless exempt under ORS 279C.836(7) or (8).

SECTION D: CONTRACT MODIFICATIONS

D.1 Changes in Work Generally

The terms of this Contract shall not be waived, altered, modified, supplemented, or amended in any manner whatsoever without prior written approval of the Owner's Authorized Representative, and then only in a manner consistent with the provisions of this section, and after any necessary approvals required by public contracting laws have been obtained.

D.2 Minor Changes in Work

D.2.1 Owner may, at its discretion, issue a Field Order or Supplemental Instructions to Contractor authorizing minor changes in the Work performed under the Project, so long as the changes do not involve adjustment to the Contract sum or the Contract time. These minor changes may include details to clarify the work to be performed.

D.2.2 Via e-mail or letter, Contractor must acknowledge receipt of instruction authorizing minor changes in the Work and incorporate these changes into the as-built Record Documents.

D.3 Change Order Procedures

D.3.1 It is mutually agreed that changes in materials, quantities, or details of construction are inherent in the nature of construction and may be necessary or desirable during the course of construction. Within the general scope of this Contract, Owner's Authorized Representative may at any time, without notice to the sureties and without impairing the Contract, require changes in Work to be performed under the Contract. All Change Order Work shall be executed under the conditions of the Contract Documents. Such changes may include, but are not limited to:

1. Modification of specifications and design;
2. Increases or decreases in quantities;
3. Increases or decreases to the amount of Work;
4. Addition or elimination of any Work item;
5 Change in the duration of the project;
6. Acceleration or delay in performance of Work; and/or
7. Deductive Changes.

D.3.2 For all proposed changes, a Change Order form must be used to record the proposed changes to the Project. The Change Order form must contain a description of all changes in work, a detailed accounting of the proposed change in total cost in accordance with Section D.5, and an outline of any changes in the Contract Time pursuant to Section D.6. Contractor must then sign form and submit it to Owner for final approval and authorization.

D.4 Amendments

The Contract may be amended to the extent permitted by applicable statutes, administrative rules, ordinances, and Linn County Code. For anticipated amendments, the Contract may be amended only in accordance with and to the extent provided in the original solicitation document. No amendment shall bind either party unless in writing and signed by both parties.

D.5 Adjustments in Compensation

D.5.1 Owner and Contractor agree that any Contract Modifications that require an adjustment in compensation shall be administered and compensated according to the following:

(a) Unit pricing may be utilized at Owner's option when unit prices or solicitation alternates were provided that established the cost for additional Work, and a binding obligation exists under the Contract on the parties covering the terms and conditions of the additional Work.

(b) If Owner elects not to utilize unit pricing, or in the event that unit pricing is not available or appropriate, fixed pricing may be used for Contract Modifications. In fixed pricing adjustments, the basis of payments or total price shall be agreed upon in writing between the parties to the Contract, and shall be established before the Work is done whenever feasible. Cost and price data relating to the Contract Modification shall be supplied by Contractor to Owner upon request, but Owner shall be under no obligation to make such requests.

(c) In the event that unit pricing and fixed pricing are not utilized for a Contract Modification, then Work shall be performed on a cost reimbursement basis for Direct Costs. Such Work shall be compensated on the basis of the actual, reasonable and allowable cost of labor, equipment, and material furnished on the Work performed.

D.5.2 Owner may establish a maximum cost adjustment for any Work done under a Contract Modification, which shall not be exceeded without additional written authorization from Owner. In the event that a Contract Modification will exceed the maximum cost adjustment authorized by Owner under this Section, Contractor shall not be required to complete such Work without additional authorization from Owner.

D.5.3 Contractor shall submit any request for additional compensation as soon as possible but no later than thirty (30) Days after receipt of the Contract Modification request.

D.6 Adjustments in Contract Time

Any necessary adjustment of Contract Time that may be required as a result of a Contract Modification must be agreed upon by the parties before the start of the modified Work unless Owner's Authorized Representative authorizes Contractor to start the Work before an agreement on Contract Time adjustment has been made.

D.7 Claims Review Process

D.7.1 If Owner's Authorized Representative denies Contractor's request for additional compensation or adjustment of Contract Time, Contractor may proceed to file a Claim as described under this Section D.7. Unless the Claim is made in accordance with the required provisions of this Section D.7, the Claim shall be waived.

D.7.2 All Contractor Claims shall be referred to Owner's Authorized Representative for review. Contractor's Claims, including Claims for additional compensation or additional Contract Time, shall be submitted in writing by Contractor to Owner's Authorized Representative within five (5) Days after a denial of Contractor's initial request for an adjustment of Contract terms, payment of money, extension of Contract Time or other relief, provided that such initial request has been submitted in accordance with the requirements and within the time limits established in these General Conditions.

D.7.3 Within thirty (30) Days after the initial Claim, Contractor shall submit to Owner's Authorized Representative, a complete and detailed description of the Claim (the "Detailed Notice") that includes all information required by Section D.7.2. The Detailed Notice of the Claim shall be submitted in writing by Contractor and shall include a detailed, factual statement of the basis of the Claim, pertinent dates, Contract provisions which support or allow the Claim, reference to or copies of any documents which support the Claim, the dollar value of the Claim, and the Contract Time extension requested for the Claim. If the Claim involves Work to be completed by Subcontractors, Contractor will analyze and evaluate the merits of the Subcontractor claim prior to forwarding it and that analysis and evaluation to Owner's Authorized Representative.

D.7.4 Owner's Authorized Representative will review all Claims and take one or more of the following preliminary actions within ten (10) Days of receipt of the Detailed Notice of a Claim: (1) request additional supporting information from Contractor; (2) inform Contractor and Owner in writing of the time required for adequate review and response; (3) reject the Claim in whole or in part and identify the reasons for rejection; (4) based on principles of equitable adjustment, recommend approval of all or part of the Claim; or (5) propose an alternate resolution.

D.7.5 Owner's Authorized Representative's decision shall be final and binding on Contractor unless appealed by written notice to Owner within fifteen (15) Days of receipt of the decision. Contractor must present written documentation supporting the Claim within fifteen (15) Days of the notice of appeal. After receiving the appeal documentation, Owner shall review the materials and render a decision within thirty (30) Days after receiving the appeal documents. The decision of Owner shall be final and binding.

D.7.6 Unless otherwise directed by Owner's Authorized Representative, Contractor shall proceed with the Work while any Claim is pending. Regardless of the review period or the final decision of Owner's Authorized Representative, Contractor shall continue to diligently pursue the Work as identified in the Contract Documents. In no case is Contractor justified or allowed to cease Work without a written stop work order from Owner or Owner's Authorized Representative.

D.8 Delays

D.8.1 Delays in construction include "Avoidable Delays", which are defined in Section D.8.2, and "Unavoidable Delays", which are defined in Section D.8.3. The effect of Avoidable Delays is described in Section D.8.4 and the effect of Unavoidable Delays is described in Section D.8.5.

D.8.2 Avoidable Delays include any delays other than Unavoidable Delays, and include delays that otherwise would be considered Unavoidable Delays but that:

(a) Could have been avoided by the exercise of care, prudence, foresight, and diligence on the part of Contractor or its Subcontractors.

(b) Affect only a portion of the Work and do not necessarily prevent or delay the prosecution of other parts of the Work nor the completion of the whole Work within the Contract Time.

(c) Do not impact activities on the accepted critical path schedule.

(d) Are associated with the reasonable interference of other contractors employed by Owner that do not necessarily prevent the completion of the whole Work within the Contract Time.

D.8.3 Unavoidable Delays include delays other than Avoidable Delays that are:

(a) Caused by any actions of Owner, Owner's Authorized Representative, or any other employee or agent of Owner, or by separate contractor employed by Owner.

(b) Caused by any site conditions which differ materially from what was represented in the Contract Documents or from conditions that would normally be expected to exist and be inherent to the construction activities defined in the Contract Documents. Contractor shall notify Owner's Authorized Representative immediately of differing site conditions before the area has been disturbed. Owner's Authorized Representative will investigate the area and make a determination as to whether or not the conditions differ materially from either the conditions stated in the Contract Documents or those which could reasonably be expected in execution of this particular Contract. If Contractor and Owner's Authorized Representative agree that a differing site condition exists, any additional compensation or additional Contract Time will be determined based on the process set forth in Section D.1.5 for Change Order Work. If Owner's Authorized Representative disagrees that a differing site condition exists and denies Contractor's request for additional compensation or Contract Time, Contractor may proceed to file a Claim under Section D.3, Claims Review Process.

(c) Caused by Force Majeure acts, events or occurrences that could not have been avoided by the exercise of care, prudence, foresight, and diligence on the part of Contractor or its Subcontractors.

(d) Caused by adverse weather conditions. Any adverse weather conditions must be substantiated by documentary evidence that weather conditions were abnormal for the specific time period claimed, could not have been anticipated by Contractor, and adversely impacted the project in a manner that could not be

avoided by rescheduling the Work or by implementing measures to protect against the weather so that the Work could proceed. A rain, windstorm, high water, or other natural phenomenon for the specific locality of the Work, which might reasonably have been anticipated from the previous 10-year historical records of the general locality of the Work, shall not be construed as abnormal. The parties agree that rainfall greater than the following levels cannot be reasonably anticipated: (i) Daily rainfall equal to, or greater than, 0.50 inch during a month when the monthly rainfall exceeds the normal monthly average by twenty-five percent (25 %) or more. (ii) daily rainfall equal to, or greater than, 0.75 inch at any time. The Office of the Environmental Data Service of the National Oceanic and Atmospheric Administration of the U.S. Department of Commerce nearest the Job Site shall be considered the official agency of record for weather information.

D.8.4 Except as otherwise provided in ORS 279C.315, Contractor shall not be entitled to additional compensation or additional Contract Time for Avoidable Delays.

D.8.5 In the event of Unavoidable Delays, based on principles of equitable adjustment, Contractor may be entitled to the following:

(a) Contractor may be entitled to additional compensation or additional Contract Time, or both, for Unavoidable Delays described in Section D.8.3(a) and (b).

(b) Contractor may be entitled to additional Contract Time for Unavoidable Delays described in Section D.8.3(c) and (d).

D.8.6 In the event of any requests for additional compensation or additional Contract Time, or both, as applicable, arising under Section D.8.5 for Unavoidable Delays, other than requests for additional compensation or additional Contract Time for differing site conditions for which a review process is established under Section D.8.3(b), Contractor shall submit a written notification of the delay to Owner's Authorized Representative within two (2) Days of the occurrence of the cause of the delay. This written notification shall state the cause of the potential delay, the project components impacted by the delay, and the anticipated additional Contract Time or the additional compensation, or both, as applicable, resulting from the delay. Within seven (7) Days after the cause of the delay has been mitigated, or in no case more than thirty (30) Days after the initial written notification, Contractor shall submit to Owner's Authorized Representative, a complete and detailed request for additional compensation or additional Contract Time, or both, as applicable, resulting from the delay. If Owner's Authorized Representative denies Contractor's request for additional compensation or adjustment of Contract Time, Contractor may proceed to file a Claim under Section D.7, Claims Review Process. If Contractor does not timely submit the notices required under this Section D.8, then unless otherwise prohibited by law, Contractor's Claim shall be barred.

SECTION E: PAYMENTS

E.1 Schedule of Values

Contractor shall submit, at least ten (10) Days prior to submission of its first application for payment, a schedule of values ("Schedule of Values") for the contracted Work. This schedule will provide a breakdown of values for the contracted Work and will be the basis for progress payments. The breakdown will demonstrate reasonable, identifiable, and measurable components of the Work. Unless objected to by Owner's Authorized Representative, this schedule shall be used as the basis for reviewing Contractor's applications for payment. If objected to by Owner's Authorized Representative, Contractor shall revise the schedule of values and resubmit the same for approval of Owner's Authorized Representative.

E.2 Applications for Payment

E.2.1 Owner shall make progress payments on the Contract monthly as Work progresses. Payments shall be based upon estimates of Work completed and the Schedule of Values. All payments shall be approved by Owner's Authorized Representative. A progress payment shall not be considered acceptance or approval

of any Work or waiver of any defects therein. Payments shall be made within 30 days following Owner's Authorized Representative's approval of Contractor's application for payment.

E.2.2 Contractor shall submit to Owner's Authorized Representative, an application for each payment and, if required, receipts or other vouchers showing payments for materials and labor, including payments to Subcontractors. Contractor shall include, in its application for payment, a schedule of the percentages of the various parts of the Work completed, based on the Schedule of Values which shall aggregate to the payment application total, and shall include, on the face of each copy thereof, a certificate in substantially the following form:

"I, the undersigned, hereby certify that the above bill is true and correct, and the payment therefore, has not been received.

Signed: _____"

E.2.3 In instances when an application for payment is filled out incorrectly, or when there is any defect or impropriety in any submitted application or when there is a good faith dispute, Owner shall so notify Contractor within fifteen (15) Days stating the reason or reasons the application for payment is defective or improper or the reasons for the dispute.

E.2.4 Owner reserves the right to withhold all or part of a payment, or may nullify in whole or part any payment previously made, to such extent as may be necessary in Owner's opinion to protect Owner from loss because of:

(a) Work that is defective and not remedied, or that has been demonstrated or identified as failing to conform to the Contract Documents;

(b) Third party claims filed or evidence reasonably indicating that such claims will likely be filed unless security acceptable to Owner is provided by Contractor;

(c) Failure of Contractor to make payments properly to Subcontractors or for labor, materials or equipment (in which case Owner may issue checks made payable jointly to Owner and such unpaid persons under this provision, or directly to Subcontractors and suppliers at any level under Section C.3.2.1);

(d) Reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Price;

(e) Damage to Owner or another contractor;

(f) Reasonable evidence that the Work will not be completed within the Contract Time required by the Contract, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;

(g) Failure to carry out the Work in accordance with the Contract Documents; or

(h) Assessment of liquidated damages, when withholding is made for offset purposes.

E.3 Payroll Certification Requirement

Payroll certification is required before payments are made on the Contract. Refer to Section C.2 for additional information.

E.4 Retainage

E.4.1 Owner may reserve as retainage from any progress payment an amount not to exceed five (5) percent of the payment. As Work progresses, Owner may reduce the amount of the retainage and may eliminate retainage on any remaining monthly Contract payments after 50 percent of the Work under the Contract is completed if, in Owner's opinion, such Work is progressing satisfactorily.

E.4.2 Any retainage reserved by Owner shall be withheld and released in accordance with ORS 279C.550 to 279C.580.

E.4.3 Additional retainage in the amount of 25% of amounts earned shall be withheld and released in accordance with ORS 279C.845(7) when Contractor fails to file certified statements as required by Section C.2.

E.5 Final Payment

E.5.1 Upon completion of all the Work under this Contract, Contractor shall notify Owner's Authorized Representative, in writing, that Contractor has completed Contractor's part of the Contract and shall request final payment. Upon receipt of such notice Owner's Authorized Representative will inspect the Work, and if acceptable, submit to Owner a recommendation as to acceptance of the completed Work and the final estimate of the amount due Contractor. If the Work is not acceptable, Owner will notify Contractor within fifteen (15) Days of Contractor's request for final payment. Upon approval of this final estimate by Owner, and compliance by Contractor with all applicable provisions under the Contract, Owner shall pay to Contractor all monies due under the provisions of these Contract Documents.

E.5.2 Neither final payment nor any remaining retained percentage shall become due until Contractor submits to Owner's Authorized Representative:

(1) A notarized affidavit/release of liens and claims in a form satisfactory to Owner that states that payrolls, bills for materials and equipment, and other indebtedness connected with the Work have been paid or otherwise satisfied;

(2) A certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least thirty (30) Days' prior written notice has been given to Owner;

(3) Consent of surety, if any, to final payment; and

(4) If required by Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by Owner.

E.5.3 Acceptance of final payment by Contractor, a Subcontractor or material supplier shall constitute a waiver of Claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final application for payment.

SECTION F: JOB SITE CONDITIONS

F.1 Use of Premises

Contractor shall confine equipment, storage of materials and operation of Work to the limits indicated by Contract Documents, law, ordinances, permits or directions of Owner's Authorized Representative. Contractor shall follow Owner's Authorized Representative's instructions regarding use of premises, if any.

F.2 Protection of Workers, Property, and the Public

F.2.1 Contractor shall maintain continuous and adequate protection of all of the Work from damage, and shall protect Owner's Authorized Representative, workers, and property from injury or loss arising in connection with this Contract. Contractor shall remedy acceptably to Owner, any damage, injury, or loss, except such as may be directly due to errors in the Contract Documents or caused by authorized representatives or personnel of Owner. Contractor shall adequately protect adjacent property as provided by law and the Contract Documents.

F.2.2 Contractor shall take all necessary precautions for the safety of all personnel on the Job Site, and shall comply with the Contract Documents and all applicable provisions of federal, state and municipal safety laws and building codes to prevent accidents or injury to persons on, about or adjacent to the premises where the Work is being performed. Contractor shall erect and properly maintain at all times, as required by the conditions and progress of the Work, all necessary safeguards for protection of workers and the public against any hazards created by construction. Owner's Authorized Representative has no responsibility for Job Site safety. Job Site safety is the responsibility of Contractor.

F.2.3 Contractor shall not enter upon private property without first obtaining permission from the property owner or its duly authorized representative. Contractor shall be responsible for the preservation of all public and private property along and adjacent to the Work contemplated under the Contract and shall use every precaution necessary to prevent damage thereto. In the event Contractor damages any property, Contractor shall at once notify the property owner and make, or arrange to make, full restitution. Contractor shall immediately and in writing, report to Owner's Authorized Representative, all pertinent facts relating to such property damage and the ultimate disposition of the claim for damage.

F.2.4 Contractor is responsible for protection of adjacent work areas including impacts brought about by activities, equipment, labor, utilities, and materials on the Job Site.

F.2.5 Contractor shall at all times direct its activities in such a manner as to minimize adverse effects on the environment. Handling of all materials will be conducted so no release will occur that may pollute or become hazardous.

F.2.6 In an emergency affecting the safety of life or of the Work or of adjoining property, Contractor, without special instruction or authorization from Owner's Authorized Representative, shall act reasonably to prevent threatened loss or injury, and shall so act, without appeal, if instructed by Owner's Authorized Representative. Any compensation claimed by Contractor on account of emergency work shall be determined in accordance with Section D.

F.3 Clean Up

From time to time as may be ordered by Owner, Contractor shall, at its own expense, clean up and remove all refuse and unused materials of any kind resulting from the Work. If Contractor fails to do so within twenty-four hours after notification by Owner, the work may be done by others and the cost charged to Contractor and deducted from payment due to Contractor.

F.4 Environmental Contamination

F.4.1 Contractor will be held responsible for and shall indemnify, defend (with counsel of Owner's choice) and hold harmless Owner from and against any costs, expenses, damages, claims, and causes of action, (including attorney fees), or any of them, resulting from all spills, releases, discharges, leaks and disposal of environmental pollution, including storage, transportation, and handling during the performance of the Contract which occur as a result of, or are contributed by, the negligence or actions of Contractor or its personnel, agents, or Subcontractors or any failure to perform in accordance with the Contract Documents (except to the extent otherwise void under ORS 30.140). Nothing in this Section F.4 shall limit Contractor's responsibility for obtaining insurance coverages that may be otherwise required under the Contract Documents, and Contractor shall take no action that would void or impair such coverages.

F.4.2 Contractor agrees to promptly dispose of such spills, releases, discharge or leaks to the satisfaction of Owner and proper regulatory agencies in a manner that complies with applicable federal, state, and local laws and regulations. Cleanup shall be at no cost to Owner and be performed by properly qualified personnel.

F.4.3 Contractor shall obtain Owner's written consent prior to bringing onto the Job Site any: (i) environmental pollutants, or (ii) hazardous substances or materials, as the same or reasonably similar terms are used in any applicable federal, state, or local statutes, rules or ordinances.

F.4.4 Contractor shall report all reportable quantity releases to applicable federal, state, and local regulatory and emergency response agencies. Reportable quantities are found in 40 CFR Part 302, Table 302.4 for hazardous substances and in OAR 340-142-0050 for all products addressed therein. Upon discovery, regardless of quantity, Contractor must telephonically report all releases to Owner.

F.5 Force Majeure

A party to this Contract shall not be held responsible for delay or default due to Force Majeure acts, events or occurrences unless they could have been avoided by the exercise of reasonable care, prudence, foresight, and diligence by that party. Owner may terminate this Contract upon written notice after determining that delay or default caused by Force Majeure acts, events or occurrences will reasonably prevent successful performance of the Contract.

SECTION G: INDEMNITY, BONDING, AND INSURANCE

G.1 Responsibility for Damages/Indemnity

G.1.1 Contractor shall be responsible for all damage to property, injury to persons, and loss, expense, inconvenience, and delay that may be caused by, or result from, the carrying out of the Work to be done under this Contract, or from any act, omission or neglect of Contractor, its Subcontractors, personnel, or agents.

G.1.2 To the fullest extent permitted by law, Contractor shall indemnify, defend (with counsel approved by Owner) and hold harmless Owner, Owner's Authorized Representative, Architect/Engineer, Architect/Engineer's consultants, and their respective officers, directors, agents, employees, partners, members, stockholders and affiliated companies (collectively "Indemnitees") from and against all liabilities, damages, losses, claims, expenses (including reasonable attorney fees), demands and actions of any nature whatsoever which arise out of, result from or are related to, (a) any damage, injury, loss, expense, inconvenience or delay arising out of the acts or omissions of Contractor, its Subcontractors, personnel, or agents, (b) any accident or occurrence which happens or is alleged to have happened in or about the Job Site or any place where the Work is being performed, or in the vicinity of either, at any time prior to the time the Work is fully completed in all respects, (c) any failure of Contractor to observe or perform any duty or obligation under the Contract Documents which is to be observed or performed by Contractor, or any breach of any agreement, representation or warranty of Contractor contained in the Contract Documents or in any subcontract, (d) the negligent acts or omissions of Contractor, a Subcontractor or anyone directly or indirectly employed by them or any one of them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder (except to the extent otherwise void under ORS 30.140), and (e) any lien filed upon the project or bond claim in connection with the Work.

G.1.3 Neither Contractor nor any attorney engaged by Contractor shall defend the claim in the name of Owner or any department or office of Owner, nor purport to act as legal representative of Owner or any of its departments or offices without first receiving from Owner's legal counsel authority to act as legal counsel for Owner, nor shall Contractor settle any claim on behalf of Owner without the approval of Owner's legal counsel. Owner may, at its election and expense, assume its own defense and settlement.

G.2 Performance and Payment Security; Public Works Bond

G.2.1 When the Contract Price is $100,000 or more (or $50,000 or more in the case of Contracts for highways, bridges and other transportation projects), Contractor shall furnish and maintain in effect at all times during

the Contract Period, a performance bond in a sum equal to the Contract Price, and a separate payment bond also in a sum equal to the Contract Price. The bonds may be required if the Contract Price is less than the above thresholds, if required by the Contract Documents.

G.2.2 Bond forms furnished by Owner and notarized by awarded Contractor's surety company authorized to do business in Oregon are the only acceptable forms of performance and payment security, unless otherwise specified in the Contract Documents.

G.2.3 Before execution of the Contract, Contractor shall file with the Construction Contractors Board, and maintain in full force and effect, the separate public works bond required by Oregon Laws 2005, Chapter 360, and OAR 839-025-0015, unless otherwise exempt under those provisions. Contractor shall also include in every subcontract a provision requiring the Subcontractor to have a public works bond filed with the Construction Contractors Board before starting Work, unless otherwise exempt, and shall verify that the Subcontractor has filed a public works bond before permitting the Subcontractor to start Work.

G.3 Insurance

G.3.1 Primary Coverage: Insurance carried by Contractor under this Contract shall be the primary coverage and non-contributory with any other insurance and self-insurance, and Owner's insurance is excess and solely for damages or losses for which Owner is responsible. The coverages indicated are minimums unless otherwise specified in the Contract Documents.

G.3.2 Workers' Compensation: All employers, including Contractor, that employ subject workers who work under this Contract in the State of Oregon shall comply with ORS 656.017 and provide the required Workers' Compensation coverage, unless such employers are exempt under ORS 656.126. Contractor shall ensure that each of its Subcontractors complies with these requirements. Contractor shall require proof of such Workers' Compensation by receiving and keeping on file a certificate of insurance from each Subcontractor or anyone else directly employed by either Contractor or its Subcontractors. The parties hereto specifically agree that Owner shall not be liable for, responsible for, or in any way or manner be required to provide Workers' Compensation benefits for Contractor or Contractor's employees. Contractor knowingly waives any rights, as against Linn County, under the Workers' Compensation Law.

G.3.3 Builder's Risk – New Construction: If the Work includes new construction, Contractor shall obtain and keep in effect Builder's Risk insurance on an all risk form, including earthquake and flood, for an amount equal to the full amount of the Contract. Any deductible shall not exceed $50,000 for each loss, except the earthquake and flood deductible shall not exceed 2 percent of each loss or $50,000, whichever is more. The policy will include as loss payees Owner, Contractor, and its Subcontractors as their interests may appear.

G.3.4 Builder's Risk – Installation Floater: For other than new construction Contractor shall obtain and keep in effect during the term of this Contract, a Builder's Risk Installation Floater for coverage of Contractor's labor, materials and equipment to be used for completion of the Work performed under this Contract. The minimum amount of coverage to be carried shall be equal to the full amount of the Contract. This insurance shall include as loss payees Owner, Contractor, and its Subcontractors as their interests may appear.

G.3.5 General Liability: Contractor shall obtain and at all times keep in effect, commercial general liability insurance covering activities and operations of Contractor. Commercial general liability shall cover bodily injury, death, and property damage, and shall include personal injury liability, products and completed operation insurance. Such liability insurance, whatever the form, shall carry at least liability coverage sufficient to meet the requirements set forth in the Oregon Tort Claims Act as codified in ORS 30.260 to 30.300.

G.3.6 Automobile Liability: Contractor shall maintain Automobile Liability Insurance covering all owned, non-owned, and hired vehicles used in the performance of services under this Contract. This coverage may be written in combination with the Commercial General Liability Insurance (with separate limits for "Commercial

General Liability" and "Automobile Liability"). Such liability insurance, whatever the form, shall carry at least liability coverage sufficient to meet the requirements set forth in the Oregon Tort Claims Act as codified in ORS 30.260 to 30.300.

G.3.7 General Provisions: All insurance policies shall be written on an occurrence basis and be in effect for the term of this Contract. Written authorization from Owner is required for any insurance policy written on a claims made basis. Any insurance policy authorized to be written on a claims made basis shall be in effect for the term of this Contract plus for three (3) years after the termination of this Contract. Insurance coverage shall apply on a primary and non-contributory basis. Prior to commencing services, Contractor shall furnish current Certificate(s) of Insurance for all required insurance to Owner. The insurance must be provided by an insurance company or entity that is authorized to transact the business of insurance and issue coverage in the State of Oregon, with an AM best rating of at least A-. The Certificate shall provide, by policy endorsement, if necessary, that Owner, it's officers, employees, agents, and volunteers are additional insureds with respect to Contractor's services provided under this Contract and that there shall be no cancellation, termination, non-renewal, material change to, potential exhaustion of aggregate limits, or reduction of limits of the required insurance without at least 30 days written notice from Contractor or its insurer to Owner. If requested, Contractor shall provide complete copies of insurance policies to Owner.

G.3.6 Policy Changes: In the event of unilateral cancellation by the insurance company of an insurance policy referred to in this Section, Contractor shall immediately notify Owner orally and in writing within three (3) Days.

SECTION H: SCHEDULE OF WORK

H.1 Contract Period

H.1.1 Time is of the essence on this Contract. Contractor shall at all times carry on the Work diligently, without delay and punctually fulfill all requirements herein. Contractor shall commence Work on the Job Site within fifteen (15) Days of Notice to Proceed, unless directed otherwise.

H.1.2 Unless specifically extended by Change Order, all Work shall be complete by the date contained in the Contract Documents. Owner shall have the right to accelerate the completion date of the Work, which may require the use of overtime. Such accelerated Work schedule shall be an acceleration in performance of Work under Section D.3.1 and shall be subject to the Change Order process of Section D.3.

H.1.3 Owner shall not waive any rights under the Contract by permitting Contractor to continue or complete in whole or in part the Work after the date described in Section H.1.2 above.

H.2 Schedule

Contractor shall provide, by or before the preconstruction conference, a detailed schedule for review and acceptance by Owner. The submitted schedule must illustrate Work by significant project components, significant labor trades, long lead items, broken down by building and/or floor where applicable. Schedules lacking adequate detail, or unreasonably detailed, will be rejected. Included within the schedule are the following: Notice to Proceed, Substantial Completion, and Final Completion. Schedules should be updated monthly and submitted with the monthly payment application. Acceptance of the Schedule by Owner does not constitute agreement by Owner, as to Contractor's sequencing, means, methods, or allocated Contract Time. Any positive difference between Contractor's scheduled completion and the Contract completion date is float owned by Owner. Owner reserves the right to negotiate the float if it is deemed to be in Owner's best interest to do so. In no case shall Contractor make a request for additional compensation for delays if the Work is completed within the Contract Time but after Contractor's scheduled completion.

H.3 Partial Occupancy or Use

Owner may occupy or use any completed or partially completed portion of the Job Site at any stage, provided such occupancy or use is consented to by public authorities having jurisdiction over the Work. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided Owner and Contractor have

reasonably accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, insurance or self-insurance, maintenance, heat, utilities, and damage to the Work, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents with respect to such portion of the Work. Approval by Contractor to partial occupancy or use shall not be unreasonably withheld. Immediately prior to such partial occupancy or use, Owner and Contractor shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work. Partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

SECTION I: CORRECTION OF WORK

I.1 Correction of Work before Final Payment

Contractor warrants to Owner that materials and equipment furnished under the Contract will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects, and that the Work will conform to the requirements of the Contract Documents. Work failing to conform to these requirements shall be deemed defective. Contractor shall promptly remove from the premises and replace all defective materials and equipment as determined by Owner's Authorized Representative, whether incorporated in the Work or not. Removal and replacement shall be without loss or expense to Owner, and Contractor shall bear the cost of repairing all Work destroyed or damaged by such removal or replacement. Contractor shall be allowed a period of no longer than thirty (30) Days after Substantial Completion for completion of defective (Punch List) work, unless otherwise agreed. At the end of that period, or earlier if requested by Contractor, Owner's Authorized Representative, or Architect/Engineer when applicable, shall arrange for inspection of the Work. Should the Work not be complete, and all corrections made, the costs for all subsequent re-inspections shall be borne by Contractor. If Contractor fails to complete the Punch List work within the above time period, Owner may perform such work and Contractor shall reimburse Owner all costs of the same within ten (10) days after demand without affecting Contractor's obligations.

I.2 Warranty Work

I.2.1 Neither the final certificate of payment nor any provision of the Contract Documents shall relieve Contractor from responsibility for defective Work and, unless a longer period is specified, Contractor shall correct all defects that appear in the Work within a period of one year from the date of issuance of the written notice of Substantial Completion by Owner except for latent defects which will be remedied by Contractor at any time they become apparent. Owner shall give Contractor notice of defects with reasonable promptness. Contractor shall perform such warranty work within a reasonable time after Owner's demand. If Contractor fails to complete the warranty work within such period as Owner determines reasonable, or at any time in the event of warranty work consisting of emergency repairs, Owner may perform such work and Contractor shall reimburse Owner all costs of the same within ten (10) Days after demand without affecting Contractors obligations.

I.2.2 This provision does not negate guarantees or warranties for periods longer than one year including without limitation such guarantees or warranties required by other sections of the Contract Documents for specific installations, materials, processes, equipment or fixtures.

I.2.3 In addition to Contractor's warranty, manufacturer's warranties shall pass to Owner and shall not take effect until affected Work has been accepted in writing by Owner's Authorized Representative.

I.2.4 Contractor shall remove from the Job Site portions of the Work which are not in accordance with the requirements of the Contract Documents and are neither corrected by Contractor nor accepted by Owner.

I.2.6 If Owner prefers to accept Work which is not in accordance with the requirements of the Contract Documents, Owner may do so instead of requiring its removal and correction, in which case the Contract

Price will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

I.2.5 Nothing contained in this Section I.2 shall be construed to establish a period of limitation with respect to other obligations which Contractor might have under the Contract Documents. Establishment of the period for correction of Work as described in this Section I.2 relates only to the specific obligation of Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish Contractor's liability with respect to Contractor's obligations other than specifically to correct the Work.

SECTION J: SUSPENSION AND/OR TERMINATION OF WORK

J.1 Owner's Right to Suspend the Work

J.1.1 Owner and/or Owner's Authorized Representative has the authority to suspend portions or all of the Work due to the following causes:

(a) Failure of Contractor to correct unsafe conditions;

(b) Failure of Contractor to carry out any provision of the Contract;

(c) Failure of Contractor to carry out orders;

(d) Conditions, in the opinion of Owner's Authorized Representative, which are unsuitable for performing the Work;

(e) Time required to investigate differing site conditions;

(f) Any reason considered to be in the public interest.

J.1.2 Owner shall notify Contractor and Contractor's Surety in writing of the effective date and time of the suspension and Owner shall notify Contractor and Contractor's surety in writing to resume Work.

J.1.3 During the period of the suspension, Contractor is responsible to continue maintenance at the project just as if the Work were in progress. This includes, but is not limited to, protection of completed Work, maintenance of access, protection of stored materials, temporary facilities, and clean-up.

J.1.4 When the Work is recommenced after the suspension, Contractor shall replace or renew any Work damaged during the suspension, remove any materials or facilities used as part of temporary maintenance, and complete the project in every respect as though its prosecution had been continuous and without suspension.

J.2 Compensation for Suspension

Depending on the reason for suspension of the Work, Contractor or Owner may be due compensation by the other party. If the suspension was required due to acts or omissions of Contractor, Owner may assess Contractor actual costs of the suspension in terms of administration, remedial work by Owner's forces or another contractor to correct the problem associated with the suspension, rent of temporary facilities, and other actual costs related to the suspension. If the suspension was caused by acts or omissions of Owner, Contractor shall be due compensation which shall be defined using Section D, Changes in Work. If the suspension was required through no fault of Contractor or Owner, neither party owes the other for the impact.

J.3 Owner's Right to Terminate Contract

J.3.1 Termination for Convenience: Owner may terminate this Contract in whole or in part whenever Owner determines that termination of the Contract is in the best interest of Owner. Owner will provide Contractor with written notice of a termination for convenience at least thirty (30) calendar days before the intended termination date. After such notice, Contractor shall provide Owner with immediate and peaceful possession of the Job Site. Such termination shall be without liability or penalty, and in no circumstance shall Contractor be entitled to lost profits for Work not performed due to termination. No termination for convenience shall prejudice any obligations or liabilities of either party already accrued prior to the effective date of termination.

J.3.2 Termination for Cause: Owner may immediately terminate this Contract without liability or penalty for any of the following causes by the mailing of written notice to the Contractor at the Contractor's address provided herein, specifying the cause:

(a) Contractor breaches any of the provisions of this Contract. Contractor shall be liable for any and all damages suffered by Owner as the result of Contractor's breach of Contract, including, but not limited to, incidental and consequential damages, as provided in ORS 72.7110 to 72.7170. In the event of breach for unsatisfactory performance or nonperformance, the Linn County Board of Commissioners is the sole judge of Contractor's unsatisfactory performance or nonperformance.

(b) Contractor no longer holds all licenses or certificates that are required to perform the services required under this Contract.

(c) Owner lacks lawful funding, appropriations, limitations, or other expenditure authority at levels sufficient to allow Owner, in the exercise of its reasonable discretion, to pay for Contractor's services; or

(d) Federal, state, or local laws, regulations, or guidelines are modified or interpreted in such a way that the services provided under this Contract are prohibited or Owner is prohibited from paying for such services from the planned funding source.

J.4 Action upon Termination

Upon receiving a notice of termination, and except as directed otherwise by Owner, Contractor shall immediately cease placing further subcontracts or orders for materials, services, or facilities. In addition, Contractor shall terminate all subcontracts or orders to the extent they relate to the Work terminated and, with the prior written approval of Owner, settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts and orders. As directed by Owner, Contractor shall, upon termination, transfer title and deliver to Owner all Record Documents, information, and other property that, if the Contract had been completed, would have been required to be furnished to Owner.

SECTION K: CONTRACT CLOSE-OUT

K.1 Record Documents

As a condition of final payment (refer also to section E.5), Contractor shall comply with the following: Contractor shall provide to Owner's Authorized Representative, Record Documents of the entire project. Record Documents shall depict the project as constructed and shall reflect each and every change, modification, and deletion made during the construction. Record Documents are part of the Work and shall be provided prior to Owner's issuance of final payment. Record Documents include all modifications to the Contract Documents unless otherwise directed.

K.2 Operation and Maintenance Manuals

As part of the Work, and where applicable, Contractor shall submit two completed operation and maintenance manuals ("O & M Manuals") for review by Owner's Authorized Representative prior to submission of any final payment request. No final payments will be made by Owner until the O & M Manuals have been received. The O &

M Manuals shall contain a complete set of all submittals, all product data as required by the specifications, training information, phone list of consultants, manufacturers, installer and suppliers, manufacturer's printed data, record and shop drawings, schematic diagrams of systems, appropriate equipment indices, warranties and bonds. Owner's Authorized Representative shall review and return one O & M Manual for any modifications or additions required. Prior to submission of its final pay request, Contractor shall deliver three (3) complete and approved sets of O & M Manuals to Owner's Authorized Representative.

K.3 Affidavit/Release of Liens and Claims

As a condition of final payment, Contractor shall submit to Owner's Authorized Representative a notarized affidavit/release of liens and claims form, in a form satisfactory to Owner, which states that all Subcontractors and suppliers have been paid in full, all disputes with property owners have been resolved, all obligations on the project have been satisfied, all monetary claims and indebtedness have been paid, and that, to the best of Contractor's knowledge, there are no claims of any kind outstanding against the project. Contractor shall indemnify, defend (with counsel of Owner's choice) and hold harmless Owner from all claims for labor and materials finished under this Contract. Contractor shall furnish complete and valid releases or waivers, satisfactory to Owner, of all liens arising out of or filed in connection with the Work.

K.4 Completion Notices

K.4.1 Contractor shall provide Owner notice of both Substantial and Final Completion. The certificate of Substantial Completion shall state the date of Substantial Completion, the responsibilities of Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and the time within which Contractor shall finish all items on the Punch List accompanying the Certificate. Both completion notices must be signed by Contractor and Owner to be valid. Owner shall provide the final signature on the notices. The notices shall take effect on the date they are signed by Owner.

K.4.2 Substantial Completion of a facility with operating systems (e.g., mechanical, electrical, HVAC) shall be that degree of completion that has provided a minimum of thirty (30) continuous Days of successful, trouble-free operation, which period shall begin after all performance and acceptance testing has been successfully demonstrated to Owner's Authorized Representative. All equipment contained in the Work, plus all other components necessary to enable Owner to operate the facility in the manner that was intended, shall be complete on the Substantial Completion date. Contractor may request that a Punch List be prepared by Owner's Authorized Representative with submission of the request for the Substantial Completion notice.

K.5 Training

As part of the Work, and prior to submission of the request for final payment, Contractor shall schedule with Owner's Authorized Representative, training sessions for all equipment and systems, as required in the individual specifications sections. Contractor shall schedule training sessions at least two weeks in advance of the date of training to allow Owner personnel adequate notice. The O & M Manual shall be used as a basis for training. Training shall be a formal session, held after the equipment and/or system is completely installed and operational in its normal operating environment.

K.6 Extra Materials

As part of the Work, Contractor shall provide spare parts, extra maintenance materials, and other materials or products in the quantities specified in the specifications, prior to final payment. Delivery point for extra materials shall be designated by Owner's Authorized Representative.

K.7 Environmental Clean-up

As part of the Final Completion notice, or as a separate written notice submitted with or before the notice of Final Completion, Contractor shall notify Owner that all environmental pollution clean-up performed as a part of this Contract has been disposed of in accordance with all applicable rules, regulations, laws, and statutes of all agencies having jurisdiction over such environmental pollution. The notice shall reaffirm the indemnification given under Section F.4 above.

K.8 Certificate of Occupancy

Contractor shall not be granted Final Completion or receive final payment if Owner has not received an unconditioned certificate of occupancy from the appropriate state and/or local building officials, unless failure to obtain an unconditional certificate of occupancy is due to the fault or neglect of Owner.

K.9 Other Contractor Responsibilities

Contractor shall be responsible for returning to Owner all items issued during construction such as keys, security passes, Job Site admittance badges, and all other pertinent items. When applicable, Contractor shall be responsible for notifying the appropriate utility companies to transfer utility charges from Contractor to Owner. The utility transfer date shall not be before Substantial Completion and may not be until Final Completion, if Owner does not take beneficial use of the facility and Contractor's forces continue with the Work.

K.10 Survival

All warranty and indemnification provisions of this Contract, and all of Contractor's other obligations under this Contract that are not fully performed by the time of Final Completion or termination, shall survive Final Completion or any termination of the Contract.

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EXHIBIT H

SPECIFICATIONS

PROJECT MANUAL

Evidence Storage Building

Linn-County Sheriff's Department

Project Address:
1050 SE Jackson Street
Albany, Oregon 97321

Varitone Architecture LLC
231 SW 2nd Ave.
PO Box 3420
Albany, Oregon 97321

DOCUMENT 000101 - PROJECT TITLE PAGE

1.1 PROJECT MANUAL VOLUME **1**

A. Linn County Sheriff's Office – Evidence Storage.

B. Micah Smith, Lieutenant.

C. Albany, Oregon.

D. Varitone Architecture and Interior Design

E. 231 2nd Ave SW

F. Albany, OR 97321

G. Phone: 541-497-2954

H. Fax: N/A

I. Website: https://www.varitonearchitecture.com/

J. Issued: 12/22/17

END OF DOCUMENT 000101

SPECIFICATIONS

VOLUME 1

DIVISION 01 - GENERAL REQUIREMENTS

DIVISION 02 - EXISTING CONDITIONS

DIVISION 03 - CONCRETE

DIVISION 05 - METALS

DIVISION 06 - WOOD, PLASTICS, AND COMPOSITE

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

DIVISION 08 - OPENINGS

DIVISION 09 - FINISHES

DOCUMENT 001116 - INVITATION TO BID

1.1 PROJECT INFORMATION

A. Notice to Bidders: **Qualified** bidders are invited to submit bids for Project as described in this Document according to the Instructions to Bidders.

B. Project Identification: Linn County Sheriff's Department – Evidence Storage

1. Project Location: 1115 Jackson St SE. Albany, OR 97322

C. Owner: Linn County Sheriff's Department

1. Owner's Representative: Micah Smith, Lieutenant.

D. Architect: Varitone Architecture and Interior Design. Christina Larson, 541-497-2954

E. Construction Manager: TBD

F. Project Description: Project consists of interior remodel of the evidence storage building.

G. Construction Contract: Bids will be received for the following Work:

1. General Contract (all trades).
2. Multiple Contract Project consisting of the following prime contracts:

a. General Building Construction.
b. Plumbing Construction.
c. Mechanical Construction.
d. Electrical Construction.
e. **Prime contract to be determined**.

1.2 BID SUBMITTAL AND OPENING

A. Owner will receive sealed bids until the bid time and date at the location indicated below. Owner will consider bids prepared in compliance with the Instructions to Bidders issued by Owner, and delivered as follows:

1. Bid Date: Per owners' representative.
2. Bid Time: **2:00 p.m.**, local time.
3. Location: Per Owner's Representative direction.

B. Bids will be thereafter **privately opened**.

1.3 DOCUMENTS

A. Online Procurement and Contracting Documents: Obtain access after 12/22/17 by contacting **Architect**. Online access will be provided to **all registered bidders and suppliers**.

1.4 BIDDER'S QUALIFICATIONS

A. Bidders must be prequalified by Owner.

B. Bidders must be properly licensed under the laws governing their respective trades and be able to obtain insurance and bonds required for the Work. **Insurance in a form acceptable to Owner will be required of the successful Bidder.**

END OF DOCUMENT 001116

DOCUMENT 002113 - INSTRUCTIONS TO BIDDERS

1.1 INSTRUCTIONS TO BIDDERS

A. AIA Document A701, "Instructions to Bidders," is hereby incorporated into the Procurement and Contracting Requirements by reference.

1. A copy of AIA Document A701, "Instructions to Bidders," is bound in this Project Manual.

END OF DOCUMENT 002113

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for substitutions.

B. Related Requirements:

1. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.2 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.
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 three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. 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 OSSC 2019
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.

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

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: Not allowed **unless otherwise indicated**.

C. Substitutions for Convenience: Architect will consider requests for substitution if received within **60** days after **commencement of the Work**. 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 012500

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

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

1.2 SCHEDULE OF VALUES

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

1. Coordinate line items in the schedule of values with items required to be indicated as separate activities in Contractor's construction schedule.
2. Submit the schedule of values to Architect **through Construction Manager** at earliest possible date, but no later than **seven** days before the date scheduled for submittal of initial Applications for Payment.

B. 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. Arrange schedule of values consistent with format of **AIA Document G70**.
2. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Provide multiple line items for principal subcontract amounts in excess of **five** percent of the Contract Sum.
3. 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.

4. 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.
5. Overhead Costs: Include total cost and proportionate share of general overhead and profit for each line item.
6. Overhead Costs: Show cost of temporary facilities and other major cost items that are not direct cost of actual work-in-place as separate line items.
7. Closeout Costs. 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.
8. Schedule of Values Revisions: Revise the schedule of values when Change Orders or Construction Change Directives result in a change in the Contract Sum. Include at least one separate line item for each Change Order and Construction Change Directive.

1.3 APPLICATIONS FOR PAYMENT

A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Architect **and Construction Manager** and paid for by Owner.

B. 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.

C. Payment Application Times: Submit Application for Payment to Architect by the 20 of the month. The period covered by each Application for Payment is one month, ending on the **last day of the month**.

1. Submit draft copy of Application for Payment **seven** days prior to due date for review by Architect.

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

E. 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.

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.

F. Transmittal: Submit **three** signed and notarized original copies of each Application for Payment to **Architect** by a method ensuring receipt **within 24 hours**. One copy shall include waivers of lien and similar attachments if required.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

G. 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. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
5. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.

H. 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. Contractor's construction schedule (preliminary if not final).
4. Products list (preliminary if not final).
5. Sustainable design action plans, including preliminary project materials cost data.
6. Schedule of unit prices.
7. Submittal schedule (preliminary if not final).
8. List of Contractor's staff assignments.
9. List of Contractor's principal consultants.
10. Copies of building permits.
11. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
12. Initial progress report.
13. Report of preconstruction conference.
14. Certificates of insurance and insurance policies.
15. Performance and payment bonds.
16. Data needed to acquire Owner's insurance.

I. 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 Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

J. 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.
5. AIA Document G706A.
6. AIA Document G707.
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 012900

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. General coordination procedures.
2. Coordination drawings.
3. RFIs.
4. Digital project management procedures.
5. Project meetings.

B. Related Requirements:

1. Section 011200 "Multiple Contract Summary" for a description of the division of work among separate contracts and responsibility for coordination activities not in this Section.
2. Section 017300 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
3. Section 019113 "General Commissioning Requirements" for coordinating the Work with Owner's Commissioning Authority.

1.3 DEFINITIONS

A. BIM: Building Information Modeling.

B. RFI: Request for Information. Request from Owner, **Construction Manager,** Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

1.4 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:

1. Name, address, telephone number, and email address 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.

1.5 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. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities **and scheduled 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.

1.6 COORDINATION DRAWINGS

A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely indicated 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. Indicate dimensions shown on Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternative 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. Supplement plan drawings with section drawings where required to adequately represent the Work.

2. Plenum Space: Indicate sub-framing for support of ceiling and wall systems, mechanical and electrical equipment, and related Work. Locate components within plenums to accommodate layout of light fixtures and other components indicated on Drawings. Indicate areas of conflict between light fixtures and other components.
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 in general the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility.

C. Coordination Digital Data Files: Prepare coordination digital data files according to the following requirements:

1. File Preparation Format: Same digital data software program, version, and operating system as original Drawings.
2. File Preparation Format: **DWG**, Version 2019 operating in **Microsoft Windows** operating system.
3. File Submittal Format: Submit or post coordination drawing files using **format same as file preparation format**
4. Architect will furnish Contractor one set of digital data files of Drawings for use in preparing coordination digital data files.

    a. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Drawings.
    b. Digital Data Software Program: Drawings are available in DWG 2019
    c. Contractor shall execute a data licensing agreement in the form of **AIA Document C106**

1.7 REQUEST FOR INFORMATION (RFI)

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

1. Architect will return without response those RFIs submitted to Architect by other entities controlled by Contractor.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

1. Project name.
2. Project number.
3. Date.
4. Name of Contractor.
5. Name of Architect
6. RFI number, numbered sequentially.

7. RFI subject.
8. Specification Section number and title and related paragraphs, as appropriate.
9. Drawing number and detail references, as appropriate.
10. Field dimensions and conditions, as appropriate.
11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
12. Contractor's signature.
13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.

C. RFI Forms: **Form bound in Project Manual**, or **Software-generated form with substantially the same content as indicated above, acceptable to Architect**.

D. Architect's Action: Architect **and Construction Manager** will review each RFI, determine action required, and respond. Allow **seven** 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 Contractor-generated RFIs will be returned without action:

   a. Requests for approval of submittals.
   b. Requests for approval of substitutions.
   c. Requests for approval of Contractor's means and methods.
   d. Requests for coordination information already indicated in the Contract Documents.
   e. Requests for adjustments in the Contract Time or the Contract Sum.
   f. Requests for interpretation of Architect's actions on submittals.
   g. Incomplete RFIs or inaccurately prepared RFIs.

2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt by Architect of additional information.
3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 012600 "Contract Modification Procedures."

   a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within **10** days of receipt of the RFI response.

E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log **weekly**. **Include the following:**

1. Project name.
2. Name and address of Contractor.
3. Name and address of Architect.
4. RFI number including RFIs that were returned without action or withdrawn.
5. RFI description.
6. Date the RFI was submitted.
7. Date Architect's response was received.

F. 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.

1.8 DIGITAL PROJECT MANAGEMENT PROCEDURES

A. Architect's Data Files Not Available: Architect will not provide Architect's **CAD drawing** digital data files for Contractor's use during construction.

B. Use of Architect's Digital Data Files: Digital data files of Architect's **CAD drawings** will be provided by Architect for Contractor's use during construction.

1. Digital data files may be used by Contractor in preparing coordination drawings, Shop Drawings, and Project record Drawings.
2. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Contract Drawings.
3. Digital Drawing Software Program: Contract Drawings are available in **CAD 2019, Windows operating system.**
4. Contractor shall execute a data licensing agreement in the form of Agreement included in this project manual **Agreement.**

    a. Subcontractors, and other parties granted access by Contractor to Architect's digital data files shall execute a data licensing agreement in the form of **Agreement included in this Project Manual**.
5. The digital data files will be furnished for each appropriate discipline by request only:

C. Web-Based Project Software: **Use Construction Manager's** web-based Project software site for purposes of hosting and managing Project communication and documentation until Final Completion.

1. Web-based Project software site includes, at a minimum, the following features:

    a. Compilation of Project data, including Contractor, subcontractors, Architect, architect's consultants, Owner, and other entities involved in Project. Include names of individuals and contact information.
    b. Access control for each entity for each workflow process, to determine entity's digital rights to create, modify, view, and print documents.
    c. Document workflow planning, allowing customization of workflow between project entities.
    d. Creation, logging, tracking, and notification for Project communications required in other Specification Sections, including, but not limited to, RFIs, submittals, Minor Changes in the Work, Construction Change Directives, and Change Orders.
    e. Track status of each Project communication in real time, and log time and date when responses are provided.
    f. Procedures for handling PDFs or similar file formats, allowing markups by each entity. Provide security features to lock markups against changes once submitted.
    g. Processing and tracking of payment applications.
    h. Processing and tracking of contract modifications.
    i. Creating and distributing meeting minutes.
    j. Document management for Drawings, Specifications, and coordination drawings, including revision control.
    k. Management of construction progress photographs.
    l. Mobile device compatibility, including smartphones and tablets.
    m. <**Insert description of software feature**>.
2. At completion of Project, provide digital archive in format that is readable by common desktop software applications in format acceptable to Architect. Provide data in locked format to prevent further changes.
3. Provide **one of** the following web-based Project software packages under their current published licensing agreements:

a. Autodesk;
b. Corecon Technologies, Inc.
c. Meridian Systems; Prolog.
d. Newforma, Inc.
e. Procore Technologies, Inc.
f. Viewpoint, Inc.; Viewpoint for Project Collaboration.
g. Other approved by Architect.

D. PDF Document Preparation: Where PDFs are required to be submitted to Architect, prepare 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.
3. Certifications: Where digitally submitted certificates and certifications are required, provide a digital signature with digital certificate on where indicated.

1.9 PROJECT MEETINGS

A. General: **Contractor will schedule and conduct** meetings and conferences at Project site unless otherwise indicated.

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.

1. Attendees: Authorized representatives of Owner **, Construction Manager,** 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. Responsibilities and personnel assignments.
b. Tentative construction schedule.
c. Phasing.
d. Critical work sequencing and long lead items.
e. Designation of key personnel and their duties.
f. Lines of communications.
g. Use of web-based Project software.
h. Procedures for processing field decisions and Change Orders.
i. Procedures for RFIs.
j. Procedures for testing and inspecting.
k. Procedures for processing Applications for Payment.
l. Distribution of the Contract Documents.
m. Submittal procedures.
n. Sustainable design requirements.
o. Preparation of Record Documents.
p. Use of the premises **and existing building**.
q. Work restrictions.
r. Working hours.
s. Owner's occupancy requirements.
t. Responsibility for temporary facilities and controls.
u. Procedures for moisture and mold control.
v. Procedures for disruptions and shutdowns.

w. Construction waste management and recycling.
x. Parking availability.
y. Office, work, and storage areas.
z. Equipment deliveries and priorities.
aa. First aid.
bb. Security.
cc. Progress cleaning.

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

C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity when required by other sections and when required for 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. Sustainable design requirements.
i. Review of mockups.
j. Possible conflicts.
k. Compatibility requirements.
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.

D. Progress Meetings: **Construction Manager will conduct** progress meetings at **regular** intervals.

1. Coordinate dates of meetings with preparation of payment requests.
2. Attendees: In addition to representatives of Owner, **Construction Manager,** and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

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

        1) Review schedule for next period.

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

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

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

    a. 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 013100

SECTION 013200 - 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. Section 011200 "Multiple Contract Summary" for preparing a combined Contractor's Construction Schedule.

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. 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.

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

D. Event: The starting or ending point of an activity.

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. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

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 file.
3. **Two** paper copies, of sufficient size to display entire period or schedule, as required.

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 digital copy of schedule, using software indicated, and labeled to comply with requirements for submittals.

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 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 each activity, sorted in ascending order by activity number and then by early start date, or actual start date if known.
3. Total Float Report: List of activities sorted in ascending order of total float.

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

F. Daily Construction Reports: Submit at **weekly** intervals.

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

1.4 COORDINATION

A. Coordinate Contractor's Construction Schedule with the schedule of values, **list of subcontracts,** submittal schedule, progress reports, payment requests, and other required schedules and reports.

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

1.5 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

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

1. Use **Scheduling component of Project website software specified in Section 013100 "Project Management and Coordination"** for current **Windows** operating system.

B. 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.

C. Activities: Treat each floor 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 **20** days, unless specifically allowed by Architect.
2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.

    a. TBD by contractor

3. Submittal Review Time: Include review and resubmittal times indicated in Section 013300 "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**days for startup and testing.
5. Commissioning Time: Include no fewer than **15** days for commissioning.
6. 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.
7. Punch List and Final Completion: Include not more than **30** days for completion of punch list items and final completion.

D. 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. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Section 011000 "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
3. 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.

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

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 the Contract Time.

G. 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.

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

I. 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.

1.6 GANTT-CHART SCHEDULE REQUIREMENTS

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's Construction Schedule within **30** days of date established for **commencement of the Work.**

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.

1.7 CPM SCHEDULE REQUIREMENTS

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

B. Startup Network Diagram: Submit diagram within **14** days of date established for **commencement of the Work** Outline significant construction activities for the first **90** 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 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** days after date established for **commencement of the Work.**

    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.

2. Conduct educational workshops to train and inform key Project personnel, including subcontractors' personnel, in proper methods of providing data and using CPM schedule information.
3. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.
4. Use "one workday" as the unit of time for individual activities. Indicate nonworking days and holidays incorporated into the schedule 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 inspection.
    j. Commissioning.
    k. Punch list and final completion.
    l. 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.

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** before each regularly scheduled progress meeting.

1.8 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. Testing and inspection.
8. Accidents.
9. Meetings and significant decisions.
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. **Work** Change Directives received and implemented.
16. Services connected and disconnected.
17. Equipment or system tests and startups.
18. Partial completions and occupancies.
19. Substantial Completions authorized.

B. 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.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013200

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Submittal schedule requirements.
2. Administrative and procedural requirements for submittals.

1.2 DEFINITIONS

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

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

1.3 SUBMITTAL SCHEDULE

A. Submittal Schedule: Submit, as an action submittal, a list 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.

1.4 SUBMITTAL FORMATS

A. Submittal Information: Include the following information in each submittal:

1. Project name.
2. Date.
3. Name of Architect.
4. Name of Contractor.
5. Name of firm or entity that prepared submittal.
6. Names of subcontractor, manufacturer, and supplier.
7. Unique submittal number, including revision identifier. Include Specification Section number with sequential alphanumeric identifier; and alphanumeric suffix for resubmittals.
8. Category and type of submittal.
9. Submittal purpose and description.
10. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
11. Drawing number and detail references, as appropriate.
12. Indication of full or partial submittal.
13. Location(s) where product is to be installed, as appropriate.

14. Other necessary identification.
15. Remarks.
16. Signature of transmitter.

B. Options: Identify options requiring selection by Architect.

C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Architect on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.

D. Paper Submittals:

1. Place a permanent label or title block on each submittal item for identification; include name of firm or entity that prepared submittal.
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. Action Submittals: Submit **three** paper copies of each submittal unless otherwise indicated. Architect**,** will return **two** copies.
4. Informational Submittals: Submit **two** paper copies of each submittal unless otherwise indicated. Architect will not return copies.
5. Transmittal for Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using **facsimile of sample form included in Project Manual** transmittal form.

E. PDF Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.

F. Submittals for Web-Based Project Software: Prepare submittals as PDF files, or other format indicated by Project software website.

1.5 SUBMITTAL PROCEDURES

A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

1. Email: Prepare submittals as PDF package, and transmit to Architect by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Architect.
2. Web-Based Project Software: Prepare submittals in PDF form, and upload to web-based Project software website. Enter required data in web-based software site to fully identify submittal.
3. Paper: Prepare submittals in paper form, and deliver to Architect.

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

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.

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

1. Initial Review: Allow **15** days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. **Architect** will advise Contractor when a submittal being processed must be delayed for coordination.
2. Resubmittal Review: Allow **15** days for review of each resubmittal.

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

E. 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.

F. 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.

1.6 SUBMITTAL REQUIREMENTS

A. 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 unsuitable 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 that show 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 Shop Drawings, and before or concurrent with Samples.

B. 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. Paper 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**

a. **Two** opaque (bond) copies of each submittal. Architect will return **one** copy.
b. **Three** opaque copies of each submittal. Architect will retain **two** copies; remainder will be returned.

C. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other materials.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Permanently attach label on unexposed side of Samples that includes the following:

a. Project name and submittal number.
b. Generic description of Sample.
c. Product name and name of manufacturer.
d. Sample source.
e. Number and title of applicable Specification Section.
f. Specification paragraph number and generic name of each item.

3. Email Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics, and identification information for record.
4. Web-Based Project Software: Prepare submittals in PDF form, and upload to web-based Project software website. Enter required data in web-based software site to fully identify submittal.
5. Paper Transmittal: Include paper transmittal including complete submittal information indicated.
6. 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.

7. 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 **one** full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.

8. 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. **Mark up and retain one returned Sample set as a project record Sample.**

        1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
        2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least **three** sets of paired units that show approximate limits of variations.

D. 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:

E. 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.

F. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.

G. Certificates:

1. Certificates and Certifications Submittals: Submit 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. Provide a notarized signature where indicated.
2. 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.
3. 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.
4. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
5. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
6. 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.

H. Test and Research Reports:

1. 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.
2. 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.
3. 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.
4. 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.
5. 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.
6. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:

    a. Name of evaluation organization.
    b. Date of evaluation.
    c. Time period when report is in effect.
    d. Product and manufacturers' names.
    e. Description of product.
    f. Test procedures and results.
    g. Limitations of use.

1.7 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 insufficient 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 file** or 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.

1.8 CONTRACTOR'S REVIEW

A. Action Submittals 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. Contractor's Approval: Indicate Contractor's approval for each submittal with **a uniform approval stamp** or **indication in web-based Project software**. Include 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.

1. Architect will not review submittals received from Contractor that do not have Contractor's review and approval.

1.9 ARCHITECT'S REVIEW

A. Action Submittals: Architect will review each submittal, indicate corrections or revisions required**, and return it**.

1. PDF Submittals: Architect will indicate, via markup on each submittal, the appropriate action**.**

2. Paper Submittals: Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action**.**

3. Submittals by Web-Based Project Software: Architect will indicate, on Project software website, the appropriate action.

B. 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.

C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.

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

E. Architect will **return without review** submittals received from sources other than Contractor.

F. Submittals not required by the Contract Documents will be returned by Architect without action.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013300

SECTION 015000 - 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. Section 011000 "Summary" for work restrictions and limitations on utility interruptions.

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 engaged in the Project to use temporary services and facilities without cost, including, but not limited to, **Owner's construction forces,** Architect, **occupants of Project,** 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. Provide connections and extensions of services as required for construction operations.

1.3 INFORMATIONAL SUBMITTALS

A. Site Utilization Plan: Show temporary facilities, temporary utility lines and connections, staging areas, construction site entrances, vehicle circulation, and parking areas for construction personnel.

B. Project Identification and Temporary Signs: Show fabrication and installation details, including plans, elevations, details, layouts, typestyles, graphic elements, and message content.

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-and Mold-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage and mold.

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. 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 United States Access Board's ADA-ABA Accessibility Guidelines**.

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 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. Furnish and equip offices as follows:

1. Furniture required for Project-site documents including file cabinets, plan tables, plan racks, and bookcases.
2. Conference room of sufficient size to accommodate meetings of **10** individuals. Provide electrical power service and 120-V ac duplex receptacles, with no fewer than one receptacle on each wall. Furnish room with conference table, chairs, and 4-foot- square tack and marker boards.
3. Drinking water and private toilet.
4. Heating and cooling equipment necessary to maintain a uniform indoor temperature of 68 to 72 deg F
5. Lighting fixtures capable of maintaining average illumination of 20 fc at desk height.

2.2 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 **8** at each return-air grille in system and remove at end of construction Retain "Air-Filtration Units" Paragraph below if negative-air-filtration units are required to maintain dust control for renovation work within occupied environments.

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 TEMPORARY FACILITIES, GENERAL

A. Conservation: Coordinate construction and use of temporary facilities 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.

3.2 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.

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.

3.3 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** as directed by authorities having jurisdiction.

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

D. 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.

E. Temporary 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.

1. Provide temporary dehumidification systems when required to reduce ambient and substrate moisture levels to level required to allow installation or application of finishes and their proper curing or drying.

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

G. 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.

H. 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.

I. Telephone Service: Provide temporary telephone service in common-use facilities for use by all construction personnel. Install **WiFi cell phone access equipment and one** land-based telephone line(s) for each field office.

J. 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.

1. 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.
2. Internet Service: Broadband modem, router and ISP, equipped with hardware firewall, providing minimum **1.0** Mbps upload and **15** Mbps download speeds at each computer.
3. Internet Security: Integrated software, providing software firewall, virus, spyware, phishing, and spam protection in a combined application.
4. Backup: External hard drive, minimum **2** terabyte, with automated backup software providing daily backups.

3.4 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 **within construction limits indicated** on Drawings.

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

C. 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.

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

E. 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.

F. 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 touch up signs so they are legible at all times.

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

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

I. 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.

J. 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.

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

L. 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.

M. 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.

3.5 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.

1. Where access to adjacent properties is required in order to affect protection of existing facilities, obtain written permission from adjacent property owner to access property for that purpose.

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 EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent and** requirements specified in Section 311000 "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 **requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent**.

1. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross tree- or plant-protection zones.
2. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
3. Clean, repair, and restore adjoining properties and roads affected by erosion and sedimentation from Project site during the course of Project.
4. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

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 Section 015639 "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 materials approved by authorities having jurisdiction.

I. Site Enclosure Fence: **Before construction operations begin**, furnish and install site enclosure fence in a manner that will prevent people 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 workday.

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 incomplete, 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. Construct dustproof partitions with gypsum wallboard with joints taped on occupied side, and fire-retardant-treated plywood on construction operations side.
2. Where fire-resistance-rated temporary partitions are indicated or are required by authorities having jurisdiction, construct partitions according to the rated assemblies.
3. 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. Comply with additional limits on smoking specified in other Sections.
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.

3.6 MOISTURE AND MOLD CONTROL

A. Contractor's Moisture-Protection Plan: Describe delivery, handling, storage, installation, and protection provisions for materials subject to water absorption or water damage.

1. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and replacing water-damaged Work.
2. 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.
3. Indicate methods to be used to avoid trapping water in finished work.

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

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

C. Partially Enclosed Construction Period: 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. Periodically collect and remove waste containing cellulose or other organic matter.
4. Discard or replace water-damaged material.
5. Do not install material that is wet.
6. Discard and replace stored or installed material that begins to grow mold.
7. Perform work in a sequence that allows wet materials adequate time to dry before enclosing the material in gypsum board or other interior finishes.

D. Controlled Construction Period: 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. Use temporary or permanent HVAC system to control humidity within ranges specified for installed and stored materials.

3. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.

3.7 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 Section 017700 "Closeout Procedures."

END OF SECTION 015000

SECTION 017300 - 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. Installation of the Work.
3. Cutting and patching.
4. Progress cleaning.
5. Starting and adjusting.
6. Protection of installed construction.

B. Related Requirements:

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

1.2 INFORMATIONAL SUBMITTALS

A. Final Property Survey: Submit **2** copies and one digital PDF file 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 elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.
2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.

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

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

PART 2 - PRODUCTS

2.1 MATERIALS

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

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

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. 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.

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

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

3.3 INSTALLATION

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

1. Make vertical work plumb and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.

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: Where possible, select tools or equipment that minimize production of excessive 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 portions of the 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. Remove and replace damaged, defective, or non-conforming Work.

3.4 CUTTING AND PATCHING

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

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

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

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

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

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

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

G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.

3. **Concrete** : Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Excavating and Backfilling: Comply with requirements in applicable 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.

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

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
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.
4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.

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

3.5 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.

    a. Use containers intended for holding waste materials of type to be stored.

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

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

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

1. Remove liquid spills promptly.

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

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

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

F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in **Section 015000 "Temporary Facilities and Controls."**Three paragraphs below reduce or eliminate the need for similar provisions in other Sections. Insert other provisions needed because of unusual Project conditions. Specify unusual provisions for specific work in the individual Section.

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 ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.6 STARTING AND ADJUSTING

A. Coordinate startup and adjusting of equipment and operating components with requirements in Section 019113 "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 Section 014000 "Quality Requirements."

3.7 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. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.

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

END OF SECTION 017300

SECTION 017700 - 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. Section 017823 "Operation and Maintenance Data" for additional operation and maintenance manual requirements.
2. Section 017839 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
3. Section 017900 "Demonstration and Training" for requirements to train the Owner's maintenance personnel to adjust, operate, and maintain products, equipment, and systems.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of cleaning agent.

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 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.

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, damage or settlement surveys, property surveys, and similar final record information.
3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Submit maintenance material submittals specified in individual 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.
5. Submit testing, adjusting, and balancing records.
6. Submit sustainable design submittals not previously submitted.
7. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

C. 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.

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 Section 017900 "Demonstration and Training."
6. Advise Owner of changeover in utility services.
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.
10. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.

D. 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.

1.5 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Section 012900 "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.

B. Inspection: Submit a written request for final inspection to determine acceptance 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 a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1.6 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.

1. Organize list of spaces in sequential order, **starting with exterior areas first**.
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 file.
    b. PDF electronic file. Architect will return annotated file.
    c. Web-based project software upload. Utilize software feature for creating and updating list of incomplete items (punch list).
    d. **Three** paper copies. Architect will return **two** copies.

1.7 SUBMITTAL OF PROJECT WARRANTIES

A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, 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 Project Manual.

C. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.

1. Submit **on digital media acceptable to Architect**, or **by uploading to web-based project software site**.

D. Warranties in Paper Form:

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.

E. 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.

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. 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.
c. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
d. Sweep concrete floors broom clean in unoccupied spaces.
e. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
f. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
g. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
h. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
i. Leave Project clean and ready for occupancy.

C. Pest Control: Comply with pest control requirements in Section 015000 "Temporary Facilities and Controls." Prepare written report.

D. Construction Waste Disposal: Comply with waste disposal requirements in **Section 015000 "Temporary Facilities and Controls."**

3.2 REPAIR OF THE WORK

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

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

END OF SECTION 017700

SECTION 017823 - 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. Emergency manuals.
3. Systems and equipment operation manuals.
4. Systems and equipment maintenance manuals.
5. Product maintenance manuals.

1.2 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.
2. Submit **three** paper copies. Architect will return **two** copies.

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 **and Commissioning Authority's** comments and prior to commencing demonstration and training.

D. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

1.3 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.

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

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

    a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
    b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

1.4 REQUIREMENTS FOR EMERGENCY, 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 Architect.
7. Name and contact information for Commissioning Authority.
8. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
9. Cross-reference to related systems in other operation and maintenance manuals.

C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

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."

1.5 EMERGENCY MANUALS

A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.

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

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

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

1. Fire.
2. Flood.
3. Gas leak.
4. Water leak.
5. Power failure.
6. Water outage.
7. System, subsystem, or equipment failure.
8. Chemical release or spill.

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

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

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

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. 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.

H. 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. 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.

D. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. List of cleaning agents and methods of cleaning detrimental to product.
4. Schedule for routine cleaning and maintenance.
5. Repair instructions.

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

F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 017823

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of building or structure.
2. Demolition and removal of selected site elements.
3. Salvage of existing items to be reused or recycled.

1.2 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.3 PREINSTALLATION MEETINGS

A. Predemolition Conference: Conduct conference at **Project site**.

1.4 INFORMATIONAL SUBMITTALS

A. Engineering Survey: Submit engineering survey of condition of building.

B. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property**, for environmental protection, for dust control and , for noise control** . Indicate proposed locations and construction of barriers.

C. Schedule of selective demolition activities with starting and ending dates for each activity.

D. Predemolition photographs or video.

E. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician.

1.5 CLOSEOUT SUBMITTALS

A. Inventory of items that have been removed and salvaged.

1.6 QUALITY ASSURANCE

A. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.

1.7 FIELD CONDITIONS

A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

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

1. Before selective demolition, Owner will remove the following items:

a. Items identified by contractor as inhibiting construction practices.

C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.

1. Hazardous materials will be removed by Owner before start of the Work.
2. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

E. Storage or sale of removed items or materials on-site is not permitted.

F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1. Maintain fire-protection facilities in service during selective demolition operations.

G. Arrange selective demolition schedule so as not to interfere with Owner's operations.

1.8 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials and using approved contractors so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

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

B. Standards: Comply with ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

B. **Perform** an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.

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

3.2 PREPARATION

A. Refrigerant: Before starting demolition, remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction.

3.3 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.

1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
2. Arrange to shut off utilities with utility companies.
3. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
4. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated on Drawings to be removed.

    a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
    b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material and leave in place.
    c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
    d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
    e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
    f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
    g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material and leave in place.

3.4 PROTECTION

A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

C. Remove temporary barricades and protections where hazards no longer exist.

3.5 SELECTIVE DEMOLITION

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

1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
4. Maintain fire watch during and for at least 2 hours after flame-cutting operations.
5. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
6. Dispose of demolished items and materials promptly.

B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

C. Removed and Salvaged Items:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area **designated by Owner**
5. Protect items from damage during transport and storage.

D. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.
2. Pack or crate items after cleaning and repairing. Identify contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition **and cleaned** and reinstalled in their original locations after selective demolition operations are complete.

3.6 CLEANING

A. Remove demolition waste materials from Project site **and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.**

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
4. Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."

B. Burning: Do not burn demolished materials.

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

END OF SECTION 024119

SECTION 033053 - MISCELLANEOUS CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes cast-in-place concrete, including reinforcement, concrete materials, mixture design, placement procedures, and finishes.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Sustainable Design Submittals:

1. Product Data: For recycled content, indicating postconsumer and preconsumer recycled content and cost.
2. Product Certificates: For regional materials, indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include distance to Project and cost for each regional material.
3. Laboratory Test Reports: For curing and sealing compounds, indicating compliance with requirements for low-emitting materials.

C. Design Mixtures: For each concrete mixture.

1.3 QUALITY ASSURANCE

A. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

A. Comply with ACI 301 .

B. Comply with ACI 117

2.2 STEEL REINFORCEMENT

A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than **25** percent.

B. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 , deformed.

C. Plain-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, plain, fabricated from as-drawn steel wire into flat sheets.

2.3 CONCRETE MATERIALS

A. Regional Materials: Concrete shall be manufactured within 500 miles of Project site from aggregates **and cementitious materials** that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles of Project site.

B. Regional Materials: Concrete shall be manufactured within 500 miles of Project site.

C. Cementitious Materials:

1. Portland Cement: ASTM C 150/C 150M, **Type I**
2. Fly Ash: ASTM C 618, Class C or F.
3. Slag Cement: ASTM C 989/C 989M, Grade 100 or 120.
4. Blended Hydraulic Cement: ASTM C 595/C 595M, **Type IS, portland blast-furnace slag** cement.

D. Normal-Weight Aggregate: ASTM C 33/C 33M, **1-1/2-inch** nominal maximum aggregate size.

E. Air-Entraining Admixture: ASTM C 260/C 260M.

F. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures and that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.

1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
2. Retarding Admixture: ASTM C 494/C 494M, Type B.
3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

G. Water: ASTM C 94/C 94M.

2.4 FIBER REINFORCEMENT

A. Synthetic Micro-Fiber: **Monofilament or fibrillated** polypropylene micro-fibers engineered and designed for use in concrete, complying with ASTM C 1116/C 1116M, Type III, **1/2 to 1-1/2 inches** long.

2.5 RELATED MATERIALS

A. Vapor Retarder: Plastic sheet, ASTM E 1745, Class A or B.

B. Vapor Retarder: Polyethylene sheet, ASTM D 4397, not less than 10 mils (0.25 mm) thick; or plastic sheet, ASTM E 1745, Class C.

C. Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber, or ASTM D 1752, cork or self-expanding cork.

2.6 CURING MATERIALS

A. Evaporation Retarder: Waterborne, monomolecular film forming; manufactured for application to fresh concrete.

B. Absorptive Cover: AASHTO M 182, Class 3, burlap cloth or cotton mats.

C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

D. Water: Potable.

E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B.

F. Clear, **Waterborne** , Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A.

1. Products shall comply with the requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

2.7 CONCRETE MIXTURES

A. Normal-Weight Concrete:

1. Minimum Compressive Strength: **3000 psi** at 28 days.
2. Maximum W/C Ratio: **0.45**
3. Cementitious Materials: Use fly ash, pozzolan, slag cement, and blended hydraulic cement as needed to reduce the total amount of portland cement, which would otherwise be used, by not less than 40 percent.

a. Slump Limit: **5 inches plus or minus 1 inch for concrete with verified slump of 2 to 4 inches before adding high-range water-reducing admixture or plasticizing admixture**

4. Air Content: Maintain within range permitted by ACI 301 . Do not allow air content of trowel-finished floor slabs to exceed 3 percent.

B. Synthetic Fiber: Uniformly disperse in concrete mix at manufacturer's recommended rate, but not less than a rate of **1.0 lb/cu. yd.**

2.8 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M and furnish batch ticket information.

1. When air temperature is above 90 deg F , reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 FORMWORK INSTALLATION

A. Design, construct, erect, brace, and maintain formwork according to ACI 301 .

3.2 EMBEDDED ITEM INSTALLATION

A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

3.3 VAPOR-RETARDER INSTALLATION

A. Install, protect, and repair vapor retarders according to ASTM E 1643; place sheets in position with longest dimension parallel with direction of pour.

1. Lap joints 6 inches and seal with manufacturer's recommended adhesive or joint tape.

3.4 STEEL REINFORCEMENT INSTALLATION

A. Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.

3.5 JOINTS

A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

B. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least **one-fourth** of concrete thickness

C. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.

1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated.

3.6 CONCRETE PLACEMENT

A. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.

B. Do not add water to concrete during delivery, at Project site, or during placement.

C. Consolidate concrete with mechanical vibrating equipment according to ACI 301.

3.7 FINISHING FORMED SURFACES

A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections exceeding 1/2 inch .

1. Apply to concrete surfaces **not exposed to public view.**

B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defective areas. Remove fins and other projections exceeding 1/8 inch

1. Apply to concrete surfaces **exposed to public view.**

C. Rubbed Finish: Apply the following rubbed finish, defined in ACI 301 to smooth-formed-finished as-cast concrete where indicated:

1. Smooth-rubbed finish.
2. Grout-cleaned finish.
3. Cork-floated finish.

D. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

3.8 FINISHING UNFORMED SURFACES

A. General: Comply with ACI 302.1R for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

B. Screed surfaces with a straightedge and strike off. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane before excess moisture or bleedwater appears on surface.

1. Do not further disturb surfaces before starting finishing operations.

C. Scratch Finish: Apply scratch finish to surfaces indicated and surfaces to receive concrete floor topping or mortar setting beds for ceramic or quarry tile, portland cement terrazzo, and other bonded cementitious floor finishes unless otherwise indicated.

D. Float Finish: Apply float finish to surfaces indicated, to surfaces to receive trowel finish, and to floor and slab surfaces to be covered with fluid-applied or sheet waterproofing, fluid-applied or direct-to-deck-applied membrane roofing, or sand-bed terrazzo.

E. Trowel Finish: Apply a hard trowel finish to surfaces indicated and to floor and slab surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin film-finish coating system.

F. Trowel and Fine-Broom Finish: Apply a partial trowel finish, stopping after second troweling, to surfaces indicated and to surfaces where ceramic or quarry tile is to be installed by either

thickset or thinset methods. Immediately after second troweling, and when concrete is still plastic, slightly scarify surface with a fine broom.

G. Slip-Resistive Broom Finish: Apply a slip-resistive finish to surfaces indicated and to exterior concrete platforms, steps, and ramps. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route.

3.9 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and with ACI 305.1 for hot-weather protection during curing.

B. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

C. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

D. Curing Methods: Cure formed and unformed concrete for at least seven days by one or a combination of the following methods:

1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:

    a. Water.
    b. Continuous water-fog spray.
    c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.

2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period, using cover material and waterproof tape.
3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
4. Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

3.10 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Tests: Perform according to ACI 301

1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd. ,but less than 25 cu. yd. plus one set for each additional 50 cu. yd. or fraction thereof.
2. Testing Frequency: Obtain at least one composite sample for each 100 cu. yd. or fraction thereof of each concrete mixture placed each day.

END OF SECTION 033053

SECTION 055119 - METAL GRATING STAIRS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Industrial Class stairs with steel-grating treads.
2. Steel railings attached to metal stairs.
3. Steel handrails attached to walls adjacent to metal stairs.

1.2 COORDINATION

A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written instructions to ensure that shop primers and topcoats are compatible with one another.

1.3 ACTION SUBMITTALS

A. Product Data: For metal grating stairs and the following:

1. Gratings.
2. Woven-wire mesh.
3. Welded-wire mesh.
4. Shop primer products.
5. Grout.

B. Shop Drawings:

1. Include plans, elevations, sections, details, and attachment to other work.
2. Indicate sizes of metal sections, thickness of metals, profiles, holes, and field joints.
3. Include plan at each level.
4. Indicate locations of anchors, weld plates, and blocking for attachment of wall-mounted handrails.

C. Delegated-Design Submittal: For stairs **and railings**, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For professional engineer's experience with providing delegated-design engineering services of the kind indicated, including documentation that engineer is licensed in the State in which Project is located.

B. Welding certificates.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Fabricator of products.

B. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design stairs **and railings**, including attachment to building construction.

B. Structural Performance of Stairs: Metal stairs shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

1. Uniform Load: 100 lbf/sq. ft.
2. Concentrated Load: 300 lbf applied on an area of 4 sq. in.
3. Uniform and concentrated loads need not be assumed to act concurrently.
4. Stair Framing: Capable of withstanding stresses resulting from railing loads in addition to loads specified above.
5. Limit deflection of treads, platforms, and framing members to **L/360**.

C. Structural Performance of Railings: Railings, including attachment to building construction, shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

1. Handrails and Top Rails of Guards:

   a. Uniform load of 50 lbf/ft. applied in any direction.
   b. Concentrated load of 200 lbf applied in any direction.
   c. Uniform and concentrated loads need not be assumed to act concurrently.

2. Infill of Guards:

   a. Concentrated load of 50 lbf applied horizontally on an area of 1 sq. ft.
   b. Infill load and other loads need not be assumed to act concurrently.

3. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.

   a. Temperature Change: **120 deg F, ambient; 180 deg F material surfaces**.

D. Seismic Performance of Stairs: Metal stairs shall withstand the effects of earthquake motions determined according to .

1. Component Importance Factor: II

2.2 METALS

A. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.

B. Rolled-Steel Floor Plate: ASTM A 786/A 786M, rolled from plate complying with ASTM A 36/A 36M or ASTM A 283/A 283M, Grade C or D.

C. Steel Bars for Grating Treads: ASTM A 36/A 36M or steel strip, ASTM A 1011/A 1011M or ASTM A 1018/A 1018M.

D. Steel Wire Rod for Grating Crossbars: ASTM A 510/A 510M.

E. Aluminum Bars for Grating Treads: ASTM B 221 extruded aluminum, alloys as follows:

1. 6061-T6 or 6063-T6, for bearing bars of gratings and shapes.
2. 6061-T1, for grating crossbars.

F. Steel Tubing for Railings: **ASTM A 500/A 500M (cold formed)**.
1. Provide galvanized finish for exterior installations and where indicated.

G. Steel Pipe for Railings: ASTM A 53/A 53M, Type F or Type S, Grade A, Standard Weight (Schedule 40), unless another grade and weight are required by structural loads.

H. Provide galvanized finish for exterior installations and where indicated.

I. Woven-Wire Mesh: Intermediate-crimp, **diamond** pattern, 2-inch woven-wire mesh, made from 0.135-inch nominal-diameter steel wire complying with ASTM A 510/A 510M.

J. Welded-Wire Mesh: **Diamond** pattern, 2-inch welded-wire mesh, made from 0.236-inch nominal-diameter steel wire complying with ASTM A 510/A 510M.

K. Cast Iron: Either gray iron, ASTM A 48/A 48M, or malleable iron, ASTM A 47/A 47M, unless otherwise indicated.

L. Cast-Abrasive Nosings: Cast iron, with an integral abrasive, as-cast finish consisting of aluminum oxide, silicon carbide, or a combination of both.

2.3 FASTENERS

A. General: Provide **zinc-plated fasteners with coating complying with ASTM B 633 or ASTM F 1941/F 1941M, Class Fe/Zn 12 for exterior use, and Class Fe/Zn 5** where built into exterior walls.

1. Select fasteners for type, grade, and class required.

B. Fasteners for Anchoring Railings to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction indicated **and capable of withstanding design loads**.

C. Post-Installed Anchors: **Torque-controlled expansion anchors** capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E 488/E 488M, conducted by a qualified independent testing agency.

1. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B 633 or ASTM F 1941/F 1941M, Class Fe/Zn 5, unless otherwise indicated.
2. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy **Group 1 (A1)** stainless-steel bolts, ASTM F 593, and nuts, ASTM F 594.

2.4 MISCELLANEOUS MATERIALS

A. Shop Primers: Provide primers that comply with **Section 099600 "High-Performance Coatings."**

B. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.

1. Use primer containing pigments that make it easily distinguishable from zinc-rich primer.

C. Zinc-Rich Primer: Comply with SSPC-Paint 20, **Type I-A** Level **2** , and compatible with topcoat.

D. Shop Primer for Galvanized Steel: Primer formulated for exterior use over zinc-coated metal and compatible with finish paint systems indicated.

E. Galvanizing Repair Paint: High-zinc-dust-content paint complying with **ASTM A 780/A 780M** and compatible with paints specified to be used over it.

F. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107/C 1107M, factory-packaged, nonmetallic aggregate grout; recommended by manufacturer for **exterior** use; noncorrosive and nonstaining; mixed with water to consistency suitable for application and a 30-minute working time.

2.5 FABRICATION, GENERAL

A. Provide complete stair assemblies, including metal framing, hangers, railings, clips, brackets, bearing plates, and other components necessary to support and anchor stairs and platforms on supporting structure.

1. Join components by welding unless otherwise indicated.
2. Use connections that maintain structural value of joined pieces.

B. Assemble stairs **and railings** in shop to greatest extent possible.

1. Disassemble units only as necessary for shipping and handling limitations.
2. Clearly mark units for reassembly and coordinated installation.

C. Cut, drill, and punch metals cleanly and accurately.

1. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated.
2. Remove sharp or rough areas on exposed surfaces.

D. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.

E. Form exposed work with accurate angles and surfaces and straight edges.

F. Weld connections to comply with the following:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. Weld exposed corners and seams continuously unless otherwise indicated.
5. At exposed connections, finish exposed welds to comply with NOMMA's "Voluntary Joint Finish Standards" for **Finish #4 - Good quality, uniform undressed weld with minimal splatter**.

G. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners where possible.

1. Where exposed fasteners are required, use Phillips flat-head (countersunk) screws or bolts unless otherwise indicated.
2. Locate joints where least conspicuous.
3. Fabricate joints that are exposed to weather in a manner to exclude water.
4. Provide weep holes where water may accumulate internally.

2.6 FABRICATION OF STEEL-FRAMED STAIRS

A. NAAMM Stair Standard: Comply with NAAMM AMP 510, "Metal Stairs Manual," for Industrial Class, unless more stringent requirements are indicated.

B. Stair Framing:

1. Fabricate stringers of steel **plates**.

a. Stringer Size: **As required to comply with "Performance Requirements" Article**
b. Provide closures for exposed ends of channel stringers.
c. Finish: **Painted**

2. Construct platforms and tread supports of steel **channel** headers and miscellaneous framing members as **required to comply with "Performance Requirements" Article**

a. Provide closures for exposed ends of channel framing.
b. Finish: **Painted**.

3. Weld **or bolt** stringers to headers; weld **or bolt** framing members to stringers and headers.
4. Where stairs are enclosed by gypsum board assemblies, provide hanger rods or struts to support landings from floor construction above or below.

a. Locate hanger rods and struts where they do not encroach on required stair width and are within the fire-resistance-rated stair enclosure.

5. Where masonry walls support metal stairs, provide temporary supporting struts designed for erecting steel stair components before installing masonry.

C. Metal Bar-Grating Stairs: Form treads and platforms to configurations shown from metal bar grating; fabricate to comply with NAAMM MBG 531, "Metal Bar Grating Manual."

1. Fabricate treads and platforms from **welded steel** grating with **1-1/4-by-3/16-inch bearing bars at 15/16 inch** and crossbars at 4 inches o.c.
2. Fabricate treads and platforms from **welded steel** grating with openings in gratings no more than **3/4 inch** in least dimension.

    a. Surface: **Serrated**.
    b. Finish: **Painted**

3. Fabricate grating treads with **rolled-steel floor plate** nosing and with steel angle or steel plate carrier at each end for stringer connections.

    a. Secure treads to stringers with bolts.

4. Fabricate grating platforms with nosing matching that on grating treads.

    a. Secure grating to platform framing **by welding**

D. Risers: **Solid**.

E. Toe Plates: Provide toe plates around openings and at edge of open-sided floors and platforms, and at open ends and open back edges of treads.

1. Material and Finish: Steel plate to match finish of other steel items.
2. Fabricate to dimensions and details indicated.

2.7 FABRICATION OF STAIR RAILINGS

A. Comply with applicable requirements in Section 055213 "Pipe and Tube Railings."

B. Fabricate railings to comply with requirements indicated for design, dimensions, details, finish, and member sizes, including wall thickness of member, post spacings, wall bracket spacing, and anchorage, but not less than that needed to withstand indicated loads.

1. Rails and Posts: **1-5/8-inch- diameter** top and bottom rails and 1-1/2-inch- square posts.
2. Picket Infill: **1/2-inch- square** pickets spaced less than 4 inches clear.
3. Mesh Infill: **Woven** wire mesh **welded** into 1-by-1/2-by-1/8-inch steel channel frames. Orient wire mesh with **diamonds vertical**
4. Intermediate Rails Infill: **1-5/8-inch- diameter** intermediate rails spaced less than **21 inches** clear.

C. Welded Connections: Fabricate railings with welded connections.

1. Fabricate connections that are exposed to weather in a manner that excludes water.

    a. Provide weep holes where water may accumulate internally.

2. Cope components at connections to provide close fit, or use fittings designed for this purpose.
3. Weld all around at connections, including at fittings.
4. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
5. Obtain fusion without undercut or overlap.
6. Remove flux immediately.

7. Finish welds to comply with NOMMA's "Voluntary Joint Finish Standards" for **Finish #4 - Good quality, uniform undressed weld with minimal splatter** as shown in NAAMM AMP 521.

D. Form changes in direction of railings as follows:

1. As detailed.
2. By bending **or by inserting prefabricated elbow fittings**.
3. By flush bends **or by inserting prefabricated flush-elbow fittings**.
4. By radius bends of radius indicated**[or by inserting prefabricated elbow fittings of radius indicated**.
5. By inserting prefabricated **elbow** Retain first paragraph below unless all bends are made with standard elbow fittings.

E. For changes in direction made by bending, use jigs to produce uniform curvature for each repetitive configuration required.

1. Maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.

F. Close exposed ends of railing members with prefabricated end fittings.

G. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated.

1. Close ends of returns unless clearance between end of rail and wall is 1/4 inch (6 mm) or less.

H. Connect posts to stair framing by direct welding unless otherwise indicated.

I. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, end closures, flanges, miscellaneous fittings, and anchors for interconnecting components and for attaching to other work.

1. Furnish inserts and other anchorage devices for connecting to concrete or masonry work.
2. For galvanized railings, provide galvanized fittings, brackets, fasteners, sleeves, and other ferrous-metal components.
3. For nongalvanized railings, provide nongalvanized ferrous-metal fittings, brackets, fasteners, and sleeves, except galvanize anchors embedded in exterior masonry and concrete construction.
4. Provide type of bracket **with flange tapped for concealed anchorage to threaded hanger bolt** and that provides 1-1/2-inch (38-mm) clearance from inside face of handrail to finished wall surface.

J. Fillers: Provide fillers made from steel plate, or other suitably crush-resistant material, where needed to transfer wall bracket loads through wall finishes to structural supports.

1. Size fillers to suit wall finish thicknesses and to produce adequate bearing area to prevent bracket rotation and overstressing of substrate.

2.8 FINISHES

A. Finish metal stairs after assembly.

B. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A 153/A 153M for steel and iron hardware and with ASTM A 123/A 123M for other steel and iron products.

1. Do not quench or apply post-galvanizing treatments that might interfere with paint adhesion.
2. Fill vent and drain holes that are exposed in the finished Work, unless indicated to remain as weep holes, by plugging with zinc solder and filing off smooth.

C. Preparation for Shop Priming: Prepare uncoated ferrous-metal surfaces to comply with **minimum requirements indicated below for SSPC surface preparation specifications and environmental exposure conditions of installed products:**

1. Exterior Stairs: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
2. Interior Stairs: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
3. Interior Stairs: SSPC-SP 3, "Power Tool Cleaning."

D. Apply shop primer to uncoated surfaces of metal stair components, except those with galvanized finishes and those to be embedded in concrete or masonry unless otherwise indicated. Comply with SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting.

1. Stripe paint corners, crevices, bolts, welds, and sharp edges.

PART 3 - EXECUTION

3.1 INSTALLING METAL STAIRS

A. Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing metal stairs to in-place construction.

1. Include threaded fasteners for concrete and masonry inserts, through-bolts, lag bolts, and other connectors.

B. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal stairs. Set units accurately in location, alignment, and elevation, measured from established lines and levels and free of rack.

C. Install metal stairs by welding stair framing to steel structure or to weld plates cast into concrete unless otherwise indicated.

1. Grouted Baseplates: Clean concrete and masonry bearing surfaces of bond-reducing materials, and roughen to improve bond to surfaces.

a. Clean bottom surface of baseplates.
b. Set steel-stair baseplates on wedges, shims, or leveling nuts.
c. After stairs have been positioned and aligned, tighten anchor bolts.
d. Do not remove wedges or shims, but if protruding, cut off flush with edge of bearing plate before packing with grout.
e. Promptly pack grout solidly between bearing surfaces and plates to ensure that no voids remain.

1) Neatly finish exposed surfaces; protect grout and allow to cure.

2) Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.

D. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.

E. Fit exposed connections accurately together to form hairline joints.

1. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations.
2. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.
3. Comply with requirements for welding in "Fabrication, General" Article.

3.2 INSTALLING RAILINGS

A. Adjust railing systems before anchoring to ensure matching alignment at abutting joints with tight, hairline joints.

1. Space posts at spacing indicated or, if not indicated, as required by design loads.
2. Plumb posts in each direction, within a tolerance of 1/16 inch in 3 feet .
3. Align rails so variations from level for horizontal members and variations from parallel with rake of stairs for sloping members do not exceed 1/4 inch in 12 feet .
4. Secure posts and rail ends to building construction as follows:

a. Anchor posts to steel by **welding or bolting** to steel supporting members.
b. Anchor handrail ends to concrete and masonry with steel round flanges welded to rail ends and anchored with post-installed anchors and bolts.

B. Attach handrails to wall with wall brackets.

1. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.
2. Secure wall brackets to building construction as required to comply with performance requirements.

3.3 REPAIR

A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.

1. Apply by brush or spray to provide a minimum 2.0-mil (0.05-mm) dry film thickness.

B. Touchup Painting: Cleaning and touchup painting of field welds, bolted connections, and abraded areas of shop paint are specified in **Section 099600 "High-Performance Coatings"**

C. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780/A 780M.

END OF SECTION 055119

SECTION 055213 - PIPE AND TUBE RAILINGS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Steel **pipe and tube** railings.

B. Related Requirements:

1. Section 055112 "Metal Pan Stairs" for steel tube railings associated with metal pan stairs.

1.2 ACTION SUBMITTALS

A. Product Data: For the following:

1. Manufacturer's product lines of mechanically connected railings.
2. Railing brackets.
3. Grout, anchoring cement, and paint products.

B. Sustainable Design Submittals:

C. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

D. Samples: For each type of exposed finish required.

E. Delegated-Design Submittal: For railings, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.3 INFORMATIONAL SUBMITTALS

A. Product Test Reports: For pipe and tube railings, for tests performed by a qualified testing agency, according to ASTM E 894 and ASTM E 935.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Steel Pipe and Tube Railings:

1. Shop Fabricated

2.2 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design railings, including attachment to building construction.

B. Structural Performance: Railings, including attachment to building construction, shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

1. Handrails and Top Rails of Guards:

a. Uniform load of 50 lbf/ ft. applied in any direction.
b. Concentrated load of 200 lbf applied in any direction.
c. Uniform and concentrated loads need not be assumed to act concurrently.

2. Infill of Guards:

a. Concentrated load of 50 lbf applied horizontally on an area of 1 sq. ft.
b. Infill load and other loads need not be assumed to act concurrently.

2.3 METALS, GENERAL

A. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails unless otherwise indicated.

1. Provide type of bracket with **flange tapped for concealed anchorage to threaded hanger bolt** that provides 1-1/2-inch clearance from inside face of handrail to finished wall surface.

2.4 STEEL AND IRON

A. Tubing: **ASTM A 500 (cold formed)**.

B. Pipe: ASTM A 53/A 53M, Type F or Type S, Grade A, Standard Weight (Schedule 40), unless another grade and weight are required by structural loads.

1. Provide galvanized finish for exterior installations and where indicated.

C. Plates, Shapes, and Bars: ASTM A 36/A 36M.

D. Cast Iron: Either gray iron, ASTM A 48/A 48M, or malleable iron, ASTM A 47/A 47M, unless otherwise indicated.

E. Expanded Metal: ASTM F 1267, **Type I (expanded)** Class 1 (uncoated).

1. Style Designation: **3/4 number 13**

F. Perforated Metal: Cold-rolled steel sheet, ASTM A 1008/A 1008M, or hot-rolled steel sheet, ASTM A 1011/A 1011M, commercial steel Type B, **0.060 inch** thick, **with 1/4-inch holes 3/8 inch o.c. in staggered rows**.

1. Basis-of-Design Product: Provide product with perforations matching **product indicated on Drawings**

G. Woven-Wire Mesh: Intermediate-crimp, **diamond** pattern, 2-inch (50-mm) woven-wire mesh, made from 0.134-inch- (3.42-mm-) diameter wire complying with ASTM A 510 (ASTM A 510M).

2.5 FASTENERS

A. General: Provide the following:

1. Ungalvanized-Steel Railings: Plated steel fasteners complying with ASTM B 633 or ASTM F 1941 (ASTM F 1941M), Class Fe/Zn 5 for zinc coating.
2. Hot-Dip Galvanized Railings: Type 304 stainless-steel or hot-dip zinc-coated steel fasteners complying with ASTM A 153/A 153M or ASTM F 2329 for zinc coating.

B. Post-Installed Anchors: **Torque-controlled expansion anchors** capable of sustaining, without failure, a load equal to 6 times the load imposed when installed in unit masonry and 4 times the load imposed when installed in concrete, as determined by testing according to ASTM E 488/E 488M, conducted by a qualified independent testing agency.

1. Material for Interior Locations: Carbon-steel components zinc-plated to comply with ASTM B 633 or ASTM F 1941 (ASTM F 1941M), Class Fe/Zn 5, unless otherwise indicated.
2. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy **Group 2 (A4)** stainless-steel bolts, ASTM F 593 (ASTM F 738M), and nuts, ASTM F 594 (ASTM F 836M).

2.6 MISCELLANEOUS MATERIALS

A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.

B. Etching Cleaner for Galvanized Metal: Complying with MPI#25.

C. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.

D. Shop Primers: Provide primers that comply with **Section 099600 "High-Performance Coatings."**

E. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.

F. Epoxy Zinc-Rich Primer: Complying with MPI#20 and compatible with topcoat.

G. Shop Primer for Galvanized Steel: Primer formulated for exterior use over zinc-coated metal and compatible with finish paint systems indicated.

H. Epoxy Intermediate Coat: Complying with MPI #77 and compatible with primer and topcoat.

I. Polyurethane Topcoat: Complying with MPI #72 and compatible with undercoat.

J. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187/D 1187M.

K. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107/C 1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.

2.7 FABRICATION

A. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm) unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

B. Form work true to line and level with accurate angles and surfaces.

C. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove flux immediately.
4. At exposed connections, finish exposed surfaces smooth and blended so no roughness shows after finishing and welded surface matches contours of adjoining surfaces.

D. Welded Connections for Aluminum Pipe: Fabricate railings to interconnect members with concealed internal welds that eliminate surface grinding, using manufacturer's standard system of sleeve and socket fittings.

E. Nonwelded Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.

F. Form changes in direction **by bending or by inserting prefabricated elbow fittings**.

G. For changes in direction made by bending, use jigs to produce uniform curvature for each repetitive configuration required. Maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.

H. Close exposed ends of railing members with prefabricated end fittings.

I. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated.

J. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.

1. At brackets and fittings fastened to plaster or gypsum board partitions, provide crush-resistant fillers or other means to transfer loads through wall finishes to structural supports and prevent bracket or fitting rotation and crushing of substrate.

K. Expanded-Metal Infill Panels: Fabricate infill panels from expanded metal made from same metal as railings in which they are installed.

1. Orient expanded metal with long dimension of diamonds **vertical.**

L. Perforated-Metal Infill Panels: Fabricate infill panels from perforated metal made from **same metal as railings in which they are installed**.

1. Orient perforated metal with **vertical** or **as indicated on Drawings**.

M. Woven-Wire Mesh Infill Panels: Fabricate infill panels from woven-wire mesh crimped into 1-by-1/2-by-1/8-inch metal channel frames. Make wire mesh and frames from same metal as railings in which they are installed.

1. Orient wire mesh with **diamonds vertical** or **as indicated on Drawings**.

2.8 STEEL AND IRON FINISHES

A. Galvanized Railings:

1. Hot-dip galvanize **exterior** steel railings, including hardware, after fabrication.
2. Comply with ASTM A 123/A 123M for hot-dip galvanized railings.
3. Comply with ASTM A 153/A 153M for hot-dip galvanized hardware.

B. Preparing Galvanized Railings for Shop Priming: After galvanizing, thoroughly clean railings of grease, dirt, oil, flux, and other foreign matter, and treat with etching cleaner.

C. Preparation for Shop Priming: Prepare uncoated ferrous-metal surfaces to comply with **SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."**

D. Primer Application: Apply shop primer to prepared surfaces of railings unless otherwise indicated. Comply with requirements in SSPC-PA 1, "Shop, Field, and Maintenance Painting of Steel," for shop painting. Primer need not be applied to surfaces to be embedded in concrete or masonry.

1. Do not apply primer to galvanized surfaces.

E. High-Performance Coating: Apply epoxy intermediate and polyurethane topcoats to prime-coated surfaces. Comply with coating manufacturer's written instructions and with requirements in SSPC-PA 1, "Shop, Field, and Maintenance Painting of Steel," for shop painting. Apply at spreading rates recommended by coating manufacturer.

1. Color: **As selected by Architect from manufacturer's full range**.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.

1. Do not weld, cut, or abrade surfaces of railing components that are coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
2. Set posts plumb within a tolerance of 1/16 inch in 3 feet
3. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet .

B. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

1. Coat, with a heavy coat of bituminous paint, concealed surfaces of aluminum that are in contact with grout, concrete, masonry, wood, or dissimilar metals.

3.2 ANCHORING POSTS

A. Use metal sleeves preset and anchored into concrete for installing posts. After posts are inserted into sleeves, fill annular space between post and sleeve with **nonshrink, nonmetallic grout** mixed and placed to comply with anchoring material manufacturer's written instructions.

B. Form or core-drill holes not less than 5 inches (125 mm) deep and 3/4 inch (20 mm) larger than OD of post for installing posts in concrete. Clean holes of loose material, insert posts, and fill annular space between post and concrete with **nonshrink, nonmetallic**, mixed and placed to comply with anchoring material manufacturer's written instructions.

C. Anchor posts to metal surfaces with oval flanges, angle type, or floor type as required by conditions, connected to posts and to metal supporting members.

3.3 ATTACHING RAILINGS

A. Attach railings to wall with wall brackets. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.

B. Secure wall brackets and railing end flanges to building construction as follows:

1. For concrete and solid masonry anchorage, use drilled-in expansion shields and hanger or lag bolts.
2. For hollow masonry anchorage, use toggle bolts.
3. For wood stud partitions, use hanger or lag bolts set into studs or wood backing between studs. Coordinate with carpentry work to locate backing members.
4. For steel-framed partitions, use hanger or lag bolts set into [**fire-retardant-treated**]wood backing between studs. Coordinate with stud installation to locate backing members.
5. For steel-framed partitions, use self-tapping screws fastened to steel framing or to concealed steel reinforcements.
6. For steel-framed partitions, use toggle bolts installed through flanges of steel framing or through concealed steel reinforcements.

3.4 ADJUSTING AND CLEANING

A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop painting to comply with SSPC-PA 1 requirements for touching up shop-painted surfaces.

B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas, and repair galvanizing to comply with ASTM A 780/A 780M.

END OF SECTION 055213

SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Framing with dimension lumber.
2. Framing with engineered wood products.
3. Shear wall panels.
4. Rooftop equipment bases and support curbs.
5. Wood blocking and nailers.
6. Wood furring **and grounds**.
7. Wood sleepers.
8. Plywood backing panels.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product.

B. Sustainable Design Submittals:

1.3 INFORMATIONAL SUBMITTALS

A. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.

B. Evaluation Reports: For the following, from ICC-ES:

1. Wood-preservative-treated wood.
2. Fire-retardant-treated wood.
3. Engineered wood products.
4. Shear panels.
5. Power-driven fasteners.
6. Post-installed anchors.
7. Metal framing anchors.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Grade lumber by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Factory mark each piece of lumber with grade stamp of grading agency.
2. For exposed lumber indicated to receive a stained or natural finish, **mark grade stamp on end or back of each piece**..
3. Dress lumber, S4S, unless otherwise indicated.

B. Maximum Moisture Content of Lumber: **15 percent for 2-inch nominal thickness or less; 19 percent for more than 2-inch nominal** unless otherwise indicated.

C. Engineered Wood Products: Acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.

1. Allowable design stresses, as published by manufacturer, shall meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 **for interior construction not in contact with ground, Use Category UC3b for exterior construction not in contact with ground, and Use Category UC4a for items in contact with ground**.

1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium. **Do not use inorganic boron (SBX) for sill plates.**

B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.

C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

D. Application: Treat **items indicated on Drawings, and the following:**

1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
2. Wood sills, sleepers, blocking, **furring, stripping,** and similar concealed members in contact with masonry or concrete.
3. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
4. Wood framing members that are less than 18 inches (460 mm) above the ground in crawlspaces or unexcavated areas.
5. Wood floor plates that are installed over concrete slabs-on-grade.

2.3 FIRE-RETARDANT-TREATED MATERIALS

A. General: Where fire-retardant-treated materials are indicated, materials shall comply with requirements in this article, that are acceptable to authorities having jurisdiction, and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.

B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame-spread index of 25 or less when tested according to ASTM E 84, and with no evidence of

significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.

1. Exterior Type: Treated materials shall comply with requirements specified above for fire-retardant-treated lumber and plywood by pressure process after being subjected to accelerated weathering according to ASTM D 2898. Use for exterior locations and where indicated.
2. Interior Type A: Treated materials shall have a moisture content of 28 percent or less when tested according to ASTM D 3201 at 92 percent relative humidity. Use where exterior type is not indicated.

C. Kiln-dry lumber after treatment to maximum moisture content of 19 percent. **Kiln-dry plywood after treatment to maximum moisture content of 15 percent.**

D. Identify fire-retardant-treated wood with appropriate classification marking of qualified testing agency.

E. Application: Treat **items indicated on Drawings, and the following:**

1. Framing for raised platforms.
2. Framing for stages.
3. Concealed blocking.
4. Framing for non-load-bearing partitions.
5. Framing for non-load-bearing exterior walls.
6. Roof construction.
7. Plywood backing panels.

2.4 DIMENSION LUMBER FRAMING

A. Non-Load-Bearing Interior Partitions: **Construction or No. 2** grade.

1. Application: **All interior partitions**
2. Species:

a. Southern pine or mixed southern pine; SPIB.
b. Northern species; NLGA.
c. Eastern softwoods; NeLMA.
d. Western woods; WCLIB or WWPA.

B. Framing Other Than Non-Load-Bearing **Construction or No. 2** grade.

1. Application: Framing other than **interior partitions not indicated as load bearing**.
2. Species:

a. Hem-fir (north); NLGA.
b. Southern pine; SPIB.
c. Douglas fir-larch; WCLIB or WWPA.
d. Southern pine or mixed southern pine; SPIB.
e. Spruce-pine-fir; NLGA.
f. Douglas fir-south; WWPA.
g. Hem-fir; WCLIB or WWPA.
h. Douglas fir-larch (north); NLGA.
i. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.

C. Framing Other Than Non-Load-Bearing Partitions: Any species and grade with a modulus of elasticity of at least **1,100,000 psi** and an extreme fiber stress in bending of at least **700 psi** for 2-inch nominal thickness and 12-inch nominal width for single-member use.

1. Application: Framing other than **interior partitions.** Retain "Exposed Framing" Paragraph below for high-quality appearance. Delete if not applicable or if grade and species retained above are suitable. See the Evaluations.

D. Exposed Framing: Hand-select material for uniformity of appearance and freedom from characteristics, on exposed surfaces and edges, that would impair finish appearance, including decay, honeycomb, knot-holes, shake, splits, torn grain, and wane.

1. Species and Grade: As indicated above for load-bearing construction of same type.

2.5 ENGINEERED WOOD PRODUCTS

A. Laminated-Veneer Lumber: Structural composite lumber made from wood veneers with grain primarily parallel to member lengths, evaluated and monitored according to ASTM D 5456 and manufactured with an exterior-type adhesive complying with ASTM D 2559.
1. Extreme Fiber Stress in Bending, Edgewise: **2600 psi** for 12-inch nominal- depth members.
2. Modulus of Elasticity, Edgewise: **1,800,000 psi**

B. Wood I-Joists: Prefabricated units, I-shaped in cross section, made with solid or structural composite lumber flanges and wood-based structural panel webs, let into and bonded to flanges. Comply with material requirements of and with structural capacities established and monitored according to ASTM D 5055.
1. Web Material: **Either OSB or plywood, complying with DOC PS 1 or DOC PS 2, Exposure 1**
2. Structural Properties: Depths and design values not less than those indicated.
3. Comply with APA PRI-400. Factory mark I-joists with APA-EWS trademark indicating nominal joist depth, joist class, span ratings, mill identification, and compliance with APA-EWS standard.

C. Rim Boards: Product designed to be used as a load-bearing member and to brace wood I-joists at bearing ends, complying with research or evaluation report for I-joists.

1. Manufacturer: Provide products by same manufacturer as I-joists.
2. Material: **All-veneer product**
3. Thickness: **1-1/8 inches (28 mm)**
4. Comply with APA PRR-401, **rim board plus** grade. Factory mark rim boards with APA-EWS trademark indicating thickness, grade, and compliance with APA-EWS standard.

D. Insulated Rim Boards: Insulated product designed to be used as a load-bearing member and to brace wood I-joists at bearing ends, complying with research/evaluation report for I-joists.

1. Manufacturer: Provide products by same manufacturer as I-joists.
2. Rim Board Material: **All-veneer product**
3. Rim Board Thickness: **1-1/8 inches (28 mm).**
4. Insulation: 1-1/2-inch- (38-mm-) thick polyisocyanurate foam complying with ASTM C 1289.
5. Inside Facing: 7/16-inch- (11-mm-) thick OSB.
6. Comply with APA PRR-401, **rim board** grade. Factory mark rim boards with APA-EWS trademark indicating thickness, grade, and compliance with APA-EWS standard.

2.6 SHEAR WALL PANELS

A. Wood-Framed Shear Wall Panels: Prefabricated assembly consisting of wood perimeter framing, tie downs, and Exposure I, Structural I plywood or OSB sheathing.

B. Steel-Framed Shear Wall Panels: Prefabricated assembly consisting of cold-formed galvanized-steel panel, steel top and bottom plates, and wood studs.

C. Allowable design loads, as published by manufacturer, shall meet or exceed those **of basis-of-design products**. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

2.7 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:

1. Blocking.
2. Nailers.
3. Rooftop equipment bases and support curbs.
4. Cants.
5. Furring.
6. Grounds.

B. Dimension Lumber Items: **Construction or No. 2** grade lumber of any species.

C. Concealed Boards: **15** percent maximum moisture content and **any of** the following species and grades:

1. Mixed southern pine or southern pine; No. 2 grade; SPIB.
2. Eastern softwoods; No. 2 Common grade; NeLMA.
3. Northern species; No. 2 Common grade; NLGA.
4. Western woods; **Construction or No. 2 Common** grade; WCLIB or WWPA.

2.8 PLYWOOD BACKING PANELS

A. Equipment Backing Panels: Plywood, DOC PS 1, **Exterior, A-C** in thickness indicated or, if not indicated, not less than **1/2-inch** nominal thickness.

2.9 FASTENERS

A. General: Fasteners shall be of size and type indicated and shall comply with requirements specified in this article for material and manufacture.

1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners **with hot-dip zinc coating complying with ASTM A 153/A 153M**.

B. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

C. Post-Installed Anchors: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on **ICC-ES AC58 or ICC-ES AC308** as appropriate for the substrate.

2.10 METAL FRAMING ANCHORS

A. Allowable design loads, as published by manufacturer, shall meet or exceed those **of basis-of-design products** Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency. Framing anchors shall be punched for fasteners adequate to withstand same loads as framing anchors.

B. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 (Z180) coating designation.

1. Use for interior locations unless otherwise indicated.

C. Hot-Dip, Heavy-Galvanized Steel Sheet: ASTM A 653/A 653M; structural steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G185 (Z550) coating designation; and not less than 0.036 inch (0.9 mm) thick.

1. Use for wood-preservative-treated lumber and where indicated.

2.11 MISCELLANEOUS MATERIALS

A. Sill-Sealer Gaskets: Glass-fiber-resilient insulation, fabricated in strip form, for use as a sill sealer; 1-inch (25-mm) nominal thickness, compressible to 1/32 inch (0.8 mm); selected from manufacturer's standard widths to suit width of sill members indicated.

B. Sill-Sealer Gaskets: Closed-cell neoprene foam, 1/4 inch (6.4 mm) thick, selected from manufacturer's standard widths to suit width of sill members indicated.

C. Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable, **butyl rubber or rubberized-asphalt** compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.025 inch (0.6 mm).

D. Adhesives for Gluing **Furring and Sleepers** to Concrete or Masonry: Formulation complying with ASTM D 3498 that is approved for use indicated by adhesive manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.

B. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.

C. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry accurately to other construction. Locate **furring,** nailers, blocking, **grounds,** and similar supports to comply with requirements for attaching other construction.

D. Install shear wall panels to comply with manufacturer's written instructions.

E. Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.

F. Do not splice structural members between supports unless otherwise indicated.

G. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.

H. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.

I. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:

1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code (IBC).
2. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.
3. ICC-ES evaluation report for fastener.

3.2 PROTECTION

A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes **wet,** apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061000

SECTION 061600 - SHEATHING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Wall sheathing.
2. Roof sheathing.
3. Parapet sheathing.
4. Composite nail base insulated roof sheathing.
5. Subflooring.
6. Underlayment.
7. Sheathing joint and penetration treatment.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product.

1.3 INFORMATIONAL SUBMITTALS

A. Evaluation Reports: For the following, from ICC-ES:

1. Wood-preservative-treated plywood.
2. Fire-retardant-treated plywood.
3. Foam-plastic sheathing.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Resistance Ratings: As tested according to ASTM E 119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Fire-Resistance Ratings: Indicated by design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.

2.2 WOOD PANEL PRODUCTS

A. Emissions: Products shall meet the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

2.3 PRESERVATIVE-TREATED PLYWOOD

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 **for interior construction not in contact with ground, Use Category UC3b for exterior construction not in contact with ground, and Use Category UC4a for items in contact with ground**.

B. Mark plywood with appropriate classification marking of an inspection agency acceptable to authorities having jurisdiction.

C. Application: **Treat items indicated on Drawings and plywood in contact with masonry or concrete or used with roofing, flashing, vapor barriers, and waterproofing**.

2.4 WALL SHEATHING

A. Plywood Sheathing: **Exterior, Structural I** sheathing.

B. Oriented-Strand-Board Sheathing: DOC PS 2, **Exposure 1, Structural I** sheathing.

C. Paper-Surfaced Gypsum Sheathing: ASTM C 1396/C 1396M, gypsum sheathing; with water-resistant-treated core and with water-repellent paper bonded to core's face, back, and long edges.
1. Type and Thickness: **Type X, 5/8 inch (15.9 mm)** thick.

D. Glass-Mat Gypsum Sheathing: ASTM C 1177/1177M.
1. Type and Thickness: **Type X, 5/8 inch (15.9 mm)** thick.

E. Cellulose Fiber-Reinforced Gypsum Sheathing: ASTM C 1278/C 1278M, gypsum sheathing.

1. Product: Subject to compliance with requirements, provide "Fiberock Sheathing with Aqua-Tough" by United States Gypsum Co.
2. Type and Thickness: **Type X, 5/8 inch (15.9 mm)** thick.

F. Cementitious Backer Units: ASTM C 1325, Type A.
1. Thickness: **5/8 inch (15.9 mm)** .

G. Extruded-Polystyrene-Foam Sheathing: ASTM C 578, Type IV, in manufacturer's standard lengths and widths with tongue-and-groove or shiplap long edges as standard with manufacturer.
1. Thickness: **indicated**.
2. Flame Propagation Test: Materials and construction shall be as tested according to NFPA 285.

H. Foil-Faced, Polyisocyanurate-Foam Sheathing: ASTM C 1289, Type I or Type II, Class 2, rigid, cellular, polyisocyanurate thermal insulation. Foam-plastic core and facings shall have a flame-spread index of 25 or less when tested individually.

1.
2. Thickness: **As indicated**.
3. Flame Propagation Test: Materials and construction shall be as tested according to NFPA 285.

2.5 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. For **wall** sheathing, provide fasteners **with hot-dip zinc coating complying with ASTM A 153/A 153M**.
2. For **wall** sheathing, provide fasteners with organic-polymer or other corrosion-protective coating having a salt-spray resistance of more than 800 hours according to ASTM B 117.

2.6 SHEATHING JOINT-AND-PENETRATION TREATMENT MATERIALS

A. Sealant for **Paper-Surfaced**Gypsum Sheathing: Elastomeric, medium-modulus, neutral-curing silicone joint sealant compatible with joint substrates formed by gypsum sheathing and other materials, recommended by sheathing manufacturer for application indicated and complying with requirements for elastomeric sealants specified in Section 079200 "Joint Sealants."

B. Sealant for Glass-Mat Gypsum Sheathing: Silicone emulsion sealant complying with ASTM C 834, compatible with sheathing tape and sheathing and recommended by tape and sheathing manufacturers for use with glass-fiber sheathing tape and for covering exposed fasteners.

1. Sheathing Tape: Self-adhering glass-fiber tape, minimum 2 inches (50 mm) wide, 10 by 10 or 10 by 20 threads/inch (390 by 390 or 390 by 780 threads/m), of type recommended by sheathing and tape manufacturers for use with silicone emulsion sealant in sealing joints in glass-mat gypsum sheathing and with a history of successful in-service use.

C. Sheathing Tape for Foam-Plastic Sheathing: Pressure-sensitive plastic tape recommended by sheathing manufacturer for sealing joints and penetrations in sheathing.

2.7 MISCELLANEOUS MATERIALS

A. Adhesives for Field Gluing Panels to Wood Framing: Formulation complying with **APA AFG-01** that is approved for use with type of construction panel indicated by manufacturers of both adhesives and panels.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.

B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.

C. Securely attach to substrate by fastening as indicated, complying with the following:

1. Table 2304.9.1, "Fastening Schedule," in the ICC's International Building Code.

2. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in the ICC's International Residential Code for One- and Two-Family Dwellings.
3. ICC-ES evaluation report for fastener.

D. Coordinate **wall** sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.

E. Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.

3.2 WOOD STRUCTURAL PANEL INSTALLATION

A. General: Comply with applicable recommendations in APA Form No. E30, "Engineered Wood Construction Guide," for types of structural-use panels and applications indicated.

B. Fastening Methods: Fasten panels as indicated below:

1. Wall and Roof Sheathing:

a. **Nail** to wood framing.
b. Screw to cold-formed metal framing.
c. Space panels 1/8 inch (3 mm) apart at edges and ends.

3.3 GYPSUM SHEATHING INSTALLATION

A. Comply with GA-253 and with manufacturer's written instructions.

1. Fasten gypsum sheathing to wood framing with **nails or screws**.
2. Fasten gypsum sheathing to cold-formed metal framing with screws.
3. Install panels with a 3/8-inch (9.5-mm) gap where non-load-bearing construction abuts structural elements.
4. Install panels with a 1/4-inch (6.4-mm) gap where they abut masonry or similar materials that might retain moisture, to prevent wicking.

B. Seal sheathing joints according to sheathing manufacturer's written instructions.

1. Apply elastomeric sealant to joints and fasteners and trowel flat. Apply sufficient amount of sealant to completely cover joints and fasteners after troweling. Seal other penetrations and openings.
2. Apply glass-fiber sheathing tape to glass-mat gypsum sheathing joints and apply and trowel sealant to embed entire face of tape in sealant. Apply sealant to exposed fasteners with a trowel so fasteners are completely covered. Seal other penetrations and openings.

3.4 CEMENTITIOUS BACKER UNIT INSTALLATION

A. Install panels and treat joints according to ANSI A108.11 and manufacturer's written instructions for type of application indicated.

END OF SECTION 061600

SECTION 064116 - PLASTIC-LAMINATE-CLAD ARCHITECTURAL CABINETS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Plastic-laminate-clad architectural cabinets.
2. Wood furring, blocking, shims, and hanging strips for installing plastic-laminate-clad architectural cabinets that are not concealed within other construction.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at **Project site**

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include data for fire-retardant treatment from chemical-treatment manufacturer and certification by treating plant that treated materials comply with requirements.

B. Sustainable Design Submittals:

C. Shop Drawings:

1. Include plans, elevations, sections, and attachment details.
2. Apply **AWI Quality Certification** Program label to Shop Drawings.

D. Samples: For each exposed product and for each color and texture specified.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For **manufacture and Installer**.

B. Research reports.

C. Field quality control reports.

1.5 CLOSEOUT SUBMITTALS

A. Quality Standard Compliance Certificates: **AWI Quality Certification Program** certificates.

1.6 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Employs skilled workers who custom fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.

1. Manufacturer's Certification: **Licensed participant in AWI's Quality Certification Program**

B. Installer Qualifications: **Licensed participant in AWI's Quality Certification Program**.

PART 2 - PRODUCTS

2.1 ARCHITECTURAL CABINET MANUFACTURERS

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

1. Manufacturer Approved by Architect

2.2 PLASTIC-LAMINATE-CLAD ARCHITECTURAL CABINETS

A. Quality Standard: Unless otherwise indicated, comply with the Architectural Woodwork Standards for grades of cabinets indicated for construction, finishes, installation, and other requirements.

1. Provide **labels and certificates** from **AWI** certification program indicating that woodwork complies with requirements of grades specified.

B. Architectural Woodwork Standards Grade: **Custom**

C. Type of Construction: **Frameless**

D. Door and Drawer-Front Style: **Flush** overlay.

E. High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated or if not indicated, as required by quality standard.

F. Laminate Cladding for Exposed Surfaces:

1. Horizontal Surfaces: **Grade HGS**
2. Postformed Surfaces: Grade HGP.
3. Vertical Surfaces: **Grade HGS**
4. Edges: **Grade HGS**.
5. Pattern Direction: **Vertically for doors and fixed panels, horizontally for drawer fronts**

G. Concealed Backs of Panels with Exposed Plastic-Laminate Surfaces: High-pressure decorative laminate, NEMA LD 3, Grade BKL.

H. Drawer Construction: Fabricate with exposed fronts fastened to subfront with mounting screws from interior of body.

1. Join subfronts, backs, and sides with **glued rabbeted joints supplemented by mechanical fasteners or glued dovetail joints**.

I. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements:

1. As indicated by laminate manufacturer's designations.
2. Match Architect's sample.
3. As selected by Architect from laminate manufacturer's full range in the following categories:

a. Solid colors, **matte** finish.
b. Solid colors with core same color as surface, **matte** finish.
c. Wood grains, **gloss** finish.
d. Patterns, **gloss** finish.

2.3 WOOD MATERIALS

A. Wood Products: Provide materials that comply with requirements of referenced quality standard for each type of architectural cabinet and quality grade specified unless otherwise indicated.

1. Wood Moisture Content: **5 to 10** percent.

B. Composite Wood and Agrifiber Products: Provide materials that comply with requirements of referenced quality standard for each type of architectural cabinet and quality grade specified unless otherwise indicated.

1. Medium-Density Fiberboard (MDF): ANSI A208.2, **Grade 130**
2. Particleboard: ANSI A208.1, **Grade M-2-Exterior Glue**.
3. Straw-Based Particleboard: ANSI A208.1, Grade M-2, except for density.

4. Softwood Plywood: DOC PS 1**, medium-density overlay**.
5. Thermoset Decorative Panels: Particleboard or MDF finished with thermally fused, melamine-impregnated decorative paper and complying with requirements of NEMA LD 3, Grade VGL, for Test Methods 3.3, 3.4, 3.6, 3.8, and 3.10.

2.4 FIRE-RETARDANT-TREATED MATERIALS

A. Fire-Retardant-Treated Materials, General: Where fire-retardant-treated materials are indicated, use materials that are acceptable to authorities having jurisdiction as determined by testing performed on identical products by a qualified testing agency.

1. Use treated materials that comply with requirements of referenced quality standard. Do not use materials that are warped, discolored, or otherwise defective.
2. Use fire-retardant-treatment formulations that do not bleed through or otherwise adversely affect finishes. Do not use colorants to distinguish treated materials from untreated materials.
3. Identify fire-retardant-treated materials with appropriate classification marking of qualified testing agency in the form of removable paper label or imprint on surfaces that will be concealed from view after installation.

2.5 CABINET HARDWARE AND ACCESSORIES

A. General: Provide cabinet hardware and accessory materials associated with architectural cabinets except for items specified in **Section 087100 "Door Hardware."**

B. Butt Hinges: 2-3/4-inch (70-mm), five-knuckle steel hinges made from 0.095-inch- (2.4-mm-) thick metal, and as follows:

1. Semiconcealed Hinges for Flush Doors: BHMA A156.9, B01361.
2. Semiconcealed Hinges for Overlay Doors: BHMA A156.9, B01521.

C. Frameless Concealed Hinges (European Type): BHMA A156.9, B01602, **135**degrees of opening**,**

D. Back-Mounted Pulls: BHMA A156.9, B02011.

E. Wire Pulls: Back mounted, solid **metal 4 inches (100 mm) long, 5/16 inch (8 mm) in diameter**.

F. Catches: **Magnetic catches, BHMA A156.9, B03141**.

G. Adjustable Shelf Standards and Supports: **BHMA A156.9, B04071; with shelf rests, B04081**Rests in "Shelf Rests" Paragraph below are installed in holes drilled in cabinet sides and partitions.

H. Shelf Rests: BHMA A156.9, B04013; **metal**

I. Drawer Slides: BHMA A156.9.

1. Grade 1 and Grade 2: Side mounted **and extending under bottom edge of drawer**.

a. Type: F**ull** extension.
b. Material: **Epoxy-coated** steel with polymer rollers.

2. Grade 1HD-100 and Grade 1HD-200: Side mounted; **full**-extension type; zinc-plated-steel ball-bearing slides.
3. For drawers not more than 3 inches (75 mm) high and not more than 24 inches (600 mm) wide, provide **Grade 2**
4. For drawers more than 3 inches (75 mm) high, but not more than 6 inches (150 mm) high and not more than 24 inches (600 mm) wide, provide **Grade 1**
5. For drawers more than 6 inches (150 mm) high or more than 24 inches (600 mm) wide, provide **Grade 1HD-100**
6. For computer keyboard shelves, provide **Grade 1**
7. For trash bins not more than 20 inches (500 mm) high and 16 inches (400 mm) wide, provide **Grade 1HD-100**

J. Slides for Sliding Glass Doors: BHMA A156.9, B07063; **plastic** .

K. Door Locks: BHMA A156.11, E07121.

L. Drawer Locks: BHMA A156.11, E07041.

M. Door and Drawer Silencers: BHMA A156.16, L03011.

N. Grommets for Cable Passage: **2-inch (51-mm)** OD, molded-plastic grommets and matching plastic caps with slot for wire passage.

1. Color: **Black**

O. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.

1. Dark, Oxidized, Satin Bronze, Oil Rubbed: BHMA 613 for bronze base; BHMA 640 for steel base; match Architect's sample.
2. Bright Brass, Clear Coated: BHMA 605 for brass base; BHMA 632 for steel base.
3. Bright Brass, Vacuum Coated: BHMA 723 for brass base; BHMA 729 for zinc-coated-steel base.
4. Satin Brass, Blackened, Bright Relieved, Clear Coated: BHMA 610 for brass base; BHMA 636 for steel base.
5. Satin Chromium Plated: BHMA 626 for brass or bronze base; BHMA 652 for steel base.
6. Bright Chromium Plated: BHMA 625 for brass or bronze base; BHMA 651 for steel base.
7. Satin Stainless Steel: BHMA 630.

P. For concealed hardware, provide manufacturer's standard finish that complies with product class requirements in BHMA A156.9.

2.6 MISCELLANEOUS MATERIALS

A. Furring, Blocking, Shims, and Hanging Strips: **Softwood or hardwood lumber** , kiln-dried to less than 15 percent moisture content.

B. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide metal expansion sleeves or expansion bolts for post-installed anchors. Use nonferrous-metal or hot-dip galvanized anchors and inserts at inside face of exterior walls and at floors.

C. <Double click to insert sustainable design text for adhesives.>

D. Adhesive for Bonding Plastic Laminate: **Contact cement** Retain "Adhesive for Bonding Edges" Subparagraph below unless improved chemical, fire, or temperature resistance is required.

1. Adhesive for Bonding Edges: Hot-melt adhesive **or adhesive specified above for faces**.

2.7 FABRICATION

A. Complete fabrication, including assembly and hardware application, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

B. Shop-cut openings to maximum extent possible to receive hardware, appliances, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.

C. Install glass to comply with applicable requirements in Section 088000 "Glazing" and in GANA's "Glazing Manual."

1. For glass in frames, secure glass with removable stops.
2. For exposed glass edges, polish and grind smooth.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Before installation, condition cabinets to humidity conditions in installation areas for not less than 72 hours.

B. Architectural Woodwork Standards Grade: Install cabinets to comply with quality standard grade of item to be installed.

C. Anchor cabinets to anchors or blocking built in or directly attached to substrates. Secure with wafer-head cabinet installation screws.

D. Install cabinets level, plumb, and true in line to a tolerance of 1/8 inch in 96 inches using concealed shims.

1. Scribe and cut cabinets to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
2. Install cabinets without distortion so doors and drawers fit openings and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete installation of hardware and accessory items as indicated.
3. Fasten wall cabinets through back, near top and bottom, and at ends not more than 16 inches (400 mm) o.c. with **No. 10 wafer-head screws sized for not less than 1-1/2-inch (38-mm) penetration into wood framing, blocking, or hanging strips**

3.2 FIELD QUALITY CONTROL

A. Inspections: Provide inspection of installed Work through **AWI's Quality Certification Program** certifying that woodwork, including installation, complies with requirements of the Architectural Woodwork Standards for the specified grade.

1. Inspection entity shall prepare and submit report of inspection.

END OF SECTION 064116

SECTION 072100 - THERMAL INSULATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Extruded polystyrene foam-plastic board.
2. Molded polystyrene foam-plastic board.
3. Polyisocyanurate foam-plastic board.
4. Glass-fiber blanket.
5. Glass-fiber board.
6. Mineral-wool blanket.
7. Mineral-wool board.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.3 INFORMATIONAL SUBMITTALS

A. Product test reports.

B. Research reports.

PART 2 - PRODUCTS

2.1 GLASS-FIBER BLANKET

A. Glass-Fiber Blanket, Unfaced as indicated in drawings ASTM C 665, Type I; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively, per ASTM E 84; passing ASTM E 136 for combustion characteristics.

B. Glass-Fiber Blanket, Kraft Faced as indicated in drawings ASTM C 665, Type II (nonreflective faced), Class C (faced surface not rated for flame propagation); Category 1 (membrane is a vapor barrier).

2.2 MINERAL-WOOL BLANKETS

A. Mineral-Wool Blanket, Unfaced as indicated in drawings ASTM C 665, Type I (blankets without membrane facing); consisting of fibers; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively, per ASTM E 84; passing ASTM E 136 for combustion characteristics.

2.3 ACCESSORIES

A. Insulation for Miscellaneous Voids:

1. Glass-Fiber Insulation: ASTM C 764, Type II, loose fill; with maximum flame-spread and smoke-developed indexes of 5, per ASTM E 84.
2. Spray Polyurethane Foam Insulation: ASTM C 1029, Type II, closed cell, with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, per ASTM E 84.

B. Insulation Anchors, Spindles, and Standoffs: As recommended by manufacturer.

C. Adhesive for Bonding Insulation: Product compatible with insulation and air and water barrier materials, and with demonstrated capability to bond insulation securely to substrates without damaging insulation and substrates.

D. Eave Ventilation Troughs: Preformed, rigid fiberboard or plastic sheets designed and sized to fit between roof framing members and to provide ventilation between insulated attic spaces and vented eaves.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Comply with insulation manufacturer's written instructions applicable to products and applications.

B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed to ice, rain, or snow at any time.

C. Extend insulation to envelop entire area to be insulated. Fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.

D. Provide sizes to fit applications and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units unless multiple layers are otherwise shown or required to make up total thickness or to achieve R-value.

3.2 INSTALLATION OF CAVITY-WALL INSULATION

A. Foam-Plastic Board Insulation: Install pads of adhesive spaced approximately 24 inches (610 mm) o.c. both ways on inside face and as recommended by manufacturer. Fit courses of insulation between wall ties and other obstructions, with edges butted tightly in both directions. Press units firmly against inside substrates.

1. Supplement adhesive attachment of insulation by securing boards with two-piece wall ties designed for this purpose and specified in Section 042000 "Unit Masonry."

3.3 INSTALLATION OF INSULATION IN FRAMED CONSTRUCTION

A. Blanket Insulation: Install in cavities formed by framing members according to the following requirements:

1. Use insulation widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill the cavities, provide lengths that will produce a snug fit between ends.
2. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
3. Maintain 3-inch (76-mm) clearance of insulation around recessed lighting fixtures not rated for or protected from contact with insulation.
4. Attics: Install eave ventilation troughs between roof framing members in insulated attic spaces at vented eaves.
5. For metal-framed wall cavities where cavity heights exceed 96 inches (2438 mm), support unfaced blankets mechanically and support faced blankets by taping flanges of insulation to flanges of metal studs.
6. For wood-framed construction, install blankets according to ASTM C 1320 and as follows:

    a. With faced blankets having stapling flanges, lap blanket flange over flange of adjacent blanket to maintain continuity of vapor retarder once finish material is installed over it.

7. Vapor-Retarder-Faced Blankets: Tape joints and ruptures in vapor-retarder facings, and seal each continuous area of insulation to ensure airtight installation.

    a. Exterior Walls: Set units with facing placed toward **as indicated on Drawings**.
    b. Interior Walls: Set units with facing placed **as indicated on Drawings**

B. Miscellaneous Voids: Install insulation in miscellaneous voids and cavity spaces where required to prevent gaps in insulation using the following materials:

1. Glass-Fiber Insulation: Compact to approximately 40 percent of normal maximum volume equaling a density of approximately 2.5 lb/cu. ft. (40 kg/cu. m).
2. Spray Polyurethane Insulation: Apply according to manufacturer's written instructions.

3.4 INSTALLATION OF CURTAIN-WALL INSULATION

A. Install board insulation in curtain-wall construction according to curtain-wall manufacturer's written instructions.

1. Hold insulation in place by securing metal clips and straps or integral pockets within window frames, spaced at intervals recommended in writing by insulation manufacturer to hold insulation securely in place without touching spandrel glass. Maintain cavity width of dimension indicated on Drawings between insulation and glass.
2. Install insulation to fit snugly without bowing.

END OF SECTION 072100

SECTION 072500 - WEATHER BARRIERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Building paper.
2. Building wrap.
3. Flexible flashing.
4. Drainage material.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.3 INFORMATIONAL SUBMITTALS

A. Evaluation Reports: For **water-resistive barrier and flexible flashing**, from ICC-ES.

PART 2 - PRODUCTS

2.1 WATER-RESISTIVE BARRIER

A. Building Paper: ASTM D 226, Type 1 (No. 15 asphalt-saturated organic felt), unperforated.

B. Building Paper: Water-vapor-permeable, asphalt-saturated kraft building paper that complies with ICC-ES AC38, Grade D**; except with water-resistance rating not less than 1 hour**.

C. Building Wrap: ASTM E 1677, Type I air barrier; with flame-spread and smoke-developed indexes of less than 25 and 450, respectively, when tested according to ASTM E 84; UV stabilized; and acceptable to authorities having jurisdiction.
1. Water-Vapor Permeance: Not less than **20 perms** per ASTM E 96/E 96M, Desiccant Method (Procedure A).
2. Flame Propagation Test: Materials and construction shall be as tested according to NFPA 285.

D. Building-Wrap Tape: Pressure-sensitive plastic tape recommended by building-wrap manufacturer for sealing joints and penetrations in building wrap.

2.2 FLEXIBLE FLASHING

A. Butyl Rubber Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than **0.030 inch**

1. Flame Propagation Test: Materials and construction shall be as tested according to NFPA 285.

B. Rubberized-Asphalt Flashing: Composite, self-adhesive, flashing product consisting of a pliable, rubberized-asphalt compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than **0.030 inch**
   1. Flame Propagation Test: Materials and construction shall be as tested according to NFPA 285.

2.3 DRAINAGE MATERIAL

A. Drainage Material: Product shall maintain a continuous open space between water-resistive barrier and exterior cladding to create a drainage plane and shall be used under **siding.**
   1. Flame Propagation Test: Materials and construction shall be as tested according to NFPA 285.

PART 3 - EXECUTION

3.1 WATER-RESISTIVE BARRIER INSTALLATION

A. Cover sheathing with water-resistive barrier as follows:

   1. Cut back barrier 1/2 inch on each side of the break in supporting members at expansion- or control-joint locations.
   2. Apply barrier to cover vertical flashing with a minimum 4-inch overlap unless otherwise indicated.

B. Building Paper: Apply horizontally with a 2-inch overlap and a 6-inch end lap; fasten to sheathing with galvanized staples or roofing nails.

C. Building Wrap: Comply with manufacturer's written instructions and warranty requirements.

   1. Seal seams, edges, fasteners, and penetrations with tape.
   2. Extend into jambs of openings and seal corners with tape.

3.2 FLEXIBLE FLASHING INSTALLATION

A. Apply flexible flashing where indicated to comply with manufacturer's written instructions.

   1. Lap seams and junctures with other materials at least 4 inches except that at flashing flanges of other construction, laps need not exceed flange width.
   2. Lap flashing over water-resistive barrier at bottom and sides of openings.
   3. Lap water-resistive barrier over flashing at heads of openings.

3.3 DRAINAGE MATERIAL INSTALLATION

A. Install drainage material over building wrap and flashing to comply with manufacturer's written instructions.

END OF SECTION 072500

SECTION 072600 - VAPOR RETARDERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Polyethylene vapor retarders.
2. Reinforced-polyethylene vapor retarders.

B. Related Requirements:

1. Section 033000 "Cast-in-Place Concrete" for under-slab vapor retarders.
2. Section 072100 "Thermal Insulation" for vapor retarders integral with insulation products.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.3 INFORMATIONAL SUBMITTALS

A. Product test reports.

PART 2 - PRODUCTS

2.1 POLYETHYLENE VAPOR RETARDERS

A. Polyethylene Vapor Retarders: ASTM D 4397, **10-mil-** thick sheet, with maximum permeance rating of 0.1 perm

2.2 REINFORCED-POLYETHYLENE VAPOR RETARDERS

A. Reinforced-Polyethylene Vapor Retarders: Sheet with outer layers of polyethylene film laminated to an inner reinforcing layer consisting of either nylon cord or polyester scrim and weighing not less than **20 lb/1000 sq. ft.** with maximum permeance rating of 0.1 perm (5.7 ng/Pa x s x sq. m).

PART 3 - EXECUTION

3.1 INSTALLATION OF VAPOR RETARDERS ON FRAMING

A. Extend vapor retarders to extremities of areas to protect from vapor transmission. Secure vapor retarders in place with adhesives, vapor retarder fasteners, or other anchorage system as

recommended by manufacturer. Extend vapor retarders to cover miscellaneous voids in insulated substrates, including those filled with loose-fiber insulation.

B. Seal vertical joints in vapor retarders over framing by lapping no fewer than two studs and sealing with vapor-retarder tape according to vapor-retarder manufacturer's written instructions. Locate all joints over framing members or other solid substrates.

C. Seal joints caused by pipes, conduits, electrical boxes, and similar items penetrating vapor retarders with vapor-retarder tape to create an airtight seal between penetrating objects and vapor retarders.

D. Repair tears or punctures in vapor retarders immediately before concealment by other work. Cover with vapor-retarder tape or another layer of vapor retarders.

END OF SECTION 072600

SECTION 074646 - FIBER-CEMENT SIDING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes fiber-cement **siding and soffit**.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For fiber-cement **siding soffit** including related accessories.

1.3 INFORMATIONAL SUBMITTALS

A. Product certificates.

B. Product test reports.

C. Research/evaluation reports.

D. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.5 QUALITY ASSURANCE

A. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and to set quality standards for fabrication and installation.

1. Build mockup of typical wall area as shown on Drawings.
2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace products that fail in materials or workmanship within specified warranty period.

1. Warranty Period: **25** years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 FIBER-CEMENT SIDING

A. General: ASTM C 1186, Type A, Grade II, fiber-cement board, noncombustible when tested according to ASTM E 136; with a flame-spread index of 25 or less when tested according to ASTM E 84.

B. Labeling: Provide fiber-cement siding that is tested and labeled according to ASTM C 1186 by a qualified testing agency acceptable to authorities having jurisdiction.

C. Nominal Thickness: Not less than 5/16 inch (8 mm).

D. Horizontal Pattern: Boards are to match existing.

1. Texture: Match existing

E. Vertical Pattern: Match Existing

F. Factory Priming: Manufacturer's standard acrylic primer.

2.2 FIBER-CEMENT SOFFIT

A. General: ASTM C 1186, Type A, Grade II, fiber-cement board, noncombustible when tested according to ASTM E 136; with a flame-spread index of 25 or less when tested according to ASTM E 84.

B. Nominal Thickness: Not less than 5/16 inch (8 mm).

C. Pattern: Match Existing

D. Factory Priming: Manufacturer's standard acrylic primer.

2.3 ACCESSORIES

A. Siding Accessories, General: Provide starter strips, edge trim, outside and inside corner caps, and other items as recommended by siding manufacturer for building configuration.

B. Flashing: Provide **aluminum** flashing complying with Section 076200 "Sheet Metal Flashing and Trim" at window and door heads and where indicated.

1. Finish for Aluminum Flashing: **Factory-prime coating**

C. Fasteners:

1. For fastening to wood, use **siding nails** of sufficient length to penetrate a minimum of 1 inch (25 mm) into substrate.
2. For fastening to metal, use ribbed bugle-head screws of sufficient length to penetrate a minimum of 1/4 inch (6 mm), or three screw-threads, into substrate.
3. For fastening fiber cement, use **hot-dip galvanized** fasteners.

D. Insect Screening for Soffit Vents: **Aluminum, 18-by-16 (1.4-by-1.6-mm) mesh**

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Comply with manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply.

1. Install fasteners no more than **24 inches** o.c.

B. Install joint sealants as specified in Section 079200 "Joint Sealants" and to produce a weathertight installation.

3.2 ADJUSTING AND CLEANING

A. Remove damaged, improperly installed, or otherwise defective materials and replace with new materials complying with specified requirements.

B. Clean finished surfaces according to manufacturer's written instructions and maintain in a clean condition during construction.

END OF SECTION 074646

SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes:

1. Interior standard steel doors and frames.
2. Exterior standard steel doors and frames.
3. Interior custom hollow-metal doors and frames.
4. Exterior custom hollow-metal doors and frames.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: Include the following:

1. Elevations of each door type.
2. Details of doors, including vertical- and horizontal-edge details and metal thicknesses.
3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.

C. Product Schedule: For hollow-metal doors and frames, prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final door hardware schedule.

1.4 INFORMATIONAL SUBMITTALS

A. Product test reports.

B. Field quality control reports.

1.5 CLOSEOUT SUBMITTALS

A. Record Documents: For fire-rated doors, list of door numbers and applicable room name and number to which door accesses.

1.6 QUALITY ASSURANCE

A. Fire-Rated Door Inspector Qualifications: Inspector for field quality control inspections of fire-rated door assemblies shall meet the qualifications set forth in NFPA 80, section 5.2.3.1 and the following:

1. Door and Hardware Institute Fire and Egress Door Assembly Inspector (FDAI) certification.

B. Egress Door Inspector Qualifications: Inspector for field quality control inspections of egress door assemblies shall meet the qualifications set forth in NFPA 101, section 7.2.1.15.4 and the following:

1. Door and Hardware Institute Fire and Egress Door Assembly Inspector (FDAI) certification.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

2.2 PERFORMANCE REQUIREMENTS

A. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction for fire-protection ratings **and temperature-rise limits** indicated on Drawings, based on testing at positive pressure according to NFPA 252 or UL 10C.

1. Smoke- and Draft-Control Door Assemblies: Listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing according to UL 1784 and installed in compliance with NFPA 105.
2. Temperature-Rise Limit: **Where indicated on Drawings** provide doors that have a maximum transmitted temperature end point of not more than 450 deg F (250 deg C) above ambient after 30 minutes of standard fire-test exposure.

B. Fire-Rated, Borrowed-Lite Assemblies: Complying with NFPA 80 and listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated, based on testing according to NFPA 257 or UL 9.

C. Thermally Rated Door Assemblies: Provide door assemblies with U-factor of not more than **0.38 deg Btu/F x h x sq. ft. (2.16 W/K x sq. m)** when tested according to ASTM C 518.

2.3 INTERIOR STANDARD STEEL DOORS AND FRAMES

A. Construct hollow-metal doors and frames to comply with standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

B. Standard-Duty Doors and Frames: SDI A250.8, Level 1; SDI A250.4, Level C. **At locations indicated in the Door and Frame Schedule**

1. Doors:

a. Type: As indicated in the Door and Frame Schedule.
b. Thickness: **1-3/4 inches (44.5 mm)**
c. Face: **Matallic-coated** steel sheet, minimum thickness of 0.032 inch (0.8 mm).
d. Edge Construction: **Model 1, Full Flush**
e. Core: **Manufacturer's standard.**
f. Fire-Rated Core: Manufacturer's standard **vertical steel stiffener** core for fire-rated **and temperature-rise-rated** doors.

2. Frames:

a. Materials: **Metallic-coated** steel sheet, minimum thickness of 0.042 inch (1.0 mm).
b. Construction: **Knocked down**

C. Heavy-Duty Doors and Frames: SDI A250.8, Level 2; SDI A250.4, Level B. **At locations indicated in the Door and Frame Schedule**

1. Doors:

a. Type: As indicated in the Door and Frame Schedule.
b. Thickness: 1-3/4 inches (44.5 mm).
c. Face: **Metallic-coated** steel sheet, minimum thickness of 0.042 inch (1.0 mm).
d. Edge Construction: **Model 1, Full Flush**
e. Core: **Manufacturer's standard**
f. Fire-Rated Core: Manufacturer's standard **vertical steel stiffener** core for fire-rated **and temperature-rise-rated** doors.

2. Frames:

a. Materials: **Metallic-coated** steel sheet, minimum thickness of 0.053 inch (1.3 mm).
b. Construction: **Knocked down**.

2.4 EXTERIOR STANDARD STEEL DOORS AND FRAMES

A. Construct hollow-metal doors and frames to comply with standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.
a.

B. Maximum-Duty Doors and Frames: SDI A250.8, Level 4; SDI A250.4, Level A. **At locations indicated in the Door and Frame Schedule**

1. Doors:

a. Type: As indicated in the Door and Frame Schedule.
b. Thickness: 1-3/4 inches (44.5 mm).
c. Face: Metallic-coated steel sheet, minimum thickness of 0.067 inch (1.7 mm), with minimum **A60 (ZF180)** coating.
d. Edge Construction: **Model 1, Full Flush**
e. Top Edge Closures: Close top edges of doors with flush closures of same material as face sheets. Seal joints against water penetration.
f. Bottom Edges: Close bottom edges of doors **where required for attachment of weather stripping** with end closures or channels of same material as face sheets. Provide weep-hole openings in bottoms of exterior doors to permit moisture to escape.

g. Core: **Manufacturer's standard**.
h. Fire-Rated Core: Manufacturer's standard **vertical steel stiffener with insulation** core for fire-rated doors.

2. Frames:

a. Materials: Metallic-coated steel sheet, minimum thickness of 0.067 inch (1.7 mm), with minimum **A40 (ZF120)** coating.
b. Construction: **Full profile welded**.

2.5 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.

B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.

C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B.

D. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.

E. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow-metal frames of type indicated.

F. Mineral-Fiber Insulation: ASTM C 665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics.

G. Glazing: Comply with requirements in Section 088000 "Glazing."

2.6 FABRICATION

A. Door Astragals: Provide overlapping astragal on one leaf of pairs of doors where required by NFPA 80 for fire-performance rating or where indicated. Extend minimum 3/4 inch (19 mm) beyond edge of door on which astragal is mounted or as required to comply with published listing of qualified testing agency.

B. Hollow-Metal Frames: Fabricate in one piece except where handling and shipping limitations require multiple sections. Where frames are fabricated in sections, provide alignment plates or angles at each joint, fabricated of metal of same or greater thickness as frames.

1. Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by welding**, or by rigid mechanical anchors**.
2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
3. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.

a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.

C. Hardware Preparation: Factory prepare hollow-metal doors and frames to receive templated mortised hardware, and electrical wiring; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.

1. Reinforce doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.
2. Comply with BHMA A156.115 for preparing hollow-metal doors and frames for hardware.

D. Glazed Lites: Provide stops and moldings around glazed lites where indicated. Form corners of stops and moldings with **mitered** hairline joints.

1. Provide stops and moldings flush with face of door, and with **square** stops unless otherwise indicated.
2. Multiple Glazed Lites: Provide fixed and removable stops and moldings so that each glazed lite is capable of being removed independently.
3. Provide fixed frame moldings on outside of exterior and on secure side of interior doors and frames. Provide loose stops and moldings on inside of hollow-metal doors and frames.
4. Coordinate rabbet width between fixed and removable stops with glazing and installation types indicated.
5. Provide stops for installation with countersunk flat- or oval-head machine screws spaced uniformly not more than 9 inches (230 mm) o.c. and not more than 2 inches (51 mm) o.c. from each corner.

2.7 STEEL FINISHES

A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.

1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

PART 3 - EXECUTION

3.1 PREPARATION

A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces. Touch up factory-applied finishes where spreaders are removed.

B. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

3.2 INSTALLATION

A. Hollow-Metal Frames: Comply with **SDI A250.11**

1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces without damage to completed Work.

a. Where frames are fabricated in sections, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces. Touch-up finishes.
b. Install frames with removable stops located on secure side of opening.

2. Fire-Rated Openings: Install frames according to NFPA 80.
3. Floor Anchors: Secure with postinstalled expansion anchors.

a. Floor anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.

4. Solidly pack mineral-fiber insulation inside frames.
5. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout or mortar.
6. In-Place Concrete or Masonry Construction: Secure frames in place with postinstalled expansion anchors. **Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.**
7. Installation Tolerances: Adjust hollow-metal frames to the following tolerances:

a. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
b. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
c. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
d. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs at floor.

B. Hollow-Metal Doors: Fit and adjust hollow-metal doors accurately in frames, within clearances specified below.

1. Non-Fire-Rated Steel Doors: Comply with **SDI A250.8** Retain "Fire-Rated Doors" and "Smoke-Control Doors" subparagraphs below if required.
2. Fire-Rated Doors: Install doors with clearances according to NFPA 80.
3. Smoke-Control Doors: Install doors according to NFPA 105.

C. Glazing: Comply with installation requirements in Section 088000 "Glazing" and with hollow-metal manufacturer's written instructions.

3.3 FIELD QUALITY CONTROL

A. Inspection Agency: **Owner will engage** a qualified inspector to perform inspections and to furnish reports to Architect.

B. Inspections:

1. Fire-Rated Door Inspections: Inspect each fire-rated door according to NFPA 80, section 5.2
2. Egress Door Inspections: Inspect each door equipped with panic hardware, each door equipped with fire exit hardware, each door located in an exit enclosure, each electrically controlled egress door, and each door equipped with special locking arrangements according to NFPA 101, section 7.2.1.15.

C. Repair or remove and replace installations where inspections indicate that they do not comply with specified requirements.

D. Reinspect repaired or replaced installations to determine if replaced or repaired door assembly installations comply with specified requirements.

E. Prepare and submit separate inspection report for each fire-rated door assembly indicating compliance with each item listed in **NFPA 80**.

3.4 CLEANING AND TOUCHUP

A. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

B. Metallic-Coated Surface Touchup: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

C. Touchup Painting: Cleaning and touchup painting of abraded areas of paint are specified in painting Sections.

END OF SECTION 081113

SECTION 081213 - HOLLOW METAL FRAMES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Interior standard steel frames.

1.2 DEFINITIONS

A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Sustainable Design Submittals:

C. Shop Drawings: Include elevations, frame profiles, metal thicknesses, and wall opening conditions.

D. Schedule: Prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings.

1.4 INFORMATIONAL SUBMITTALS

A. Product test reports.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

2.2 PERFORMANCE REQUIREMENTS

A. Fire-Rated Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction for fire-protection ratings indicated on Drawings, based on testing at positive pressure according to NFPA 252 or UL 10C.

1. Smoke- and Draft-Control Assemblies: Listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing according to UL 1784 and installed in compliance with NFPA 105.

B. Fire-Rated, Borrowed-Lite Assemblies: Complying with NFPA 80 and listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated, based on testing according to NFPA 257 or UL 9.

2.3 STANDARD STEEL FRAMES

A. Construct hollow-metal frames to comply with standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

B. Interior Frames: SDI A250.8. **At locations indicated in the Door and Frame Schedule**

1. Materials: **Metallic-coated** steel sheet, minimum thickness of **0.053 inch (1.3 mm.**
2. Frames: Fabricated from same thickness material as adjacent door frame.
3. Construction: **Knocked down**
4. Exposed Finish: **Factory**.

2.4 FRAME ANCHORS

A. Jamb Anchors:

1. Type: Anchors of minimum size and type required by applicable door and frame standard, and suitable for performance level indicated.
2. Quantity: Minimum of three anchors per jamb, with one additional anchor for frames with no floor anchor. Provide one additional anchor for each 24 inches (610 mm) of frame height above 7 feet (2.1 m).
3. Postinstalled Expansion Anchor: Minimum 3/8-inch- (9.5-mm-) diameter bolts with expansion shields or inserts, with manufacturer's standard pipe spacer.

B. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor.

C. Floor Anchors for Concrete Slabs with Underlayment: Adjustable-type anchors with extension clips, allowing not less than 2-inch (51-mm) height adjustment. Terminate bottom of frames at top of underlayment.

D. Material: ASTM A 879/A 879M, Commercial Steel (CS), 04Z (12G) coating designation; mill phosphatized.

2.5 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.

B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.

C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B.

D. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.

E. Power-Actuated Fasteners in Concrete: Fabricated from corrosion-resistant materials.

F. Glazing: Comply with requirements in Section 088000 "Glazing."

2.6 FABRICATION

A. Hollow-Metal Frames: Fabricate in one piece except where handling and shipping limitations require multiple sections. Where frames are fabricated in sections, provide alignment plates or angles at each joint, fabricated of metal of same or greater thickness as frames.

1. Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by welding**, or by rigid mechanical anchors**.
2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
3. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.

    a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
    b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.

B. Hardware Preparation: Factory prepare hollow-metal frames to receive templated mortised hardware, and electrical wiring; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.

1. Reinforce frames to receive nontemplated, mortised, and surface-mounted door hardware.
2. Comply with BHMA A156.115 for preparing hollow-metal frames for hardware.

C. Glazed Lites: Provide stops and moldings around glazed lites where indicated. Form corners of stops and moldings with **mitered** hairline joints.

1. Multiple Glazed Lites: Provide fixed and removable stops and moldings so that each glazed lite is capable of being removed independently.
2. Provide fixed frame moldings on outside of exterior and on secure side of interior frames. Provide loose stops and moldings on inside of hollow-metal frames.
3. Coordinate rabbet width between fixed and removable stops with glazing and installation types indicated.
4. Provide stops for installation with countersunk flat- or oval-head machine screws spaced uniformly not more than 9 inches (230 mm) o.c. and not more than 2 inches (51 mm) o.c. from each corner.

2.7 STEEL FINISHES

A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.

1. Shop Primer: SDI A250.10.

B. Factory Finish: SDI A250.3.

1. Color and Gloss: **As selected by Architect from manufacturer's full range**.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Install hollow-metal frames plumb, rigid, properly aligned, and securely fastened in place. Comply with approved Shop Drawings and with manufacturer's written instructions. Comply with **SDI A250.11**

B. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces without damage to completed Work.

1. Where frames are fabricated in sections, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces. Touch-up finishes.
2. Install frames with removable stops located on secure side of opening.

C. Fire-Rated Openings: Install frames according to NFPA 80.

D. Floor Anchors: Secure with postinstalled expansion anchors.

1. Floor anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.

E. Solidly pack mineral-fiber insulation inside frames.

F. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout or mortar.

G. In-Place Concrete or Masonry Construction: Secure frames in place with postinstalled expansion anchors. **Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.**

H. Installation Tolerances: Adjust hollow-metal frames to the following tolerances:

1. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
2. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
3. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
4. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs at floor.

I. Glazing: Comply with installation requirements in Section 088000 "Glazing" and with hollow-metal manufacturer's written instructions.

3.2 CLEANING AND TOUCHUP

A. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

B. Metallic-Coated Surface Touchup: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

C. Factory-Finish Touchup: Clean abraded areas and repair with same material used for factory finish according to manufacturer's written instructions.

D. Touchup Painting: Cleaning and touchup painting of abraded areas of paint are specified in painting Sections.

END OF SECTION 081213

SECTION 081416 - FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Five-ply flush wood veneer-faced doors for transparent finish.
2. Five-ply flush wood doors for opaque finish.
3. Solid-core flush wood doors with plastic-laminate-faces.
4. Hollow-core flush wood veneer-faced doors for transparent finish.
5. Hollow-core flush wood doors for opaque finish.
6. Hollow-core flush wood doors with plastic-laminate faces.
7. Fire-rated wood door frames.
8. Factory **priming**, **finishing**] flush wood doors **and frames**.
9. Factory fitting flush wood doors to frames and factory machining for hardware.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product, including the following:

1. Door core materials and construction.
2. Door edge construction
3. Door face type and characteristics.
4. Door louvers.
5. Door trim for openings.
6. Door frame construction.
7. Factory-machining criteria.
8. Factory- **priming finishing** specifications.

B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each type of door; construction details not covered in Product Data; and the following:

1. Door schedule indicating door **and frame** location, type, size, fire protection rating, and swing.
2. Door elevations, dimension and locations of hardware, lite and louver cutouts, and glazing thicknesses.
3. Details of frame for each frame type, including dimensions and profile.
4. Details of electrical raceway and preparation for electrified hardware, access control systems, and security systems.
5. Dimensions and locations of blocking for hardware attachment.
6. Clearances and undercuts.
7. Requirements for veneer matching.
8. Apply **AWI Quality Certification** Program label to Shop Drawings.

C. Samples: For **plastic-laminate door faces**, **polymer edging**, **factory-finished doors**, **and factory-finished door frames**.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For door inspector.

1. Fire-Rated Door Inspector: Submit documentation of compliance with NFPA 80, Section 5.2.3.1.
2. Egress Door Inspector: Submit documentation of compliance with NFPA 101, Section 7.2.1.15.4.
3. Submit copy of DHI's Fire and Egress Door Assembly Inspector (FDAI) certificate.

B. Field quality-control reports.

1.4 CLOSEOUT SUBMITTALS

A. Quality Standard Compliance Certificates: **AWI Quality Certification** Program certificates.

B. Record Documents: For fire-rated doors, list of door numbers and applicable room name and number to which door accesses.

1.5 QUALITY ASSURANCE

A. Manufacturer's Certification: Licensed participant in **AWI's Quality Certification Program**

B. Fire-Rated Door Inspector Qualifications: Inspector for field quality-control inspections of fire-rated door assemblies shall comply with qualifications set forth in NFPA 80, Section 5.2.3.1 and the following:

1. DHI's Fire and Egress Door Assembly Inspector (FDAI) certification.

C. Egress Door Inspector Qualifications: Inspector for field quality-control inspections of egress door assemblies shall comply with qualifications set forth in NFPA 101, Section 7.2.1.15.4 and the following:

1. DHI's Fire and Egress Door Assembly Inspector (FDAI) certification.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Rated Wood Door **and Frame** Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated on Drawings, based on testing at positive pressure in accordance with **UL 10C or NFPA 252** .

1. Oversize Fire-Rated Door Assemblies: For units exceeding sizes of tested assemblies, provide certification by a qualified testing agency that doors comply with standard construction requirements for tested and labeled fire-rated door assemblies except for size.
2. Temperature-Rise Limit: **Where indicated on Drawings**, provide doors that have a maximum transmitted temperature end point of not more than 450 deg F (250 deg C) above ambient after 30 minutes of standard fire-test exposure.

B. Smoke- and Draft-Control Door Assemblies: Listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing in accordance with UL 1784 and installed in compliance with NFPA 105.

2.2 FLUSH WOOD DOORS **AND FRAMES**, GENERAL

A. Quality Standard: In addition to requirements specified, comply with **"Architectural Woodwork Standards."**

1. Provide **labels and certificates** from **AWI** certification program indicating that doors **and frames** comply with requirements of grades specified.

   a. This project has been registered with AWI as AWI Quality Certification Program Number .
   b. Contractor shall register the Work under this Section with the AWI Quality Certification Program at www.awiqcp.org or by calling 855-345-0991.

2.3 SOLID-CORE FLUSH WOOD DOORS WITH PLASTIC-LAMINATE FACES

A. Interior Doors ;
1. Performance Grade: WDMA I.S. 1A **Extra Heavy Duty**, **Heavy Duty**, **Standard Duty**
2. Performance Grade:

   a. WDMA I.S. 1A Heavy Duty unless otherwise indicated on Drawings.
   b. WDMA I.S. 1A Extra Heavy Duty: **public toilets janitor's closets**, **assembly spaces**, **exits**, **and where indicated on Drawings**.
   c. WDMA I.S. 1A Standard Duty: **Closets (not including janitor's closets) and private toilets and where indicated on Drawings**.

3. **Architectural Woodwork Standards WDMA I.S. 1A** Grade: **Premium** .
4. Plastic-Laminate Faces: High-pressure decorative laminates complying with NEMA LD 3, **Grade HGS**
5. Colors, Patterns, and Finishes: **As selected by owner or Architect from laminate manufacturer's full range of products**.
6. Exposed Vertical **and Top** Edges: **Plastic laminate that matches faces, applied before faces or impact-resistant polymer edging, applied after faces**.

   a. Fire-Rated Single Doors: Provide edge construction with intumescent seals concealed by outer stile. Comply with specified requirements for exposed vertical edges.
   b. Fire-Rated Pairs of Doors: Provide fire-retardant stiles that are listed and labeled for applications indicated without formed-steel edges and astragals. Provide stiles with concealed intumescent seals. Comply with specified requirements for exposed edges.
   c. Fire-Rated Pairs of Doors: Provide formed-steel edges and astragals with intumescent seals.

      1) Finish steel edges and astragals with baked enamel **same color as doors**.
      2) Finish steel edges and astragals to match door hardware (locksets or exit devices).

d. Mineral-Core Doors: At hinge stiles, provide laminated-edge construction with improved screw-holding capability and split resistance. Comply with specified requirements for exposed edges.

1) Screw-Holding Capability: **475 lbf** in accordance with WDMA T.M. 10.

7. Core for Non-Fire-Rated Doors: ANSI A208.1, **Grade LD-1** particleboard.

a. Blocking: Provide wood blocking in particleboard-core doors as **needed to eliminate through-bolting hardware. follows:**

1) 5-inch (125-mm) top-rail blocking, in doors indicated to have closers.
2) 5-inch (125-mm) bottom-rail blocking, in exterior doors and doors indicated to have kick, mop, or armor plates.
3) 5-inch (125-mm) midrail blocking, in doors indicated to have exit devices.

b. Provide doors with **glued-wood-stave or WDMA I.S. 10 structural-composite-lumber]** cores instead of particleboard cores for doors scheduled to receive exit devices in **Section 087100 "Door Hardware**

8. Core for Non-Fire-Rated Doors: Glued wood stave.
9. Core for Non-Fire-Rated Doors: WDMA I.S. 10 structural composite lumber.

a. Screw Withdrawal, Face: 700 lbf (3100 N).
b. Screw Withdrawal, Edge: 400 lbf (1780 N).

10. Core for Non-Fire-Rated Doors: Either glued wood stave or WDMA I.S. 10 structural composite lumber.

11. Construction: Three plies, **hot-pressed or cold-pressed** bonded (vertical and horizontal edging is bonded to core), with entire unit abrasive planed before faces are applied.
12. Construction: Five plies, **hot-pressed or cold-pressed** bonded (vertical and horizontal edging is bonded to core), with entire unit abrasive planed before faces and crossbands are applied.

2.4 FABRICATION

A. Factory fit doors to suit frame-opening sizes indicated.

1. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.
2. Comply with NFPA 80 requirements for fire-rated doors.

B. Factory machine doors for hardware that is not surface applied.

1. Locate hardware to comply with DHI-WDHS-3.
2. Comply with final hardware schedules, door frame Shop Drawings, BHMA-156.115-W, and hardware templates.
3. Coordinate with hardware mortises in metal frames, to verify dimensions and alignment before factory machining.
4. For doors scheduled to receive electrified locksets, provide factory-installed raceway and wiring to accommodate specified hardware.

5. Metal Astragals: Factory machine astragals and formed-steel edges for hardware for pairs of fire-rated doors.

C. Openings: Factory cut and trim openings through doors.

1. Light Openings: Trim openings with moldings of material and profile indicated.
2. Glazing: Factory install glazing in doors indicated to be factory finished. Comply with applicable requirements in Section 088000 "Glazing."
3. Louvers: Factory install louvers in prepared openings.

D. Exterior Doors: Factory treat exterior doors with water repellent after fabrication has been completed but before factory **priming** or **finishing**.

1. Flash top of outswinging doors with manufacturer's standard metal flashing.

2.5 FACTORY PRIMING

A. Doors for Opaque Finish: Factory prime faces, all four edges, edges of cutouts, and mortises with one coat of wood primer specified in **Section 099123" Interior Painting."**

2.6 FACTORY FINISHING

A. Comply with referenced quality standard for factory finishing.

1. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing.
2. Finish faces, all four edges, edges of cutouts, and mortises.
3. Stains and fillers may be omitted on **top and** bottom edges, edges of cutouts, and mortises.

B. Factory finish doors.

C. Factory finish doors that are indicated on Drawings to receive transparent finish.

D. Factory finish doors where indicated in schedules or on Drawings as factory finished.

E. Transparent Finish:

1. **Architectural Woodwork Standards, WDMA I.S. 1A** Grade: **Premium**.
2. Finish: Architectural Woodwork Standards System-5, Varnish, Conversion.
3. Finish: Architectural Woodwork Standards System-9, UV Curable, Acrylated Epoxy, Polyester or Urethane.
4. Finish: Architectural Woodwork Standards System-10, UV Curable, Water Based.
5. Finish: Architectural Woodwork Standards System-11, Polyurethane, Catalyzed.
6. Finish: WDMA I.S. 1A TR-4 Conversion Varnish.
7. Finish: WDMA I.S. 1A TR-6 Catalyzed Polyurethane.
8. Finish: WDMA I.S. 1A TR-8 UV Cured Acrylated Polyester/Urethane
9. Staining: **As selected by Architect from manufacturer's full range**
10. Sheen: **Satin**.

F. Opaque Finish:

1. **Architectural Woodwork Standards, WDMA I.S. 1** Grade: **Premium**.

2. Finish: Architectural Woodwork Standards System-5, Varnish, Conversion.
3. Finish: Architectural Woodwork Standards System-9, UV Curable, Acrylated Epoxy, Polyester, or Urethane.
4. Finish: Architectural Woodwork Standards System-10, UV Curable, Water Based.
5. Finish: Architectural Woodwork Standards System-11, Polyurethane, Catalyzed.
6. Finish: WDMA I.S. 1A OP-4 Conversion Varnish.
7. Finish: WDMA I.S. 1A OP-6 Catalyzed Polyurethane.
8. Color: **As selected by owner or Architect from manufacturer's full range**.
9. Sheen: **Semigloss**.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Hardware: For installation, see **Section 087100 "Door Hardware."**

B. Install doors **and frames** to comply with manufacturer's written instructions and referenced quality standard, and as indicated.

C. Install frames level, plumb, true, and straight.

1. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches (3.2 mm in 2400 mm).
2. Anchor frames to anchors or blocking built in or directly attached to substrates.
    a. Secure with countersunk, concealed fasteners and blind nailing.
    b. Use fine finishing nails **or finishing screws** for exposed fastening, countersunk and filled flush with woodwork.
        1) For factory-finished items, use filler matching finish of items being installed.
3. Install fire-rated doors and frames in accordance with NFPA 80.
4. Install smoke- and draft-control doors in accordance with NFPA 105.

D. Job-Fitted Doors:

1. Align and fit doors in frames with uniform clearances and bevels as indicated below.
    a. Do not trim stiles and rails in excess of limits set by manufacturer or permitted for fire-rated doors.
2. Machine doors for hardware.
3. Seal edges of doors, edges of cutouts, and mortises after fitting and machining.
4. Clearances:
    a. Provide 1/8 inch (3.2 mm) at heads, jambs, and between pairs of doors.
    b. Provide 1/8 inch (3.2 mm) from bottom of door to top of decorative floor finish or covering unless otherwise indicated on Drawings.
    c. Where threshold is shown or scheduled, provide1/4 inch (6.4 mm) from bottom of door to top of threshold unless otherwise indicated.
    d. Comply with NFPA 80 for fire-rated doors.
5. Bevel non-fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees) at lock and hinge edges.

6. Bevel fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees) at lock edge; trim stiles and rails only to extent permitted by labeling agency.

E. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.

F. Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.

3.2 FIELD QUALITY CONTROL

A. Inspection Agency: **Owner will engage** a qualified inspector to perform inspections and to furnish reports to Architect.

B. Inspections:

1. Provide inspection of installed Work through **AWI's Quality Certification Program,** certifying that wood doors and frames, including installation, comply with requirements of AWI/AWMCA/WI's "Architectural Woodwork Standards" for the specified grade.
2. Fire-Rated Door Inspections: Inspect each fire-rated door in accordance with NFPA 80, Section 5.2.
3. Egress Door Inspections: Inspect each door equipped with panic hardware, each door equipped with fire exit hardware, each door located in an exit enclosure, each electrically controlled egress door, and each door equipped with special locking arrangements in accordance with NFPA 101, Section 7.2.1.15.

C. Repair or remove and replace installations where inspections indicate that they do not comply with specified requirements.

D. Reinspect repaired or replaced installations to determine if replaced or repaired door assembly installations comply with specified requirements.

E. Prepare and submit separate inspection report for each fire-rated door assembly indicating compliance with each item listed in **NFPA 80 and NFPA 101**.

3.3 ADJUSTING

A. Operation: Rehang or replace doors that do not swing or operate freely.

B. Finished Doors: Replace doors that are damaged or that do not comply with requirements. Doors may be repaired or refinished if Work complies with requirements and shows no evidence of repair or refinishing.

END OF SECTION 081416

SECTION 083323 - OVERHEAD COILING DOORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Service doors.
2. Insulated service doors.
3. Fire-rated service doors.
4. Fire-rated, insulated service doors.

B. Related Requirements:

1. Section 055000 "Metal Fabrications" for miscellaneous steel supports, door-opening framing, corner guards, and bollards.

1.2 ACTION SUBMITTALS

A. Product Data: For each type and size of overhead coiling door and accessory.

B. Shop Drawings: For each installation and for special components not dimensioned or detailed in manufacturer's product data.

1. Include points of attachment and their corresponding static and dynamic loads imposed on structure.
2. Show locations of controls, locking devices detectors or replaceable fusible links, and other accessories.
3. Include diagrams for power, signal, and control wiring.

C. Samples: For each exposed product and for each color and texture specified.

1.3 INFORMATIONAL SUBMITTALS

A. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

A. Special warranty.

B. Maintenance data.

C. Record Documents: For fire-rated doors, list of door numbers and applicable room name and number to which door accesses.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer for both installation and maintenance of units required for this Project.

B. Fire-Rated Door Inspector Qualifications: Inspector for field quality control inspections of fire-rated door assemblies shall meet the qualifications set forth in NFPA 80, section 5.2.3.1 and the following:

1. Door and Hardware Institute Fire and Egress Door Assembly Inspector (FDAI) certification.

1.6 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of doors that fail in materials or workmanship within specified warranty period.

1. Warranty Period: **Two** years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Rated Door Assemblies: Complying with NFPA 80; listed and labeled by qualified testing agency, for fire-protection ratings indicated, based on testing at as close to neutral pressure as possible according to **NFPA 252** or **UL 10B**.

1. Temperature-Rise Limit: **Where indicated**, provide doors that have a maximum transmitted temperature end point of not more than 450 deg F (250 deg C) above ambient after 30 minutes of standard fire-test exposure.
2. Smoke Control: **Where indicated** , provide doors that are listed and labeled with the letter "S" on the fire-rating label by a qualified testing agency for smoke- and draft-control based on testing according to UL 1784; with maximum air-leakage rate of 3.0 cfm/sq. ft. (0.01524 cu. m/s x sq. m) of door opening at 0.10 inch wg (24.9 Pa) for both ambient and elevated temperature tests.

B. Accessibility Standard: Comply with applicable provisions in **the USDOJ's "2010 ADA Standards for Accessible Design and ICC A117.1**

C. Structural Performance, Exterior Doors: Capable of withstanding the following design wind loads:

1. Design Wind Load: **Uniform pressure (velocity pressure) of 20 lbf/sq. ft. (960 Pa), acting inward and outward**.
2. Testing: According to ASTM E 330/E 330M **or DASMA 108 for garage doors and complying with acceptance criteria of DASMA 108**

D. Windborne-Debris Impact Resistance: Provide **impact-protective** overhead coiling doors that pass ASTM E 1886 missile-impact and cyclic-pressure tests according to **ASTM E 1996 for Wind Zone 1, ASTM E 1996 for Wind Zone 2, ASTM E 1996 for Wind Zone 3, ASTM E 1996 for Wind Zone 4, or DASMA 115** for **enhanced** protection.

1. Large-Missile Test: For overhead coiling doors located within **30 feet (9.1 m)** of grade.

E. Seismic Performance: Overhead coiling doors shall withstand the effects of earthquake motions determined according to **ASCE/SEI 7**

2.2 DOOR ASSEMBLY

A. **Service or Insulated Service** Door: Overhead coiling door formed with curtain of interlocking metal slats.

B. Operation Cycles: Door components and operators capable of operating for not less than 50,**000**

C. Curtain R-Value: **4.5 deg F x h x sq. ft./Btu (0.792 K x sq. m/W)**

D. Door Curtain Material: **Aluminum**.

E. Door Curtain Slats: **Flat** profile slats of **3-1/4-inch (83-mm)** center-to-center height.
1. Insulated-Slat Interior Facing: **Metal**

F. Bottom Bar: Two angles, each not less than **1-1/2 by 1-1/2 by 1/8 inch (38 by 38 by 3 mm) thick** fabricated **aluminum extrusions** and finished **to match door.**

G. Curtain Jamb Guides: **Aluminum** with exposed finish matching curtain slats.

H. Hood: **Match curtain material and finish**.

1. Mounting: **Face of wall**

I. Locking Devices: Equip door with **slide bolt for padlock and chain lock keeper**.

1. Locking Device Assembly: **Cremone-type, both jamb sides** locking bars, operable from **outside with cylinder**.

J. Manual Door Operator: **Chain-hoist operator**

K. Curtain Accessories: Equip door with **weatherseals**

L. Door Finish:

1. Aluminum Finish: **Clear anodized**
2. Baked-Enamel or Powder-Coated Finish: **Color as selected by Architect from manufacturer's full range**
3. Factory Prime Finish: Manufacturer's standard color.
4. Interior Curtain-Slat Facing: **Finish as selected by Architect from manufacturer's full range**

2.3 MATERIALS, GENERAL

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install overhead coiling doors and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports; according to manufacturer's written instructions and as specified.

B. Fire-Rated Doors: Install according to NFPA 80.

C. Smoke-Control Doors: Install according to NFPA 80 and NFPA 105.

D. Power-Operated Doors: Install **automatic garage doors openers** according to UL 325.

3.2 FIELD QUALITY CONTROL

A. Testing Agency: **Owner will engage** a qualified testing agency to perform tests and inspections and to furnish reports to Architect.

B. Perform the following tests and inspections **with the assistance of a factory-authorized service representative**:

1. Test door release, closing, and alarm operations when activated by smoke detector or building's fire-alarm system. Test manual operation of closed door. Reset door-closing mechanism after successful test.
2. Fire-Rated Door Inspections: Inspect each fire-rated door in accordance with NFPA 80, section 5.2.

C. Repair or remove and replace installations where inspections indicate that they do not comply with specified requirements.

D. Reinspect repaired or replaced installations to determine if replaced or repaired door assembly installations comply with specified requirements.

E. Prepare and submit separate inspection report for each fire-rated door assembly indicating compliance with each item listed in **NFPA 80 and NFPA 101**.

3.3 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain overhead coiling doors.

END OF SECTION 083323

SECTION 084113 - ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Storefront framing.
2. Manual-swing entrance doors.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at **Project site**

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For aluminum-framed entrances and storefronts. Include plans, elevations, sections, full-size details, and attachments to other work.

1. Show connection to and continuity with adjacent thermal, weather, air, and vapor barriers.
2. Include point-to-point wiring diagrams.

C. Samples: For each type of exposed finish required.

D. Entrance Door Hardware Schedule: Prepared by or under supervision of supplier, detailing fabrication and assembly of entrance door hardware, as well as procedures and diagrams.

E. Delegated-Design Submittal: For aluminum-framed entrances and storefronts indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 INFORMATIONAL SUBMITTALS

A. Energy Performance Certificates: NFRC-certified energy performance values from manufacturer.

B. Product test reports.

C. Source quality-control reports.

D. Field quality-control reports.

E. Sample warranties.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

B. Testing Agency Qualifications: Qualified according to ASTM E 699 for testing indicated **and accredited by the International Accreditation Service or the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement as complying with ISO/IEC 17025**.

C. Product Options: Information on Drawings and in Specifications establishes requirements for aesthetic effects and performance characteristics of assemblies. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction.

1. Do not change intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If changes are proposed, submit comprehensive explanatory data to Architect for review.

1.7 WARRANTY

A. Special Warranty: **Installer** agrees to repair or replace components of aluminum-framed entrances and storefronts that do not comply with requirements or that fail in materials or workmanship within specified warranty period.

1. Warranty Period: **Two** years from date of Substantial Completion.

B. Special Finish Warranty: Standard form in which manufacturer agrees to repair finishes or replace aluminum that shows evidence of deterioration of factory-applied finishes within specified warranty period.

1. Warranty Period: **10** years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design aluminum-framed entrances and storefronts.

B. General Performance: Comply with performance requirements specified, as determined by testing of aluminum-framed entrances and storefronts representing those indicated for this Project without failure due to defective manufacture, fabrication, installation, or other defects in construction.

1. Aluminum-framed entrances and storefronts shall withstand movements of supporting structure, including, but not limited to, twist, column shortening, long-term creep, and deflection from uniformly distributed and concentrated live loads.
2. Failure also includes the following:

    a. Thermal stresses transferring to building structure.
    b. Glass breakage.
    c. Noise or vibration created by wind and thermal and structural movements.
    d. Loosening or weakening of fasteners, attachments, and other components.
    e. Failure of operating units.

C. Structural Loads:

1. Wind Loads: As indicated on Drawings.
2. Other Design Loads: **As indicated on Drawings**.

D. Deflection of Framing Members: At design wind pressure, as follows:

1. Deflection Normal to Wall Plane: Limited to **edge of glass in a direction perpendicular to glass plane not exceeding 1/175 of the glass edge length for each individual glazing lite** or an amount that restricts edge deflection of individual glazing lites to 3/4 inch (19.1 mm), whichever is less.
2. Deflection Parallel to Glazing Plane: Limited to **1/360 of clear span or 1/8 inch (3.2 mm), whichever is smaller**.

    a. Operable Units: Provide a minimum 1/16-inch (1.6-mm) clearance between framing members and operable units.

3. Cantilever Deflection: Where framing members overhang an anchor point, as follows:

    a. Perpendicular to Plane of Wall: No greater than 1/240 of clear span plus 1/4 inch (6.35 mm) for spans greater than 11 feet 8-1/4 inches (3.6 m) or 1/175 times span, for spans of less than 11 feet 8-1/4 inches (3.6 m).

E. Structural: Test according to ASTM E 330/E 330M as follows:

1. When tested at positive and negative wind-load design pressures, storefront assemblies, including entrance doors, do not evidence deflection exceeding specified limits.
2. When tested at **150**percent of positive and negative wind-load design pressures, storefront assemblies, including entrance doors and anchorage, do not evidence material failures, structural distress, or permanent deformation of main framing members exceeding **0.2**percent of span.
3. Test Durations: As required by design wind velocity, but not less than **10** seconds.

F. Air Infiltration: Test according to ASTM E 283 for infiltration as follows:

1. Fixed Framing and Glass Area:

    a. Maximum air leakage of **0.06 cfm/sq. ft. (0.30 L/s per sq. m**at a static-air-pressure differential of **1.57 lbf/sq. ft. (75 Pa)**

2. Entrance Doors:

    a. Single Doors: Maximum air leakage of **0.5 cfm/sq. ft. (2.54 L/s per sq. m** at a static-air-pressure differential of 1.57 lbf/sq. ft. (75 Pa).

G. Water Penetration under Static Pressure: Test according to ASTM E 331 as follows:

1. No evidence of water penetration through fixed glazing and framing areas, including entrance doors, when tested according to a minimum static-air-pressure differential of 20 percent of positive wind-load design pressure, but not less than **10 lbf/sq. ft. (480 Pa**

H. Energy Performance: Certify and label energy performance according to NFRC as follows:

1. Thermal Transmittance (U-factor): Fixed glazing and framing areas as a system shall have U-factor of not more than **0.41 Btu/sq. ft. x h x deg F (2.33 W/sq. m x K** as determined according to NFRC 100.
2. Solar Heat Gain Coefficient (SHGC): Fixed glazing and framing areas as a system shall have SHGC of no greater than **0.35**as determined according to NFRC 200.
3. Condensation Resistance: Fixed glazing and framing areas as a system shall have an NFRC-certified condensation resistance rating of no less than **55** as determined according to NFRC 500.

I. Windborne-Debris Impact Resistance: Pass missile-impact and cyclic-pressure tests according to ASTM E 1996 for **Wind Zone 3**

1. Large-Missile Test: For glazed openings located within 30 feet (9.1 m) of grade.
2. Small-Missile Test: For glazed openings located more than 30 feet (9.1 m) above grade.

J. Thermal Movements: Allow for thermal movements resulting from ambient and surface temperature changes.

1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

2.2 STOREFRONT SYSTEMS

A. Framing Members: Manufacturer's extruded- or formed-aluminum framing members of thickness required and reinforced as required to support imposed loads.

1. Exterior Framing Construction: **Thermally broken**.
2. Interior Vestibule Framing Construction: **Nonthermal**
3. Glazing System: Retained mechanically with gaskets on four sides.
4. Finish: **Baked-enamel or powder-coat finish**].
5. Fabrication Method: Field-fabricated stick system.
6. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
7. Steel Reinforcement: As required by manufacturer.

B. Backer Plates: Manufacturer's standard, continuous backer plates for framing members, if not integral, where framing abuts adjacent construction.

C. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.

2.3 ENTRANCE DOOR SYSTEMS

A. <Double click here to find, evaluate, and insert list of manufacturers and products.>

2.4 GLAZING

A. Glazing: Comply with Section 088000 "Glazing."

B. Glazing Gaskets: Manufacturer's standard sealed-corner pressure-glazing system of black, resilient elastomeric glazing gaskets, setting blocks, and shims or spacers.

C. Glazing Sealants: As recommended by manufacturer.

2.5 MATERIALS

A. Sheet and Plate: ASTM B 209 (ASTM B 209M).

B. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221 (ASTM B 221M).

C. Extruded Structural Pipe and Tubes: ASTM B 429/B 429M.

D. Structural Profiles: ASTM B 308/B 308M.

E. Steel Reinforcement:

1. Structural Shapes, Plates, and Bars: ASTM A 36/A 36M.
2. Cold-Rolled Sheet and Strip: ASTM A 1008/A 1008M.
3. Hot-Rolled Sheet and Strip: ASTM A 1011/A 1011M.
4. Primer: Manufacturer's standard zinc-rich, corrosion-resistant primer complying with SSPC-PS Guide No. 12.00; applied immediately after surface preparation and pretreatment. Select surface preparation methods according to recommendations in SSPC-SP COM, and prepare surfaces according to applicable SSPC standard.

2.6 FABRICATION

A. Form or extrude aluminum shapes before finishing.

B. Weld in concealed locations to greatest extent possible to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.

C. Fabricate components that, when assembled, have the following characteristics:

1. Profiles that are sharp, straight, and free of defects or deformations.
2. Accurately fitted joints with ends coped or mitered.
3. Physical and thermal isolation of glazing from framing members.
4. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
5. Provisions for field replacement of glazing from **interior.**
6. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.

D. Mechanically Glazed Framing Members: Fabricate for flush glazing without projecting stops.

E. Entrance Door Frames: Reinforce as required to support loads imposed by door operation and for installing entrance door hardware.

F. Entrance Doors: Reinforce doors as required for installing entrance door hardware.

G. Entrance Door Hardware Installation: Factory install entrance door hardware to the greatest extent possible. Cut, drill, and tap for factory-installed entrance door hardware before applying finishes.

H. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.

2.7 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, **AA-M12C22A41, Class I, 0.018 mm**or thicker.

B. Color Anodic Finish: AAMA 611, **AA-M12C22A42/A44, Class I, 0.018 mm** or thicker.

1. Color: **As selected by Architect from full range of industry colors and color densities**

C. Baked-Enamel or Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of 1.5 mils (0.04 mm). Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

1. Color and Gloss: **As selected by Architect from manufacturer's full range**.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General:

1. Comply with manufacturer's written instructions.
2. Do not install damaged components.
3. Fit joints to produce hairline joints free of burrs and distortion.
4. Rigidly secure nonmovement joints.
5. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration and to prevent impeding movement of moving joints.
6. Seal perimeter and other joints watertight unless otherwise indicated.

B. Metal Protection:

1. Where aluminum is in contact with dissimilar metals, protect against galvanic action by painting contact surfaces with materials recommended by manufacturer for this purpose or by installing nonconductive spacers.
2. Where aluminum is in contact with concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.

C. Set continuous sill members and flashing in full sealant bed, as specified in Section 079200 "Joint Sealants," to produce weathertight installation.

D. Install components plumb and true in alignment with established lines and grades.

E. Install operable units level and plumb, securely anchored, and without distortion. Adjust weather-stripping contact and hardware movement to produce proper operation.

F. Install glazing as specified in Section 088000 "Glazing."

G. Entrance Doors: Install doors to produce smooth operation and tight fit at contact points.

1. Exterior Doors: Install to produce weathertight enclosure and tight fit at weather stripping.
2. Field-Installed Entrance Door Hardware: Install surface-mounted entrance door hardware according to entrance door hardware manufacturers' written instructions using concealed fasteners to greatest extent possible.

3.2 FIELD QUALITY CONTROL

A. Testing Agency: **Owner will engage** a qualified testing agency to perform tests and inspections.

B. Field Quality-Control Testing: Perform the following test on **representative areas of aluminum-framed entrances and storefronts**

1. Water-Spray Test: Before installation of interior finishes has begun, areas designated by Architect shall be tested according to AAMA 501.2 and shall not evidence water penetration.

   a. Perform a minimum of **two** tests in areas as directed by Architect.

2. Air Infiltration: ASTM E 783 at 1.5 times the rate specified for laboratory testing in "Performance Requirements" Article but not more than 0.09 cfm/sq. ft. (0.45 L/s per sq. m) at a static-air-pressure differential of 1.57 lbf/sq. ft. (75 Pa).

   a. Perform a minimum of **two** tests in areas as directed by Architect.

3. Water Penetration: ASTM E 1105 at a minimum **uniform and cyclic** static-air-pressure differential of 0.67 times the static-air-pressure differential specified for laboratory testing in "Performance Requirements" Article, but not less than 6.24 lbf/sq. ft. (300 Pa), and shall not evidence water penetration.

C. Aluminum-framed entrances and storefronts will be considered defective if they do not pass tests and inspections.

D. Prepare test and inspection reports.

3.3 ENTRANCE DOOR HARDWARE SETS

END OF SECTION 084113

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Mechanical door hardware for the following:

   a. Swinging doors.
   b. Sliding doors.
   c. Folding doors.

2. Cylinders for door hardware specified in other Sections.
3. Electrified door hardware.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at **Project site**

B. Keying Conference: Conduct conference at **Project site**

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For electrified door hardware.

1. Include diagrams for power, signal, and control wiring.
2. Include details of interface of electrified door hardware and building safety and security systems.

C. Samples: For each exposed product in each finish specified.

D. Door hardware schedule.

E. Keying schedule.

1.4 INFORMATIONAL SUBMITTALS

A. Sample warranty.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: Supplier of products and an employer of workers trained and approved by product manufacturers and of an Architectural Hardware Consultant who is available during the course of the Work to consult Contractor, Architect, and Owner about door hardware and keying.

1. Scheduling Responsibility: Preparation of door hardware and keying schedule.
2. Engineering Responsibility: Preparation of data for electrified door hardware, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.

B. Architectural Hardware Consultant Qualifications: A person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and who is currently certified by DHI as an **Architectural Hardware Consultant (AHC) and an Architectural Openings Consultant (AOC)**.

1.7 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.

1. Warranty Period: **Three** years from date of Substantial Completion unless otherwise indicated below:
   a. Exit Devices: **Two** years from date of Substantial Completion.
   b. Manual Closers: **10**years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Rated Door Assemblies: Where fire-rated doors are indicated, provide door hardware complying with NFPA 80 that is listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252 or UL 10C.

B. Smoke- and Draft-Control Door Assemblies: Where smoke- and draft-control door assemblies are required, provide door hardware that complies with requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.

1. Air Leakage Rate: Maximum air leakage of **0.3 cfm/sq. ft. (3 cu. m per minute/sq. m)** at the tested pressure differential of **0.3-inch wg (75 Pa)** of water.

C. Electrified Door Hardware: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

D. Means of Egress Doors: Latches do not require more than 15 lbf (67 N) to release the latch. Locks do not require use of a key, tool, or special knowledge for operation.

E. Accessibility Requirements: For door hardware on doors in an accessible route, comply with **the DOJ's "2010 ADA Standards for Accessible Design" and ICC A117.1**

2.2 SCHEDULED DOOR HARDWARE

A. Provide products for each door that comply with requirements indicated in Part 2 and door hardware schedule.

1. Door hardware is scheduled **on Drawings**

2.3 HINGES

A. Hinges: BHMA A156.1. **Provide template-produced hinges for hinges installed on hollow-metal doors and hollow-metal frames.**

2.4 CENTER-HUNG AND OFFSET PIVOTS

A. Center-Hung and Offset Pivots: BHMA A156.4.

2.5 MECHANICAL LOCKS AND LATCHES

A. Lock Functions: As indicated in door hardware schedule.

B. Lock Throw: Comply with testing requirements for length of bolts required for labeled fire doors, and as follows:

1. Bored Locks: Minimum 1/2-inch (13-mm) latchbolt throw.
2. Mortise Locks: Minimum 3/4-inch (19-mm) latchbolt throw.
3. Deadbolts: **1.25-inch (32-mm)** bolt throw.

C. Lock Backset: 2-3/4 inches (70 mm) unless otherwise indicated.

D. Lock Trim:

1. Description: **As indicated on Drawings** or slected by owner
2. Levers: **Forged**

3. Escutcheons (Roses): **Forged Cast**.
4. Dummy Trim: Match lever lock trim and escutcheons.

E. Strikes: Provide manufacturer's standard strike for each lock bolt or latchbolt complying with requirements indicated for applicable lock or latch and with strike box and curved lip extended to protect frame; finished to match lock or latch.

1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
3. Aluminum-Frame Strike Box: Manufacturer's special strike box fabricated for aluminum framing.
4. Rabbet Front and Strike: Provide on locksets for rabbeted meeting stiles.

F. Bored Locks: BHMA A156.2; **Grade 2**; Series 4000.

G. Mortise Locks: BHMA A156.13; **Security Grade 2**; stamped steel case with steel or brass parts; Series 1000.

2.6 AUXILIARY LOCKS

A. Bored Auxiliary Locks: BHMA A156.36: **Grade 2**; with strike that suits frame.

B. Mortise Auxiliary Locks: BHMA A156.36; **Grade 2**; with strike that suits frame.

C. Narrow Stile Auxiliary Locks: BHMA A156.36; **Grade 2**; with strike that suits frame.

D. Push-Button Combination Locks: BHMA A156.36; cylindrical; Grade 1; lock opens by entering a one- to five-digit code by pushing correct buttons in correct sequence; automatically relocks when door is closed; with strike that suits frame.

2.7 ELECTRIC STRIKES

A. Electric Strikes: BHMA A156.31; **Grade 2**; with faceplate to suit lock and frame.

2.8 ELECTROMAGNETIC LOCKS

A. Electromagnetic Locks: BHMA A156.23; electrically powered; with electromagnet attached to frame and armature plate attached to door; full-exterior or full-interior type, as required by application indicated.

B. Delayed-Egress Electromagnetic Locks: BHMA A156.24, electrically powered, with electromagnet attached to frame and armature plate attached to door; depressing push bar for more than three seconds initiates irreversible alarm and adjustable time delay for egress. When integrated with fire alarm, fire alarm voids time delay.

2.9 ELECTROMECHANICAL LOCKS

A. Electromechanical Locks: BHMA A156.25; **Grade 2**; motor or solenoid driven; with strike that suits frame.
1. Type: **Mortise deadlocking latchbolt**.

2.10 SELF-CONTAINED ELECTRONIC LOCKS

A. Self-Contained Electronic Locks: BHMA A156.25, **mortise**; with internal, battery-powered, self-contained electronic locks; consisting of complete lockset, motor-driven lock mechanism, and actuating device; enclosed in zinc-dichromate-plated, wrought-steel case, and strike that suits frame. Provide key override, low-battery detection and warning, LED status indicators, and ability to program at the lock.

2.11 SURFACE BOLTS

A. Surface Bolts: BHMA A156.16.

2.12 MANUAL FLUSH BOLTS

A. Manual Flush Bolts: BHMA A156.16; minimum 3/4-inch (19-mm) throw; designed for mortising into door edge.

2.13 EXIT DEVICES AND AUXILIARY ITEMS

A. Exit Devices and Auxiliary Items: BHMA A156.3.

2.14 LOCK CYLINDERS

A. Lock Cylinders: Tumbler type, constructed from brass or bronze, stainless steel, or nickel silver. **Provide cylinder from same manufacturer of locking devices.**

B. Standard Lock Cylinders: BHMA A156.5; **Grade 2** permanent cores; face finished to match lockset.

1. Core Type: **Interchangeable**.

C. High-Security Lock Cylinders: BHMA A156.30; **Grade 2** permanent cores that are removable; face finished to match lockset.

1. Type: **M, mechanical**

D. Construction Master Keys: Provide cylinders with feature that permits voiding of construction keys without cylinder removal. Provide 10 construction master keys.

E. Construction Cores: Provide construction cores that are replaceable by permanent cores. Provide 10 construction master keys.

2.15 KEYING

A. Keying System: Factory registered, complying with guidelines in BHMA A156.28, appendix. Provide one extra key blank for each lock. **Incorporate decisions made in keying conference.**

1. No Master Key System: Only change keys operate cylinders.

a. Provide three cylinder change keys.

2. Master Key System: Change keys and a master key operate cylinders.

a. Provide three cylinder change keys and five master keys.

3. Grand Master Key System: Change keys, a master key, and a grand master key operate cylinders.

a. Provide three cylinder change keys and five each of master and grand master keys.

4. Great-Grand Master Key System: Change keys, a master key, a grand master key, and a great-grand master key operate cylinders.

a. Provide three cylinder change keys and five each of master, grand master, and great-grand master keys.

5. Existing System:

a. Master key or grand master key locks to Owner's existing system.
b. Re-key Owner's existing master key system into new keying system.

6. Keyed Alike: Key all cylinders to same change key.

B. Keys: **Brass**.

1. Stamping: Permanently inscribe each key with a visual key control number and include the following notation:

a. Notation: **Information to be furnished by Owner.**

2.16 KEY CONTROL SYSTEM

A. Key Control Cabinet: BHMA A156.28; metal cabinet with baked-enamel finish; containing key-holding hooks, labels, two sets of key tags with self-locking key holders, key-gathering envelopes, and temporary and permanent markers; with key capacity of **150** percent of the number of locks.
1. Multiple-Drawer Cabinet: **Grade 2** cabinet with drawers equipped with key-holding panels and key envelope storage, and progressive-type ball-bearing suspension slides. Include single cylinder lock to lock all drawers.
2. Wall-Mounted Cabinet: **Grade 2** cabinet with hinged-panel door equipped with key-holding panels and pin-tumbler cylinder door lock.
3. Portable Cabinet: **Grade 2** tray for mounting in file cabinet, equipped with key-holding panels, envelopes, and cross-index system.

2.17 OPERATING TRIM

A. Operating Trim: BHMA A156.6; **aluminum** unless otherwise indicated.

2.18 ACCESSORIES FOR PAIRS OF DOORS

A. Coordinators: BHMA A156.3; consisting of active-leaf, hold-open lever and inactive-leaf release trigger; fabricated from steel with nylon-coated strike plates; with built-in, adjustable safety release**; and with internal override**.

B. Carry-Open Bars: BHMA A156.3; prevent the inactive leaf from opening before the active leaf; provide polished brass or bronze carry-open bars with strike plate for inactive leaves of pairs of doors unless automatic or self-latching bolts are used.

C. Astragals: BHMA A156.22.

2.19 SURFACE CLOSERS

A. Surface Closers: BHMA A156.4; rack-and-pinion hydraulic type with adjustable sweep and latch speeds controlled by key-operated valves and forged-steel main arm. Comply with

manufacturer's written instructions for size of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force.

2.20 CLOSER HOLDER RELEASE DEVICES

A. Closer Holder Release Devices: BHMA A156.15; Grade 1; closer connected with separate or integral releasing and fire- or smoke-detecting devices. Door shall become self-closing on interruption of signal to release device. Automatic release is activated by **smoke detection system**.

2.21 MECHANICAL STOPS AND HOLDERS

A. Wall- and Floor-Mounted Stops: BHMA A156.16.

2.22 OVERHEAD STOPS AND HOLDERS

A. Overhead Stops and Holders: BHMA A156.8.

2.23 DOOR GASKETING

A. Door Gasketing: BHMA A156.22; with resilient or flexible seal strips that are easily replaceable and readily available from stocks maintained by manufacturer.

B. Maximum Air Leakage: When tested according to ASTM E 283 with tested pressure differential of 0.3-inch wg (75 Pa), as follows:

1. Smoke-Rated Gasketing: 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) of door opening.
2. Gasketing on Single Doors: 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) of door opening.
3. Gasketing on Double Doors: 0.50 cfm per foot (0.000774 cu. m/s per m) of door opening.

2.24 THRESHOLDS

A. Thresholds: BHMA A156.21; fabricated to full width of opening indicated.

2.25 SLIDING DOOR HARDWARE

A. Sliding Door Hardware: BHMA A156.14; consisting of complete sets including rails, hangers, supports, bumpers, floor guides, and accessories indicated.

2.26 METAL PROTECTIVE TRIM UNITS

A. Metal Protective Trim Units: BHMA A156.6; fabricated from 0.050-inch- (1.3-mm-) thick **aluminum** with manufacturer's standard machine or self-tapping screw fasteners.

2.27 AUXILIARY DOOR HARDWARE

A. Auxiliary Hardware: BHMA A156.16.

2.28 AUXILIARY ELECTRIFIED DOOR HARDWARE

A. Auxiliary Electrified Door Hardware:

2.29 FINISHES

A. Provide finishes complying with BHMA A156.18 as indicated in door hardware schedule.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Mounting Heights: Mount door hardware units at heights **to comply with the following** unless otherwise indicated or required to comply with governing regulations.

1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
2. Custom Steel Doors and Frames: HMMA 831.
3. Wood Doors: DHI's "Recommended Locations for Architectural Hardware for Wood Flush Doors."

B. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work. Do not install surface-mounted items until finishes have been completed on substrates involved.

C. Hinges: Install types and in quantities indicated in door hardware schedule, but not fewer than the number recommended by manufacturer for application indicated or one hinge for every 30 inches (750 mm) of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.

D. Intermediate Offset Pivots: Where offset pivots are indicated, provide intermediate offset pivots in quantities indicated in door hardware schedule, but not fewer than one intermediate offset pivot per door and one additional intermediate offset pivot for every 30 inches (750 mm) of door height greater than 90 inches (2286 mm).

E. Lock Cylinders: Install construction cores to secure building and areas during construction period.

1. Replace construction cores with permanent cores as **directed by Owner**.
2. Furnish permanent cores to Owner for installation.

F. Key Control Cabinet: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.

G. Boxed Power Supplies: Locate power supplies as indicated or, if not indicated, **above accessible ceilings** Verify location with owner.

1. Configuration: Provide **least number of power supplies required to adequately serve doors** with electrified door hardware.

H. Thresholds: Set thresholds for exterior doors and other doors indicated in full bed of sealant complying with requirements specified in Section 079200 "Joint Sealants."

I. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they will impede traffic.

J. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.

1. Do not notch perimeter gasketing to install other surface-applied hardware.

K. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.

L. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

3.2 ADJUSTING

A. Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.3 DOOR HARDWARE SCHEDULE

END OF SECTION 087100

SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Interior gypsum board.
2. Exterior gypsum board for ceilings and soffits.
3. Tile backing panels.
4. Texture finishes.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each texture finish indicated on same backing indicated for Work.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

2.2 GYPSUM BOARD, GENERAL

A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.3 INTERIOR GYPSUM BOARD

A. Gypsum Board, Type X: ASTM C 1396/C 1396M.
1. Thickness: 5/8 inch (15.9 mm).
2. Long Edges: **Tapered and featured (rounded or beveled) for prefilling**.

B. Gypsum Ceiling Board: ASTM C 1396/C 1396M.
1. Thickness: 1/2 inch (12.7 mm).
2. Long Edges: Tapered.

C. Mold-Resistant Gypsum Board: ASTM C 1396/C 1396M. With moisture- and mold-resistant core and paper surfaces.
   1. Core: **5/8 inch (15.9 mm), Type X**.
   2. Long Edges: Tapered.
   3. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.

2.4 SPECIALTY GYPSUM BOARD

A. Gypsum Board, Type C: ASTM C 1396/C 1396M. Manufactured to have increased fire-resistive capability.
   1. Thickness: As required by fire-resistance-rated assembly indicated on Drawings.
   2. Long Edges: Tapered.

2.5 TILE BACKING PANELS

A. Glass-Mat, Water-Resistant Backing Board: ASTM C 1178/C 1178M, with manufacturer's standard edges.
   1. Core: **5/8 inch (15.9 mm), Type X**.
   2. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.

B. Cementitious Backer Units: ANSI A118.9 and ASTM C 1288 or ASTM C 1325, with manufacturer's standard edges.
   1. Thickness: **As indicated**.
   2. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.

2.6 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.

   1. Material: **Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized-steel sheet**
   2. Shapes:

      a. Cornerbead.
      b. Bullnose bead.
      c. LC-Bead: J-shaped; exposed long flange receives joint compound.
      d. L-Bead: L-shaped; exposed long flange receives joint compound.
      e. U-Bead: J-shaped; exposed short flange does not receive joint compound.
      f. Expansion (control) joint.
      g. Curved-Edge Cornerbead: With notched or flexible flanges.

B. Exterior Trim: ASTM C 1047.

   1. Material: **Hot-dip galvanized-steel sheet, plastic, or rolled zinc**
   2. Shapes:

      a. Cornerbead.
      b. LC-Bead: J-shaped; exposed long flange receives joint compound.
      c. Expansion (Control) Joint: One-piece, rolled zinc with V-shaped slot and removable strip covering slot opening.

2.7 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475/C 475M.

B. Joint Tape:

1. Interior Gypsum Board: Paper.
2. Exterior Gypsum Soffit Board: Paper.
3. Glass-Mat Gypsum Sheathing Board: 10-by-10 glass mesh.
4. Tile Backing Panels: As recommended by panel manufacturer.

C. Joint Compound for Interior Gypsum Board: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.

1. Prefilling: At open joints**, rounded or beveled panel edges,** and damaged surface areas, use setting-type taping compound.
2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use **drying-type, all-purpose** compound.

a. Use setting-type compound for installing paper-faced metal trim accessories.

3. Fill Coat: For second coat, use **drying-type, all-purpose** compound.
4. Finish Coat: For third coat, use **drying-type, all-purpose** compound.
5. Skim Coat: For final coat of Level 5 finish, use **high-build interior coating product designed for application by airless sprayer and to be used instead of skim coat to produce Level 5 finish**.

D. Joint Compound for Exterior Applications:

1. Exterior Gypsum Soffit Board: Use setting-type taping compound and setting-type, sandable topping compound.
2. Glass-Mat Gypsum Sheathing Board: As recommended by sheathing board manufacturer.

E. Joint Compound for Tile Backing Panels:

1. Glass-Mat, Water-Resistant Backing Panel: As recommended by backing panel manufacturer.
2. Cementitious Backer Units: As recommended by backer unit manufacturer.

2.8 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.

B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.

C. Steel Drill Screws: ASTM C 1002 unless otherwise indicated.

1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch (0.84 to 2.84 mm) thick.
2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.

D. Sound-Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.

1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.

E. Acoustical Sealant: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.

F. Thermal Insulation: As specified in Section 072100 "Thermal Insulation."

G. Vapor Retarder: As specified in Section 072600 "Vapor Retarders."

2.9 TEXTURE FINISHES

A. Primer: As recommended by textured finish manufacturer.

B. Polystyrene Aggregate Ceiling Finish: Water-based, job-mixed, polystyrene aggregate finish with flame-spread and smoke-developed indexes of not more than 25 when tested according to ASTM E 84.
1. Texture: **Fine**.

PART 3 - EXECUTION

3.1 APPLYING AND FINISHING PANELS

A. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.

B. Comply with ASTM C 840.

C. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide 1/4- to 1/2-inch- (6.4- to 12.7-mm-) wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

D. For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.

E. Prefill open joints**, rounded or beveled edges,** and damaged surface areas.

F. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.

G. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:

1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
2. Level 2: **Panels that are substrate for tile**.
3. Level 4: **At panel surfaces that will be exposed to view unless otherwise indicated**

a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."

4. Level 5: **Where indicated on Drawings**

a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."

H. Glass-Mat Gypsum Sheathing Board: Finish according to manufacturer's written instructions for use as exposed soffit board.

I. Glass-Mat Faced Panels: Finish according to manufacturer's written instructions.

J. Cementitious Backer Units: Finish according to manufacturer's written instructions.

3.2 APPLYING TEXTURE FINISHES

A. Surface Preparation and Primer: Prepare and apply primer to gypsum panels and other surfaces receiving texture finishes. Apply primer to surfaces that are clean, dry, and smooth.

B. Texture Finish Application: Mix and apply finish using powered spray equipment, to produce a uniform texture **matching approved mockup and** free of starved spots or other evidence of thin application or of application patterns.

3.3 PROTECTION

A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.

B. Remove and replace panels that are wet, moisture damaged, and mold damaged.

END OF SECTION 092900

SECTION 098436 - SOUND-ABSORBING CEILING UNITS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes shop-fabricated, sound-absorbing acoustical panel units tested for acoustical performance.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at **Project site**

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For unit assembly and installation.

C. Samples: For each exposed product and for each color and texture specified.

1.4 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Reflected ceiling plans and other details, drawn to scale and coordinated with each other, using input from installers of the items involved.

B. Product certificates.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance data.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Test-Response Characteristics: Units shall comply with "Surface-Burning Characteristics" or "Fire Growth Contribution" Subparagraph below, or both, as determined by testing identical products by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:

1. Surface-Burning Characteristics: Comply with ASTM E 84 or UL 723; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

a. Flame-Spread Index: 25 or less.

b. Smoke-Developed Index: **450** > or less.

2. Fire Growth Contribution: Comply with acceptance criteria of local code and authorities having jurisdiction when tested according to NFPA 286.

2.2 SOUND-ABSORBING CEILING UNITS

A. Sound-Absorbing Ceiling Panel Manufacturer's standard panel construction consisting of facing material **laminated to front face, edges, and back edge border of core.**
1. Mounting: Back mounted with manufacturer's standard **suspension system with stiffening, back-support angles,** secured to substrate.
2. Core: **Manufacturer's standard**
3. Edge Construction: Manufacturer's standard
4. Edge Profile: **Chamfered (beveled**
5. Corner Detail in Elevation: **Square** with continuous edge profile indicated.
6. Reveals between Panels: **as selected by owner or Architect from manufacturer's full range** Generally, indicate facing material on Drawings or insert, in "Facing Material" Subparagraph below, drawing designation of facing material specified in "Materials" Article.
7. Facing Material: **Owner-furnished material**.
8. Acoustical Performance: Sound absorption **NRC orSAA** of **0.60 to 0.70** according to ASTM C 423 for **Type J** mounting according to ASTM E 795.
9. Nominal **Overall Panel** Thickness: **3/4 inch (19 mm)**

2.3 MATERIALS

A. Core Materials: **Manufacturer's standard.**

1. Glass-Fiber Board: ASTM C 612; of type standard with manufacturer, unfaced, and dimensionally stable, molded rigid board; and with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.
2. Mineral-Fiber Board: Maximum flame-spread and smoke-developed indexes of 25 and 10, respectively, and with perforated surface.

B. Facing Material Fabric from same dye lot; color and pattern **as selected by owner or Architect from manufacturer's full range**.

1. Applied Treatments: **Stain resistance**

C. Mounting Devices: Concealed on back or top edge of unit, recommended by manufacturer to support weight of unit.

2.4 FABRICATION

A. Standard Construction: Use manufacturer's standard construction unless otherwise indicated, with facing material applied to face, edges, and back border of dimensionally stable core and with rigid edges to reinforce panel perimeter against warpage and damage.

B. Measure each area and establish layout of panels and joints of sizes indicated on Drawings within a given area.

C. Facing Material: Apply fabric facing fully covering visible surfaces of unit; with material stretched straight, on the grain, tight, square, and free from puckers, ripples, wrinkles, sags, blisters, seams, adhesive, or other visible distortions or foreign matter.

1. Fabrics with Directional or Repeating Patterns or Directional Weave: Mark fabric top and attach fabric in same direction so pattern or weave matches adjacent units.

D. Dimensional Tolerances of Finished Units: Plus or minus 1/16 inch (1.6 mm).

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install units in locations indicated. Unless otherwise indicated, install units with edges in alignment with walls and other units, faces flush, and scribed to fit adjoining work accurately at borders and at penetrations.

B. Comply with manufacturer's written instructions for installation of units using type of mounting devices indicated. Mount units securely to supporting substrate.

C. Align fabric pattern and grain with adjacent units.

3.2 CLEANING

A. Clip loose threads; remove pills and extraneous materials.

B. Clean panels on completion of installation to remove dust and other foreign materials according to manufacturer's written instructions.

END OF SECTION 098436

EXHIBIT I

DESIGN PLANS

LINN COUNTY SHERIFF'S DEPARTMENT
EVIDENCE STORAGE

1050 SE JACKSON ST. ALBANY, OREGON

GENERAL NOTES

PROJECT SCOPE:

MINOR INTERIOR RENOVATION AND NEW EXTERIOR STAIR

GENERAL:

1. ALL WORK SHALL COMPLY WITH APPLICABLE CODES & ORDINANCES IN FORCE AT THE TIME OF CONSTRUCTION.

REGULATIONS:

1. THE CONTRACTOR SHALL HAVE EVIDENCE OF CURRENT WORKER'S COMPENSATION INSURANCE ON FILE IN COMPLIANCE WITH LOCAL CODE.
2. BEFORE COMMENCING WITH THE WORK, THE GENERAL CONTRACTOR SHALL SHOW EVIDENCE OF ALL REQUIRED INSURANCE.
3. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL OWNER REQUIREMENTS AND SHALL BE RESPONSIBLE FOR COMPLIANCE. THE CONTRACTOR SHALL INVESTIGATE LOCAL CODES AND PROCEDURES AND SHALL COMPLY WITH ALL REQUIREMENTS.
4. SIGN CONTRACTOR TO OBTAIN SIGN PERMITS FROM BUILDING DEPARTMENT AS APPLICABLE.
5. ALL CONDUIT, EQUIPMENT AND MATERIAL SHALL BE IN FULL ACCORDANCE WITH THE LATEST SAFETY RULES AND REGULATIONS OF ALL AUTHORITIES AND AGENCIES HAVING JUSIDICTION.
6. THE CONTRACTOR SHALL MAINTAIN FOR THE ENTIRE DURATION OF THE WORK ALL EXITS, EXIT LIGHTING, FIRE PROTECTION DEVICES, AND ALARMS IN COMFORMANCE WITH ALL APPLICABLE CODES AND ORDINANCES.

FIRE PROTECTION:

1. PROVIDE SMOKE DETECTORS AS REQUIRED BY CODE.
2. PROVIDE STREET ADDRESS WITH NUMBERS FACING THE STREET AS REQUIRED BY FIRE MARSHAL.
3. CONSTRUCT FIRE BARRIER WALLS PER PLANS, IF SHOWN.

JOB SITE OPERATIONS:

1. DURING ALL PHASES OF WORK, DO NOT DISTURB THE DELIVERIES AND FUNCTIONS OF THE ADJACENT AND NEIGHBORING PROPERTY OWNERS.
2. EACH CONTRACTOR SHALL LEAVE THE SITE IN A NEAT, CLEAN, AND ORDERLY CONDITION UPON THE COMPLETION OF HIS WORK ON A DAILY BASIS. AREA OF WORK TO BE DUSTED, SWEPT, AND MOPPED TO THE SAME CONDITION AS START OF WORK. ALL WASTE, RUBBISH AND EXCESS MATERIALS SHALL BE REMOVED FROM THE SITE PROMPTLY. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL TRASH, INCLUDING TRASH GENERATED FROM THE OWNER FURNISHED ITEMS AND BY OWNER'S CONTRACTORS FOR HTE DURATION OF THE PROJECT.
3. ALL EXISTING WORK NOT IN THIS SCOPE OF WORK SHALL BE MAINTAINED IN ITS ORIGINAL CONDITION, U.O.N., PROJECT WORK FROM DAMAGE RESULTING FROM THIS WORK.
4. REMOVE ALL ABANDONED IMPROVEMENTS, INCLUDING ELECTRICAL AND MECHANICAL, U.O.N.

MATERIALS:

1. WHEN CONTRACTOR ACCEPTS DELIVERY OF ALL ITEMS NOTES ON PLANS, WHETHER IN CONTRACT OR NOT IN CONTRACT, THEY SHALL BE RESPONSIBLE FOR LOSS AND/OR DAMAGE TO THESE ITEMS.
2. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH OWNER TO PROVIDE TIMELY ARRIVAL OF ALL MATERIALS, EQUIPMENT, AND OTHER SUCH ITEMS TO BE UTILIZED ON THIS PROJECT (OWNER-PROVIDED OR OTHERWISE). GENERAL CONTRACTOR SHALL NOTIFY OWNER IN WRITING WITHIN 5 DAYS OF DATE OF APPROVED WORK AUTHORIZATION OF THOSE ITEMS THAT MAY NOT BE READILY AVAILABLE. IF NOTIFICATIONS ARE NOT PROVIDED TO THE OWNER, THE CONTRACTOR ACCEPTS RESPONSIBILITY FOR THE PROPER ORDERING AND FOLLOW-UP OF SPECIFIED ITEMS AND WILL PURSUE WHATEVER MEANS NECESSARY AT NO ADDITIONAL COST TO OWNER.
3. CONTRACTOR TO ENSURE AVAILABILITY OF ALL SPECIFIED ITEMS SO AS NOT TO CREATE A HARDSHIP TO THE OWNER AND NOT DELAY PROGRESS OF THE WORK. NO EXTENSION OF TIME SHALL BE PERMITTED.
4. CONTRACTOR SHALL BE RESPONSIBLE TO RECEIVE, INVENTORY, STORE, AND SECURE ANY OWNER FURNITURE ITEMS (O.F.I.) SUPPLIED AND DELIVERED TO THE JOBSITE OR OTHER AGREED UPON LOCATION, AND FORWARD THE RECEIVING DOCUMENT(S) TO THE OWNER.
5. THE CONTRACTOR SHALL LEAVE WITH OWNER ONE (1) GALLON OF PAINT OF EACH COLOR FOR FUTURE TOUCH-UP WORK.
6. NO SUBSTITUTIONS OF ANY MATERIALS OR ITEMS SPECIFIED IN THE DOCUMENTS ARE PERMITTED U.O.N. AND APPROVED BY THE OWNER.
7. WHERE NO SPECIFIC STANDARDS ARE APPLIED TO A MATERIAL OR METHOD OF CONSTRUCTION TO BE USED ON THE WORK, ALL SUCH MATERIALS AND METHODS ARE TO MAINTAIN STANDARDS OF THE INDUSTRY.
8. PROVIDE ALL NECESSARY ANCHORAGE BLOCKING, BACKING, FRAMING FOR DOOR STOPS, CASEWORK, SHELVING, MIRRORS, WALL MOUNTED EQUIPMENT, AND ALL OTHER ITEMS AS REQUIRED FOR COMPLETE INSTALLATION.

BUILDING ENVELOPE:

1. ALL OPENINGS, FLASHINGS, COUNTER FLASHINGS, AND EXPANSION JOINTS SHALL BE WATERTIGHT.
2. ALL OPEN JOINTS, PENETRATIONS, AND OTHER OPENINGS IN THE BUILDING ENVELOPE SHALL BE SEALED, CAULKED, GASKETED, OR WEATHER STRIPPED TO LIMIT AIR LEAKAGE.
3. USE ACOUSTICAL SEALANT AROUND ALL PIPES, DUCTS, CONDUIT, OUTLETS, SWITCHES, ETC. ON BOTH SIDES OF CROSSING/PENETRATING WALLS WITH THERMAL AND ACOUSTICAL INSULATION.
4. ALL SAW CUTTING AND CORING LOCATIONS SHALL BE REVIEWED AND COORDINATED WITH THE LANDLORD PRIOR TO CUTTING/CORING.
5. ALL FLASHING SHALL BE 24 GA. PREFINISHED METAL. GRAVEL STOPS AND BEAM CAPS TO BE 22 GA. PREFINISHED METAL.
6. EXPOSED EXTERIOR PLYWOOD SHALL BE EXTERIOR GRADE CDX. EXTERIOR WALLS SHALL BE SHEATHED ENTIRELY PER PLANS.
7. ALL DIMENSIONAL LUMBER TO BE DOUGLAS FIR-LARCH, STANDARD OR BETTER.
8. VAPOR BARRIER REQUIREMENTS:
   - -EXTERIOR WALLS: ONE-PERM REQUIRED, FACED INSULATION-TYP.
   - -FLOORS: ONE-PERM REQUIRED, FACED INSULATION BELOW FLOOR OR KRAFTER PAPER BETWEEN DECKING AND UNDERLAYMENT.
   - -CEILINGS: (NO REQUIREMENT FOR CEILINGS WIHTOUT ATTICS ABOVE THEM) 0.5 PERM REQUIRED IN CEILINGS WITHOUT ATTICS ABOVE (SUCH AS SINGLE RAFTER VAULTS). POLYETHYLENE SHEETS OR FOIL FACED BATTS.

ELECTRICAL:

1. GROUND FAULT CIRCUIT PROTECTION REQ'D ON ALL 110 VOLT SINGLE PHASE 15 & 20 AMP OUTLETS IN BATHROOMS, OUTDOORS, WITHIN 6 FEET OF SINKS, & ABOVE COUNTER TOPS.
2. MARK ALL OUTLET LOCATIONS FOR REVIEW & APPROVAL BY OWNER PRIOR TO INSTALLATION.
3. LOCATE THE MIDDLE OF ALL OUTLETS AT 18" A.F.F U.O.N.

FINISH:

1. ALL FINISHES SHALL BE IDENTIFIED BY OWNER, INDLUCING CABINETS, DOORS, FINISH TRIM, ETC.
2. DOORS & WINDOWS TO BE WEATHER STRIPPED.
3. ALL WINDOWS TO BE INSULATED GLASS (DOUBLE GLAZED).

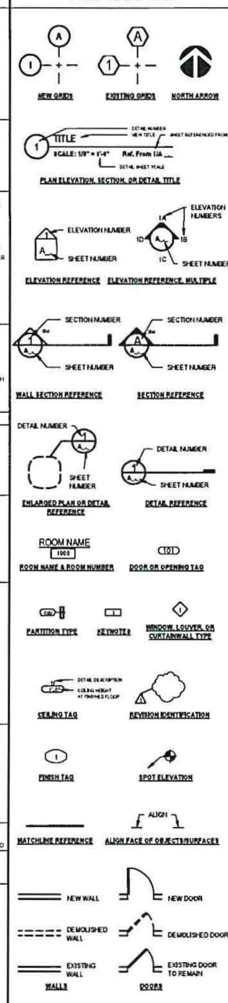
DRAWINGS:

1. ALL CONTRACTORS, SUBCONTRACTORS, VENDORS, AND MATERIAL SUPPLIERS SHALL BE RESPONSIBLE FOR REVIEWING THE COMPLETE SET OF DOCUMENTS AS SHOWN IN THE SHEET INDEX. FAILURE TO REVIEW CONSTRUCTION DOCUMENTS WILL NO RELIEVE ANY CONTRACTORS, SUBCONTRACTORS, VENDORS, OR MATERIAL SUPPLIERS FROM PERFORMING WORK OR PROVIDING MATERIALS REQUIRED FOR COMPLETION OF THE PROJECT AS DEFINED WITHIN THE DOCUMENTS AT TIME OF BID.
2. GENERAL CONTRACTOR SHALL COORDINATE WORK PERFORMED BY OTHER CONTRACTORS. ANY DISCREPENCIES SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION BEFORE PROCEEDING WITH WORK.
3. SHOULD A CONFLICT EXIST BETWEEN THE CONSTRUCTION DOCUMENTS AND/OR THE SPECIFICATIONS, THE ARCHITECT SHALL BE INFORMED OF THIS DISCREPANCY IMMEDIATELY, AT WHICH TIME THE ARCHITECT SHALL PROVIDE DIRECTION ON HOW TO PROCEED.
4. INSPECT SITE AND VERIFY FIELD DIMENSIONS BEFORE COMMENCING WITH CONSTRUCTION. NOTIFY ARCHITECT IMMEDIATELY IF THERE ARE ANY SIGNIFICANT DISCREPANCIES.
5. DO NOT SCALE THE DRAWINGS. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DRAWINGS.
6. LARGER SCALE DETAILING SHALL TAKE PRECEDENCE OVER SMALLER SCALE--VERIFY WITH ARCHITECT.
7. ARCHITECTURE DRAWINGS TAKE PRECEDENCE OVER OTHER DRAWINGS FOR LAYOUT, DIMENSIONS, AND NUMBER OF ITEMS PROVIDED. UPON DISCREPENCIES BETWEEN ARCHITECTURAL DRAWINGS AND ENGINEERING DRAWINGS, ARCHITECT SHALL BE IMMEDIATELY NOTIFIED IN WRITING.
8. IF ANY ERRORS OR OMISSIONS APPEARS IN CONTRACT DOCUMENTS, CONTRACTOR SHALL NOTIFY ARCHITECT IN WRITING OF SUCH ERRORS OR OMISSIONS.
9. DIMENSIONS SHOWN ON PLANS ARE TO FACE OF EXISTING WALLS OR CENTERLINE OF STUDS OF NEW WALLS, U.O.N.
10. DOORS NOT LOCATED BY DIMENSION ON PLANS OR DETAILS SHALL BE 5" FORM EDGE OF DOOR OPENING TO FINISH FACE OF ADJACENT WALL.
11. ALL RECESSED ELECTRICAL PANELS & CABINETS & OTHER RECESSED CABINETS SHALL BE BACK WITH A LAYER OF GYPSUM WALL BOARD.
12. THE CONTRACTOR SHALL REVIEW ALL DOCUMENTS, VERIFY ALL DIMENSIONS AND FIELD CONDITIONS, AND CONFIRM WORK IS BUILDABLE AS SHOWN. ANY CONFLICTS OR OMISSIONS, ETC. SHALL BE IMMEDIATELY REPORTED TO THE ARCHITECT/OWNER FOR CLARIFICATION PRIOR TO PERFORMANCE OF ANY WORK IN QUESTION.
13. CONSULT PLANS OF ALL WORK FOR ALL OPENINGS & ROUGH-OUTS THROUGH WALLS, CEILINGS, & ROOFS FOR DUCTS, PIPES, CONDUITS, CABINETS, & EQUIPMENT. VERIFY SIZE & LOCATION BEFORE PROCEEDING WITH WORK.
14. CONSULT WITH MECHANICAL CONTRACTOR FOR EXACT LOCATIONS OF ACCESS REQUIRED BY THEIR WORK. ACCESS MUST BE PROVIDED FOR ALL CONCEALED VALVES, CONTROLS, DUCTS, ELECTRICAL JUNCTION BOXES, ETC.
15. GRID LINES (OR COLUMN CENTER LINES) ARE SHOWN FOR REFERENCE.
16. A COPY OF APPROVED BUILDING PERMITS WITH ADDENDA AND BULLETINS MUST BE ON SITE AT ALL TIMES DURING CONSTRUCTION.
17. THE STRUCTURE SHOWN ON THESE DRAWINGS IS STRUCTURALL SOUND ONLY IN ITS COMPLETE FORM. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BRACING TO STABILIZE THE BUILDING DURING CONSTRUCTION.

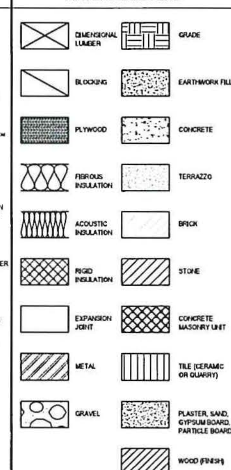
ABBREVIATIONS

&	AND	MACH	MACHINE
@	AT	MAX	MAXIMUM
℄	CENTERLINE	MB	MACHINE BOLT
Ø	DIAMETER	MECH	MECHANICAL
#	NUMBER / POUND	MED	MEDIUM
℗	PLATE / PROPERTY LINE	MEZZ	MEZZANINE
<	LESS THAN	MFGR	MANUFACTURER
>	GREATER THAN	MH	MANHOLE
AB	ANCHOR BOLT	MIN	MINIMUM
ABV	ABOVE	MISC	MISCELLANEOUS
A/C	AIR CONDITIONING	MO	MASONRY OPENING
ACOUS	ACOUSTICAL	MTD	MOUNTED
ACT	ACOUSTIC CEILING TILE	MTL	METAL
AFF	ABOVE FINISH FLOOR	MULL	MULLION
ALM	ALARM	N/R	NOT RATED
ALUM	ALUMINUM	(N)	NEW
APPROX	APPROXIMATE	N	NORTH
ARCH	ARCHITECTURAL	NIC	NOT IN CONTRACT
BD	BOARD	NFVA	NET FREE VENTILATION AREA
BLDG	BUILDING	NO	NUMBER
BLK	BLOCK	NOM	NOMINAL
BLKG	BLOCKING	NTS	NOT TO SCALE
BM	BEAM	O/A	OVERALL
BN	BOUNDARY NAILING	OAR	OREGON ADMINISTRATIVE RULES
BOT	BOTTOM	OC	ON CENTER
BTWN	BETWEEN	OD	OUTSIDE DIAMETER
BUR	BUILT-UP ROOF	OF	OUTSIDE FACE
C	CAMBER	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
CATV	CABLE TELEVISION	OFOI	OWNER FURNISHED OWNER INSTALLED
CB	CATCH BASIN	OPG	OPENING
CER	CERAMIC	OPP	OPPOSITE
CI	CAST IRON	ORD	OVERFLOW ROOF DRAIN
CJ	CEILING JOIST	ORS	OREGON REVISED STATUTES
CLG	CEILING	OSSC	OREGON STRUCTURAL SPECIALTY CODE
CLOS	CLOSET	PARTN	PARTITION
CLR	CLEAR	PLAM	PLASTIC LAMINATE
CMU	CONCRETE MASONRY UNIT	PLYWD	PLYWOOD
CO	CLEANOUT	PNL	PANEL
COL	COLUMN	POC	POINT OF CONNECTION
CONC	CONCRETE	PR	PAIR
CONN	CONNECTION	PSI	POUNDS PER SQUARE INCH
CONSTR	CONSTRUCTION	PSF	POUNDS PER SQUARE FT.
CONT	CONTINUOUS	PT	PRESSURE TREATED
CTSK	COUNTERSINK	PVC	POLYVINYL CHLORIDE
CU YD	CUBIC YARD	QT	QUARRY TILE
DBL	DOUBLE	R	RISER
DEMO	DEMOLITION	RAD	RADIUS
DEPT	DEPARTMENT	RB	RUBBER BASE
DTL	DETAIL	RD	ROOF DRAIN
DF	DOUGLAS FIR	RDWD	REDWOOD
DIA	DIAMETER	REF	REFERENCE
DIM	DIMENSION	REFR	REFRIGERATOR
DIST	DISTANCE	REINF	REINFORCED
DN	DOWN	REPL	REPLACE
DR	DOOR	REQD	REQUIRED
DS	DOWN SPOUT	RESIL	RESILIENT
DWG	DRAWING	REV	REVISION
(E)	EXISTING	RM	ROOM
E	EAST	RO	ROUGH OPENING
EA	EACH	ROM	ROUGH ORDER OF MAGNITUDE
EJ	EXPANSION JOINT	ROW	RIGHT OF WAY
ELEC	ELECTRICAL	RS	RESAWN
ELEV	ELEVATION	S	SOUTH
EP	ELECTRICAL PANEL	SC	SOLID CORE
EQ	EQUAL	SCHED	SCHEDULE
EQUIP	EQUIPMENT	SECT	SECTION
EXT	EXTERIOR	SHT	SHEET
FND	FOUNDATION	SHTG	SHEATHING
FD	FLOOR DRAIN	SIM	SIMILAR
FF	FINISH FLOOR	SP	SPANDREL
FIN	FINISH	SPEC	SPECIFICATION
FIXT	FIXTURE	SQ	SQUARE
FLR	FLOOR	SQFT	SQUARE FOOT / FEET
FL	FLOW LINE	SQIN	SQUARE INCH
FLUOR	FLUORESCENT	SS	STAINLESS STEEL
FH	FIRE HYDRANT	STD	STANDARD
FOM	FACE OF MASONRY	STL	STEEL
FOS	FACE OF STUD	STOR	STORAGE
FOW	FACE OF WALL	STRUCT	STRUCTURAL
FS	FLOOR SINK	SYM	SYMMETRICAL
FT	FOOT / FEET	T	TEMPERED
FTG	FOOTING	TB	TOP OF BEAM
FURR	FURRING	TC	TOP OF CURB
GA	GAGE / GAUGE	TEL	TELEPHONE
GALV	GALVANIZED	T&G	TONGUE & GROOVE
GC	GENERAL CONTRACTOR	THK	THICK
GI	GREASE INTERCEPTOR	TJ	TOP OF JOIST
GLB	GLUALAM BEAM	TOP	TOP OF PARAPET
GL	GLASS	TP	TOP OF PAVEMENT
GND	GROUND	THRU	THROUGH
GYP	GYPSUM	TS	TUBE STEEL
HB	HOSE BIB	TYP	TYPICAL
HC	HOLLOW CORE	UL	UNDERWRITERS LABORATORY
HDR	HEADER	UON	UNLESS OTHERWISE NOTED
HDW	HARDWARE	VCT	VINYL COMPOSITE TILE
HT	HEIGHT	VERT	VERTICAL
HM	HOLLOW METAL	VEST	VESTIBULE
HORIZ	HORIZONTAL	VTR	VENT THROUGH ROOF
HP	HIGH POINT	W	WEST
HTG	HEATING	W/	WITH
HDWD	HARDWOOD	WC	WATER CLOSET
HVAC	HEATING, VENTILATION & AIR CONDITIONING	WD	WOOD
ID	INSIDE DIAMETER	WF	WIDE FLANGE
IE	INVERT ELEVATION	WH	WATER HEATER
IN	INCH / INCHES	W/O	WITHOUT
INFO	INFORMATION	WP	WATERPROOF
INSUL	INSULATION	WR	WATER RESISTANT
INT	INTERIOR	WRB	WEATHER RESISTANT BARRIER
JAN	JANITOR	WWF	WELDED WIRE FABRIC
JT	JOINT		
L	LENGTH		
LAM	LAMINATE / LAMINATED		
LAV	LAVATORY		
LB(S)	POUND / POUNDS		
LF	LINEAR FOOT / FEET		
LT	LIGHT		

SYMBOL LEGEND

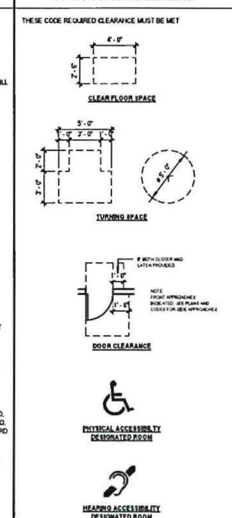


MATERIAL LEGEND



ACC. SYMBOL LEGEND

THESE CODE REQUIRED CLEARANCE MUST BE MET



APPLICABLE BUILDING CODES

APPLICABLE CODES (PER DESIGN REQUIREMENTS FOR THE CITY OF CORVALLIS)

OREGON STRUCTURAL SPECIALTY CODE (OSSC)	2014
OREGON MECHANICAL SPECIALTY CODE (OMSC)	2014
OREGON PLUMBING SPECIALTY CODE (OPSC)	2014
OREGON ELECTRICAL SPECIALTY CODE (OESC)	2014
ALL STATE & LOCAL ORDINANCES	CURRENT
SHALL MEET ALL RELEVANT VERSIONS OF NFPA	CURRENT

ACCESSIBILITY INFORMATION:

1. ALL PUBLIC USE & COMMON USE AREAS SHALL BE ACCESSIBLE PER 2014 OSSC, CHAPTER 11.
   -SEE ACCESSIBLE DETAILS FOR MORE INFORMATION

BUILDING CODE SUMMARY

OCCUPANCY TYPE:
B BUSINESS, OFFICE SPACE
S1 STORAGE

PROJECT DESCRIPTION:
MINOR INTERIOR RENOVATION AND NEW EXTERIOR STAIR.

CONSTRUCTION TYPE: VB
STORIES: I

BUILDING AREA: 4,808 SF TOTAL AREA

REQUIRED OCCUPANCY SEPARATIONS (TABLE 508.4)

OCCUPANCY TYPES	SPRINKLERS	SEPARATION
B TO S-1	NONE	NONE REQUIRED

FIRE SPRINKLERS:

EXISTING?

BUILDING REQUIREMENTS:

1.	DOOR WIDTH	SEE EGRESS PLAN	SECTION 1008.1.1
2.	MAXIMUM TRAVEL DISTANCE	200'-0"	TABLE 1016.2

SHEET LIST

Sheet Number	Sheet Name
A0.00	COVER SHEET
A0.01	CODE SHEET
A0.02	ACCESSIBILITY DETAILS
A0.05	PARTITION ASSEMBLIES
A2.00	FLOOR PLAN
A2.01	ENLARGED FLOOR PLAN
A3.00	EXTERIOR ELEVATIONS
A4.00	WINDOW TYPES & DETAILS
A4.01	DOOR TYPES, DETAILS & SCHEDULE
A6.00	REFLECTED CEILING PLAN
A7.00	INTERIOR ELEVATIONS
A8.00	INTERIOR DETAILS

CONTACT LIST

SITE ADDRESS: 1050 SE JACKSON STREET
ALBANY, OR 97321

TENANT: LINN COUNTY SHERIFF'S OFFICE
1115 SE JACKSON STREET
ALBANY, OR 97322
PH: (541) 967-3950
CONTACT:

ARCHITECT: VARITONE ARCHITECTURE, LLC
231 2nd AVE SW
ALBANY, OR 97321
PH: (541) 497-2954
CELL: (541) 224-2210
CONTACT: CHRISTINA KNOWLES, AIA

JURISDICTION: THE CITY OF ALBANY
DEVELOPMENT DEPARTMENT
333 BROADALBIN ST SW
ALBANY, OR 97321
PH: (541) 917-7500

CONTRACTOR: TO BE SELECTED

DEFERRED DOCUMENTS

PROJECT SUMMARY

SCOPE OF ARCHITECTURAL SERVICES:
VARITONE ARCHITECTURE LLC HAS PERFORMED THE ARCHITECTURAL DESIGN AND PREPARED THE WORKING DRAWINGS FOR THIS PROJECT. CONSTRUCTION MUST BE PERFORMED IN STRICT ACCORDANCE WITH THE DRAWINGS. ANY DEVIATION FROM DRAWINGS MUST BE BROUGHT TO THE ATTENTION OF VARITONE ARCHITECTURE LLC. ERRORS AND/OR OMISSIONS FOUND ON THE DRAWINGS MUST BE BROUGHT TO THE ATTENTION OF VARITONE ARCHITECTURE LLC IMMEDIATELY.

FIELD MEASUREMENTS AND THE VERIFICATION OF FIELD DIMENSIONS ARE NOT PART OF VARITONE ARCHITECTURE'S RESPONSIBILITY. THE CONTRACTOR MUST CHECK ALL (ASSUMED) EXISTING CONDITIONS SHOWN ON THESE DRAWINGS FOR ACCURACY AND NOTIFY VARITONE ARCHITECTURE LLC OF ANY DISCREPANCIES.

OMISSIONS FROM THE DRAWINGS OR SPECIFICATIONS OR THE ADVERTENT MISLABELING OF DETAILS OF WORK WHICH ARE NECESSARY TO CARRY OUT THE INTENT OF THE DRAWINGS AND SPECIFICATIONS, OF WHICH ARE CUSTOMARILY PERFORMED, SHALL NOT RELIEVE THE CONTRACTOR FROM PERFORMING SUCH OMITTED OR INADVERTENTLY MISLABELED DETAILS OF WORK, BUT THEY SHALL PERFORM AS IF FULLY AND CORRECTLY SET FORTH AND DESCRIBED IN THE DRAWINGS AND SPECIFICATIONS.

PREFABRICATED SYSTEMS DESIGNED BY OTHERS:
VARITONE ARCHITECTURE LLC IS RESPONSIBLE FOR THE DESIGN OF PRIMARY STRUCTURAL SYSTEMS, EXCEPT FOR ANY COMPONENTS NOTED AS PRE-MANUFACTURED ON THE PLANS OR IN THE SPECIFICATIONS. RESPONSIBILITY FOR ANY SECONDARY STRUCTURAL & NON-STRUCTURAL SYSTEMS NOT SHOWN ON THE DRAWINGS REST WITH THE MANUFACTURER OF THAT SYSTEM.

PROJECT LOCATION

REGISTERED ARCHITECT
CHRISTINA M. LARSEN
6654
STATE OF OREGON

VARITONE ARCHITECTURE & INTERIOR DESIGN
231 2nd Avenue SW
Albany, Oregon 97321
Ph: 541.497.2954

LINN COUNTY SHERIFF'S DEPT.
EVIDENCE STORAGE
1050 SE JACKSON ST. ALBANY, OREGON

Issue:	CD SET
Date:	12/22/17
Revision:	Date:

COVER SHEET

A0.00

GENERAL DEMO NOTES

A. WHERE DEMOLITION OF A WALL, ROOF OR FLOOR IS CALLED OUT, UNLESS NOTED OTHERWISE, THE CONTRACTOR SHALL REMOVE ELECTRICAL, GYP. BOARD, INSULATION, WINDOWS, FLOOR COVERING, PLUMBING, ETC. DOWN TO BARE STUDS AND ROOF TRUSSES. DISPOSE OF MATERIAL OFF SITE. CONTRACTOR TO MAKE SITE VISIT TO DETERMINE EXTENT OF DEMO.

B. PRIOR TO BEGINNING ANY DEMOLITION AND SITE PREPARATION WORK, A SURVEY OF THE PROPOSED DEMOLITION SHALL BE MADE BY THE CONTRACTOR TO DETERMINE THE CONNECTIONS, FRAMING METHODS, AND CONDITIONS OF THE AREA TO BE DISMANTLED. THE CONTRACTOR SHALL NOTIFY VARITONE ARCHITECTURE, PRIOR TO PROCEEDING WITH DEMOLITION OF ANY CONDITION WHICH MIGHT CAUSE THE UNPLANNED COLLAPSE OF ANY PORTION OF THE BUILDING.

C. ACCOUNT FOR ALL ELECTRICAL, GAS, WATER, SEWER AND OTHER UTILITY LINES THAT RUN THROUGH ANY AREA OF WORK TO BE DEMOLISHED. LINES SHALL BE CAPPED, SHUT OFF, OR PROTECTED AS REQUIRED.

D. DETERMINE IF ANY TYPE OF HAZARDOUS CHEMICALS, FLAMMABLE MATERIAL, OR SIMILAR DANGEROUS SUBSTANCES, INCLUDING ASBESTOS, HAVE BEEN USED IN ANY PIPES, TANKS, EQUIPMENT, OR THE BUILDING STRUCTURE WHERE THE DEMOLITION WORK IS TO BE PERFORMED. WHEN THE PRESENCE OF SUCH SUBSTANCE IS APPARENT OR SUSPECT, TESTING AND PURGING SHALL BE PERFORMED AND THE HAZARD REMOVED OR ELIMINATED BEFORE DEMOLITION STARTS OR CONTINUES.

E. ALL DEMOLITION MATERIALS SHALL BE PROPERLY DISPOSED OF IN ACCORDANCE WITH ALL LAWS AND REGULATIONS. CONTRACTOR TO PAY ALL DUMPING FEES. ALL ITEMS THE OWNER DESIRES TO SALVAGE IN THE AREAS OF DEMOLITION SHALL BE IDENTIFIED PRIOR TO DEMOLITION. CONTRACTOR SHALL REMOVE AND DELIVER TO OWNER THOSE ITEMS PREVIOUSLY IDENTIFIED.

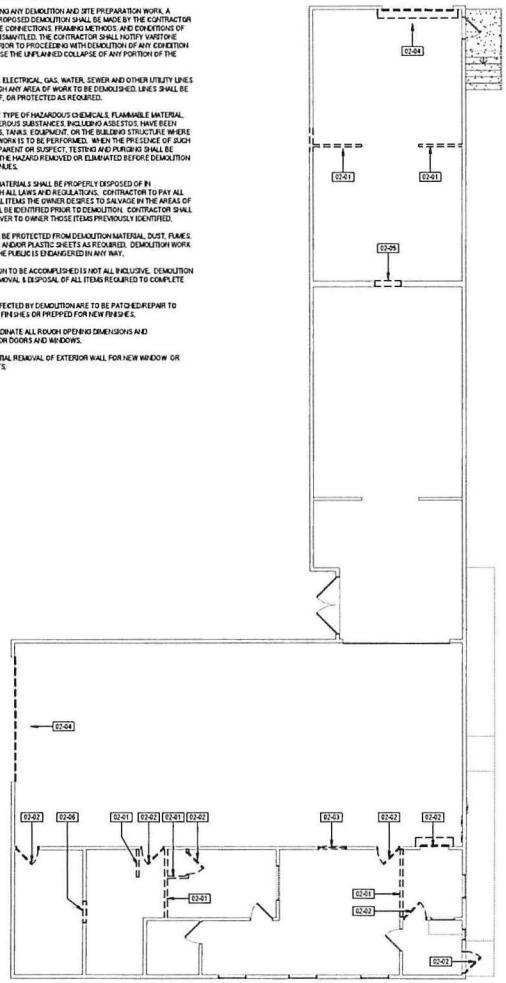
F. THE PUBLIC SHALL BE PROTECTED FROM DEMOLITION MATERIAL, DUST, FUMES, ETC. BY BARRIERS AND/OR PLASTIC SHEETS AS REQUIRED. DEMOLITION WORK SHALL CEASE IF THE PUBLIC IS ENDANGERED IN ANY WAY.

G. LIST OF DEMOLITION TO BE ACCOMPLISHED IS NOT ALL INCLUSIVE. DEMOLITION IS TO INCLUDE REMOVAL & DISPOSAL OF ALL ITEMS REQUIRED TO COMPLETE REMODEL.

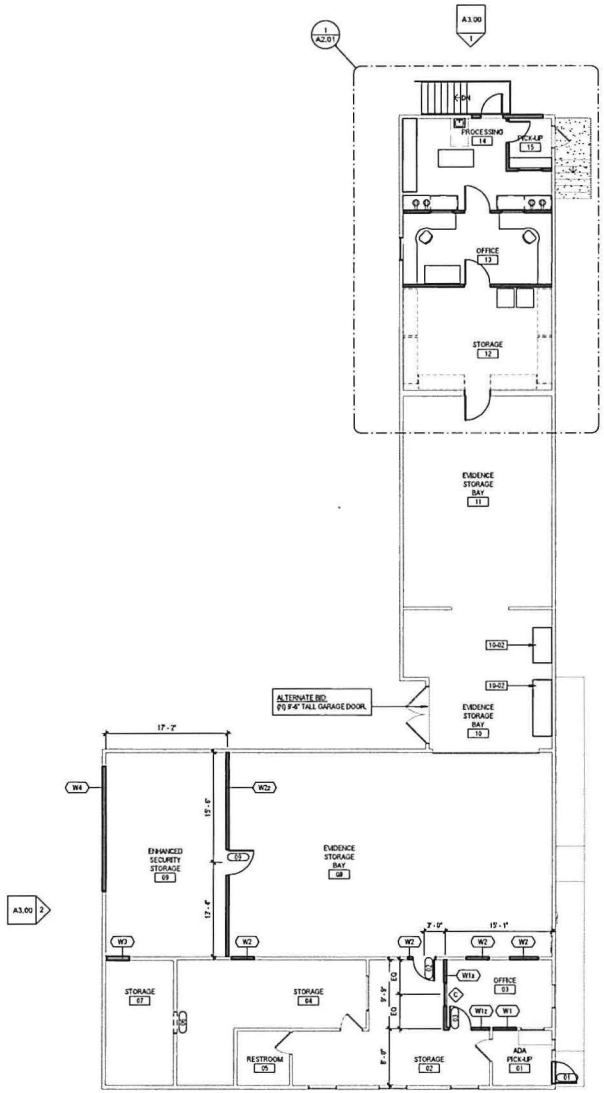
H. ALL SURFACES AFFECTED BY DEMOLITION ARE TO BE PATCHED/REPAIR TO MATCH ADJACENT FINISHES OR PREPPED FOR NEW FINISHES.

I. VERIFY AND COORDINATE ALL ROUGH OPENING DIMENSIONS AND REQUIREMENTS FOR DOORS AND WINDOWS.

J. COORDINATE PARTIAL REMOVAL OF EXTERIOR WALL FOR NEW WINDOW OR DOOR PLACEMENTS.



1 DEMOLITION PLAN
1/8" = 1'-0" REF. FROM 1 / A3.00



2 FLOOR PLAN
1/8" = 1'-0" REF. FROM 1 / A3.00

GENERAL NOTES:

1. DIMENSIONS ARE TO CENTER OF NEW WALLS OR FINISH FACE OF EXISTING WALLS.

LEGEND:

- NEW DOOR
- NEW WALL
- EXISTING DOOR
- EXISTING WALL
- DOOR TO BE REMOVED
- WALL TO BE REMOVED
- AREA OF CONCRETE SLAB TO BE REMOVED
- WALL TAG
- WINDOW TAG
- DOOR TAG

KEYNOTE LEGEND

#	Keynote Description
02-01	REMOVE (E) WALL
02-02	REMOVE (E) INTERIOR DOOR & FRAME
02-03	REMOVE (E) INTERIOR WINDOW & FRAME
02-04	REMOVE (E) ROLL-UP EXTERIOR GARAGE DOOR
02-05	REMOVE PORTION OF EXISTING WALL FOR FUTURE DOOR
02-06	REMOVE PORTION OF EXISTING WALL FOR FUTURE OPENING
19-02	(E) DRYING LOCKERS

REGISTERED ARCHITECT
STATE OF OREGON
12/31/2020

VARITONE ARCHITECTURE & INTERIOR DESIGN
231 2nd Avenue SW
Albany, Oregon 97321
Ph: 541.497.2954

LINN COUNTY SHERIFF'S DEPT.

EVIDENCE STORAGE

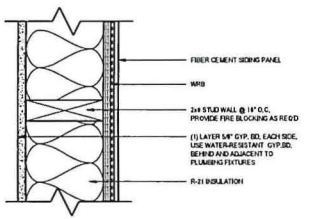
1000 SE JACKSON ST. ALBANY, OREGON

Issue:	Project Status
Date:	Issue Date

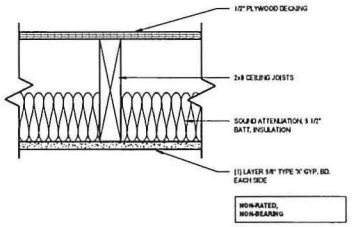
Revision:	Date:

FLOOR PLAN

A2.00



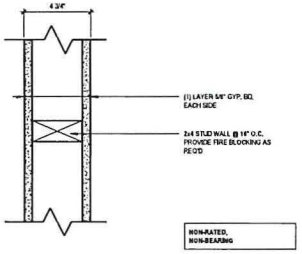
W4 EXTERIOR PARTITION
3" = 1'-0"



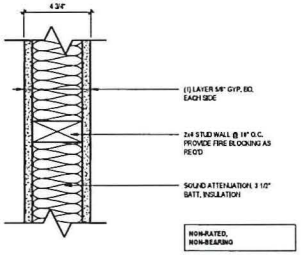
C1 CEILING PARTITION
3" = 1'-0"

WALL TYPE SYMBOL:

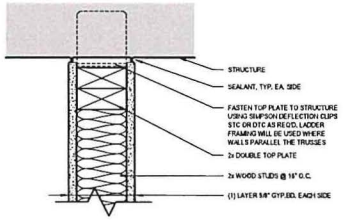
WALL TYPE NOTES:



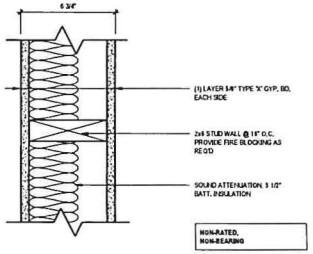
W1 INTERIOR PARTITION
3" = 1'-0"



W2 INTERIOR PARTITION
3" = 1'-0"



Z PARTITION TERMINATION - Z
3" = 1'-0"



W3 INTERIOR PARTITION
3" = 1'-0"

REGISTERED ARCHITECT
CHRISTINE M. LARSEN
6654
STATE OF OREGON

VARITONE ARCHITECTURE + INTERIOR DESIGN
231 2nd Avenue SW
Albany, Oregon 97321
Ph: 541.497.2564

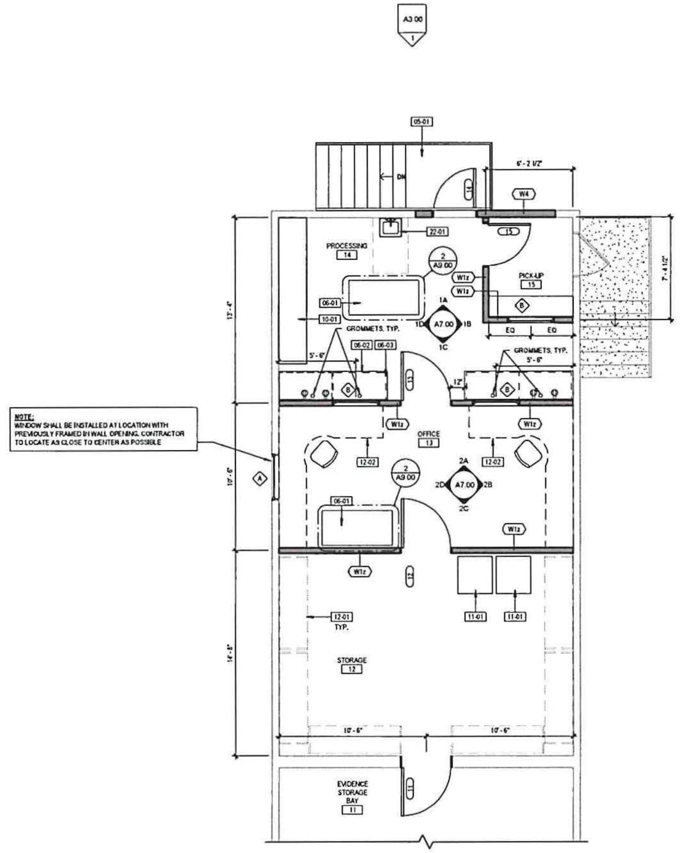
LINN COUNTY SHERIFF'S DEPT.
EVIDENCE STORAGE
1050 SE JACKSON ST. ALBANY, OREGON

Issue:	CD SET
Date:	12/22/17

Revision	Date

PARTITION ASSEMBLIES

A0.05



1 ENLARGED FLOOR PLAN
1/4" = 1'-0" REF. FROM 2 / A2.00

GENERAL NOTES:

1. DIMENSIONS ARE TO CENTER OF NEW WALLS OR FINISH FACE OF EXISTING WALLS.

LEGEND:

- NEW DOOR
- NEW WALL
- EXISTING DOOR
- EXISTING WALL
- DOOR TO BE REMOVED
- WALL TO BE REMOVED
- AREA OF CONCRETE SLAB TO BE REMOVED
- WALL TAG
- WINDOW TAG
- DOOR TAG

KEYNOTE LEGEND

#	Keynote Description
05-01	PRE-MANUFACTURED METAL STAIRS & RAILING
06-01	30" X 60" MOVABLE PLASTIC LAMINATE CABINET WITH CASTERS
06-02	PLASTIC LAMINATE COUNTERTOP
06-03	PLASTIC LAMINATE BASE CABINETS
10-01	EVIDENCE STORAGE LOCKERS
11-01	REFRIGERATOR, OFOI
12-01	SHELVING, OFOI
12-02	DESKS, OFOI
22-01	WALL MOUNTED SINK WITH INTEGRATED EYEWASH ATTACHMENT AT GOOSENECK FAUCET

REGISTERED ARCHITECT
STATE OF OREGON
6654

VARITONE ARCHITECTURE & INTERIOR DESIGN
231 2nd Avenue SW
Albany, Oregon 97321
Ph: 541.497.2954

LINN COUNTY SHERIFF'S DEPT.
EVIDENCE STORAGE
1050 SE JACKSON ST. ALBANY, OREGON

Issue	CD SET
Date	12/22/17
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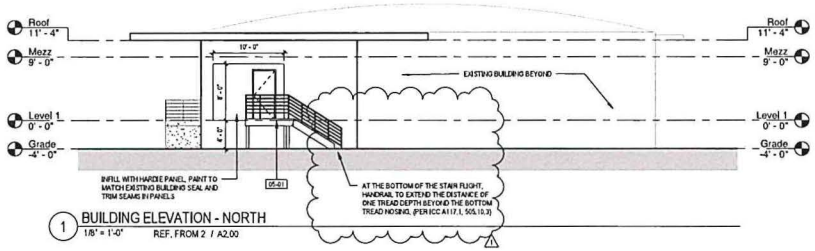
ENLARGED FLOOR PLAN

A2.01

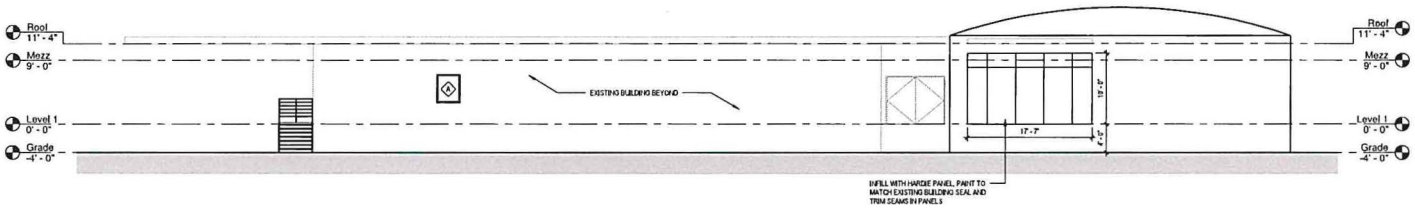
EXTERIOR FINISH LEGEND:

(A)	LOCATION	FINISH COLOR TBD
(B)	LOCATION	FINISH COLOR TBD
(C)	LOCATION	FINISH COLOR TBD
(D)	LOCATION	FINISH COLOR TBD

KEYNOTE LEGEND	
#	Keynote Description
05-01	PRE-MANUFACTURED METAL STAIRS & RAILING



1 BUILDING ELEVATION - NORTH
1/8" = 1'-0" REF. FROM 2 / A2.00



2 BUILDING ELEVATION - WEST
1/8" = 1'-0" REF. FROM 2 / A2.00

REGISTERED ARCHITECT
CHRISTINA M. LARSEN
06544
OREGON
STATE OF OREGON

VARITONE ARCHITECTURE & INTERIOR DESIGN
231 2nd Avenue SW
Albany, Oregon 97321
Ph: 541.497.2954

LINN COUNTY SHERIFF'S DEPT.
EVIDENCE STORAGE
1050 SE JACKSON ST. ALBANY, OREGON

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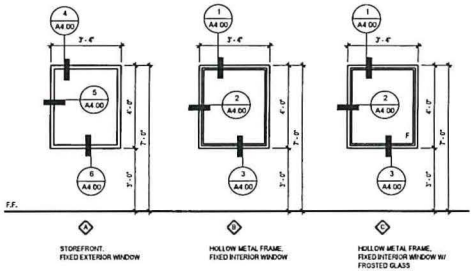
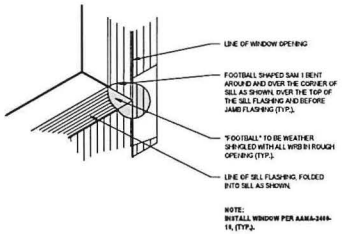
1	Addendum 1	01 27 20

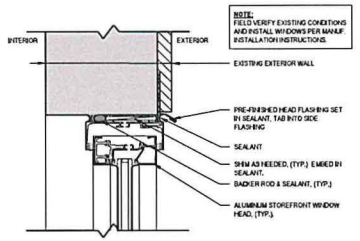
EXTERIOR ELEVATIONS

A3.00

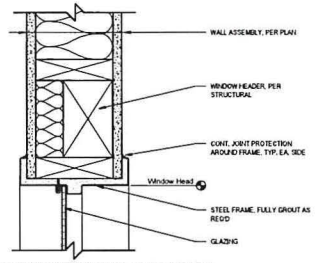




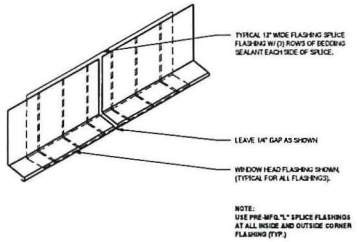
7 WINDOW SILL FOOTBALL CORNER FLASHING
3" = 1'-0"



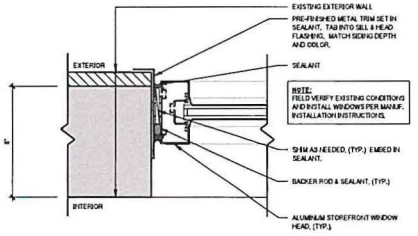
4 STOREFRONT WINDOW - HEAD DETAIL
3" = 1'-0" REF. FROM 10 / A4.00



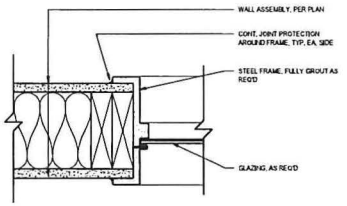
1 INT. HM WINDOW FRAME - HEAD DETAIL
3" = 1'-0" REF. FROM 10 / A4.00



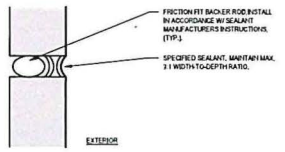
8 WINDOW FLASHING SPLICE PLATE
3" = 1'-0"



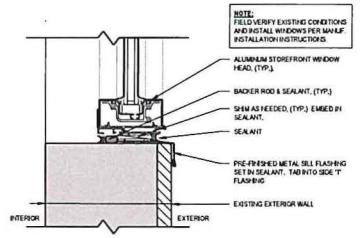
5 STOREFRONT WINDOW - JAMB DETAIL
3" = 1'-0" REF. FROM 10 / A4.00



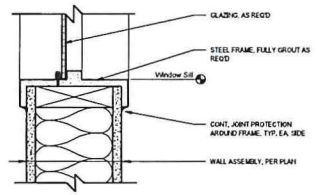
2 INT. HM WINDOW FRAME - JAMB DETAIL
3" = 1'-0" REF. FROM 10 / A4.00



9 TYP. BACKER ROD AND SEALANT DETAIL
12" = 1'-0"



6 STOREFRONT WINDOW - SILL DETAIL
3" = 1'-0" REF. FROM 10 / A4.00



3 INT. HM WINDOW FRAME - SILL DETAIL
3" = 1'-0" REF. FROM 10 / A4.00

REGISTERED ARCHITECT
STATE OF OREGON

VARITONE ARCHITECTURE & INTERIOR DESIGN
231 2nd Avenue SW
Albany, Oregon 97321
Ph: 541.497.2924

LINN COUNTY SHERIFF'S DEPT.
EVIDENCE STORAGE
1500 SE JACKSON ST. ALBANY, OREGON

Issue	CD SET
Date	12/22/17

Revision	Date

WINDOW TYPES & DETAILS

A4.00

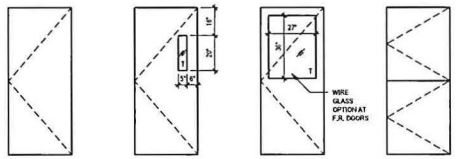
DOOR SCHEDULE

Door No.	Location	Width	Height	Door Type	Door Material	Door Finish	Frame Type	Frame Material	Frame Finish	Hardware Group	Fire Rating	Door Details	Door Notes
01	ADA PICK-UP	3' - 0"	7' - 0"	A	HM	PAINT	A	HM	PAINT	1	-	3, 4, 5 / A4.01	
02	STORAGE	3' - 0"	7' - 0"	B	SCWD	PAINT	A	HM	PAINT	2	-	1, 2 / A4.01	
03	OFFICE	3' - 0"	7' - 0"	C	SCWD	PAINT	A	HM	PAINT	2	-	1, 2 / A4.01	WALL STOP
06	STORAGE	3' - 0"	7' - 0"	OPENING	-	-	-	-	-	2	-	-	
09	ENHANCED SECURITY STORAGE	3' - 0"	7' - 0"	A	SCWD	PAINT	A	HM	PAINT	2	-	1, 2 / A4.01	
11	EVIDENCE STORAGE BAY	3' - 6"	7' - 0"	B	SCWD	PAINT	A	HM	PAINT	2	-	1, 2 / A4.01	
12	STORAGE	3' - 6"	7' - 0"	D	SCWD	PAINT	A	HM	PAINT	2	-	1, 2 / A4.01	
13	OFFICE	3' - 6"	7' - 0"	D	SCWD	PAINT	A	HM	PAINT	2	-	1, 2 / A4.01	
14	PROCESSING	3' - 0"	7' - 0"	A	HM	PAINT	A	HM	PAINT	1	-	3, 4, 5 / A4.01	
15	PICK-UP	3' - 0"	7' - 0"	A	SCWD	PAINT	A	HM	PAINT	2	-	1, 2 / A4.01	WALL STOP

DOOR HARDWARE TYPES:

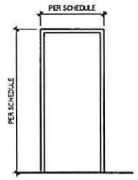
GROUP 1
3 EA. HINGES
1 EA. ENTRY LOCKSET
1 EA. THRESHOLD
1 EA. SWEEP
1 EA. GASKET
1 EA. CLOSER
ACCESS CONTROL PER OWNER'S SPEC

GROUP 2
3 EA. HINGES
1 EA. PASSAGE LOCKSET
1 EA. OVERHEAD STOP/CLOSER, U.O.N.
1 EA. GASKET
3 EA. SILENCERS
ACCESS CONTROL PER OWNER'S SPEC



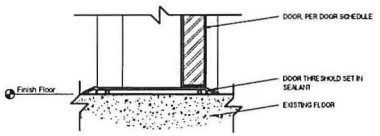
A — SOLID CORE WOOD FLUSH
B — SOLID CORE WOOD W/ VISION PANEL
C — SOLID CORE WOOD HALF LITE
D — SOLID CORE WOOD DUTCH DOOR

DOOR TYPES
3/8" = 1'-0"

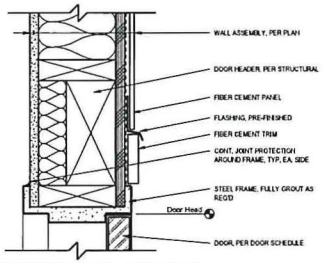


A

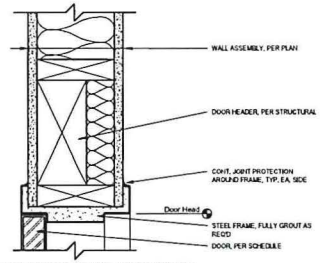
DOOR FRAME TYPES
3/8" = 1'-0"



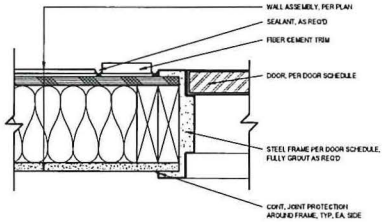
5 EXT. HM DOOR FRAME -SILL DETAIL
3" = 1'-0"



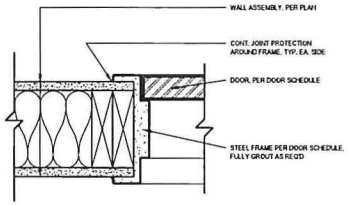
3 EXT. HM DOOR FRAME - HEAD DETAIL
3" = 1'-0"



1 INT. HM DOOR FRAME - HEAD DETAIL
3" = 1'-0"



4 EXT. HM DOOR FRAME - JAMB DETAIL
3" = 1'-0"



2 INT. HM DOOR FRAME - JAMB DETAIL
3" = 1'-0"

REGISTERED ARCHITECT
CHESTER W. LARSEN
6654
STATE OF OREGON

VARITONE ARCHITECTURE
231 2nd Avenue SW
Albany, Oregon 97321
Ph. 541.497.2554

LINN COUNTY SHERIFF'S DEPT.
EVIDENCE STORAGE
1050 SE JACKSON ST ALBANY, OREGON

Issue:	CD SET
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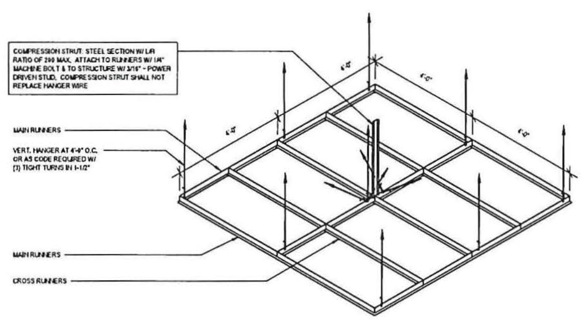
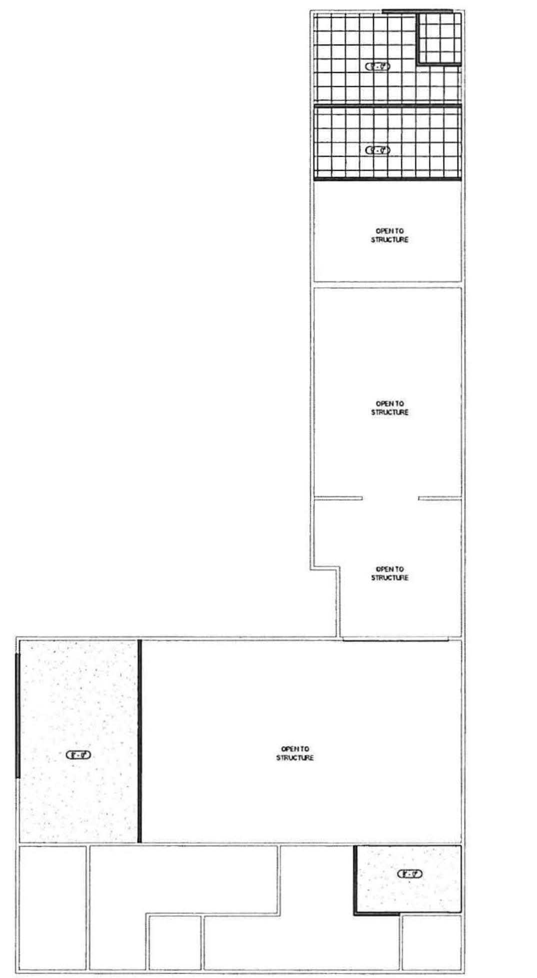
Revision:	Date:

DOOR TYPES, DETAILS & SCHEDULE

A4.01



2 T-BAR CEILING DETAIL
1/2" = 1'-0"



1 REFLECTED CEILING PLAN
1/8" = 1'-0" REF. FROM 1 / A3.00

LEGEND:

- RECESSED DOWNLIGHT
- RECESSED 2x2 LIGHT FIXTURE
- RECESSED 2x4 LIGHT FIXTURE
- WALL MOUNT LIGHT FIXTURE
- SURFACE MOUNT LIGHT FIXTURE
- SUPPLY AIR DIFFUSER
- RETURN AIR DIFFUSER
- 2' X 4' SECOND LOOK ACOUSTIC CEILING TILE (ACT). SEE REFLECTED CEILING PLAN FOR HEIGHT AFF.
- GYP.BD. DROP CEILING. SEE REFLECTED CEILING PLAN FOR HEIGHT AFF.

VARITONE ARCHITECTURE & INTERIOR DESIGN
231 2nd Avenue SW
Albany, Oregon 97321
Ph: 541.497.2954

LINN COUNTY SHERIFF'S DEPT.
EVIDENCE STORAGE
1050 SE JACKSON ST. ALBANY, OREGON

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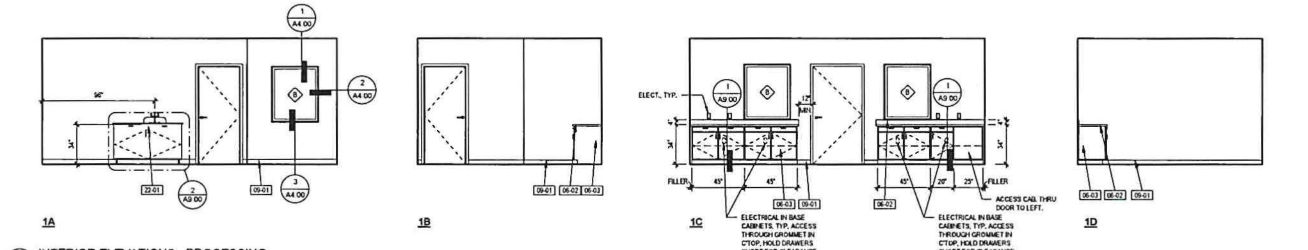
REFLECTED CEILING PLAN

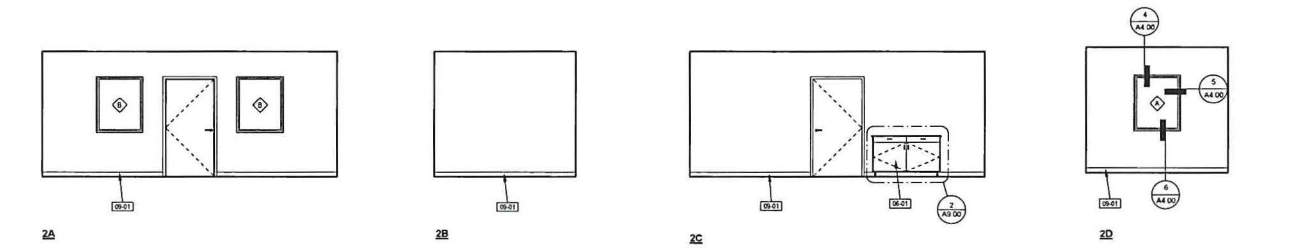
A6.00

KEYNOTE LEGEND

#	Keynote Description
06-01	30" X 60" MOVABLE PLASTIC LAMINATE CABINET WITH CASTERS
06-02	PLASTIC LAMINATE COUNTERTOP
06-03	PLASTIC LAMINATE BASE CABINETS
09-01	4" RESILIENT BASE
22-01	WALL MOUNTED SINK WITH INTEGRATED EYEWASH ATTACHMENT AT GOOSENECK FAUCET



1 INTERIOR ELEVATIONS - PROCESSING
1/4" = 1'-0"



2 INTERIOR ELEVATIONS - OFFICE
1/4" = 1'-0"

REGISTERED ARCHITECT
STATE OF OREGON
6654

VARITONE ARCHITECTURE & INTERIOR DESIGN
231 2nd Avenue SW
Albany, Oregon 97321
Ph: 541.497.2954

LINN COUNTY SHERIFF'S DEPT.
EVIDENCE STORAGE
1050 SE JACKSON ST. ALBANY, OREGON

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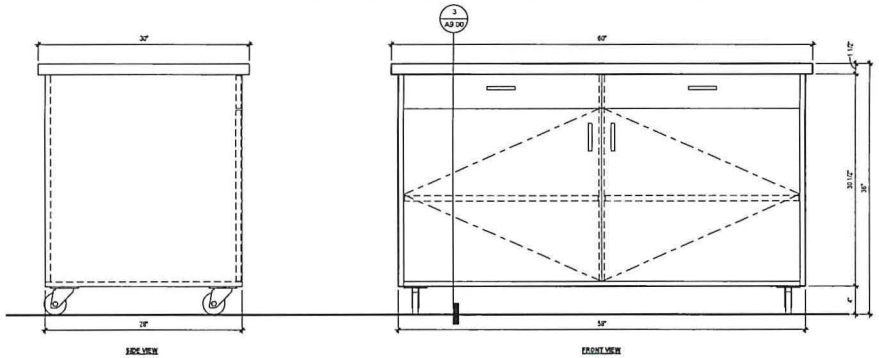
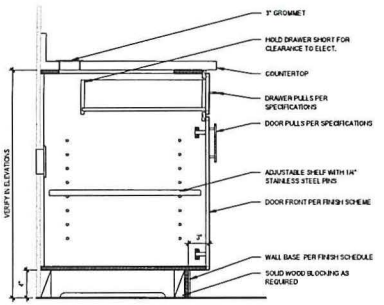
INTERIOR ELEVATIONS

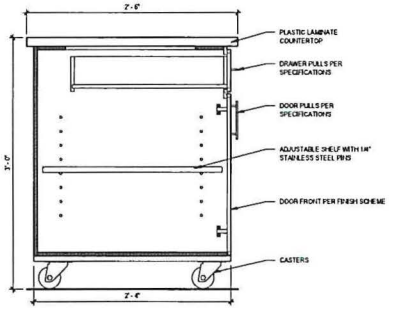
A7.00



2 MOBILE CABINET
1 1/2" = 1'-0" REF. FROM 1 / A2.01



1 TYP. BASE CABINET W/ DRAWER
1 1/2" = 1'-0" REF. FROM 1C / A7.00



3 MOBILE CABINET W/ CASTERS
1 1/2" = 1'-0" REF. FROM 2 / A9.00

REGISTERED ARCHITECT
OREGON
6654
STATE OF OREGON

VARITONE ARCHITECTURE & INTERIOR DESIGN
231 2nd Avenue SW
Albany, Oregon 97321
Ph: 541.497.2954

LINN COUNTY SHERIFF'S DEPT.
EVIDENCE STORAGE
1059 SE JACKSON ST. ALBANY, OREGON

Issue	CD SET
Date	12/22/17

Revision:	Date:

INTERIOR DETAILS

A9.00

E-1.00 ELECTRICAL PLAN NOTES

(1) CONTRACTOR TO REMOVE EXISTING RECEPTACLE. EXTEND CIRCUIT TO NEW RECEPTACLE LOCATION SHOWN ON DETAIL 2/E1.00.

(2) CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR TO RELOCATE CIRCUIT FOR EXISTING DUCTLESS SPLIT SYSTEM TO NEW LOCATION SHOWN.

(3) CONTRACTOR TO RELOCATE EXISTING SWITCHING TO NEW WALL PER DETAIL 2/E1.00.

(4) CONTRACTOR TO REMOVE EXISTING LIGHTING THIS AREA, PREPARE EXISTING LIGHTING CIRCUIT FOR NEW LIGHTING FIXTURES PER DETAIL 2/E1.00.

(5) CONTRACTOR TO ADJUST LAYOUT OF EXISTING LIGHTING FIXTURES IN STORAGE 04 AND STORAGE 07 TO ACCOMMODATE NEW WALL LAYOUT, PROVIDE NEW SWITCHING FOR STORAGE 07 IN LOCATION SHOWN.

(6) CONTRACTOR TO PROVIDE DEDICATED RECEPTACLE FOR EVIDENCE REFRIGERATOR, EXISTING PANEL CIRCUIT 28.

(7) CONTRACTOR TO PROVIDE DEDICATED RECEPTACLE FOR EVIDENCE FREEZER, EXISTING PANEL CIRCUIT 30.

(8) CONTRACTOR TO RELOCATE EXISTING RECEPTACLE CIRCUIT TO NEW RECEPTACLE LOCATION SHOWN. COORDINATE LOCATION WITH COUNTER TOP, VERIFY LOCATIONS WITH OWNER PRIOR TO ROUGH IN.

(9) CONTRACTOR TO PROVIDE NEW RECEPTACLE CIRCUIT FOR CORD REEL RECEPTACLES, CIRCUIT THROUGH EXISTING PANEL CIRCUIT 32. PROVIDE HUBBELL HBLC30163TT CORD REEL OR APPROVED.

(10) CONTRACTOR TO COORDINATE ELECTRICAL CIRCUIT FOR DUCTLESS SPLIT SYSTEM WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH IN. CIRCUIT THROUGH EXISTING PANEL, CIRCUITS 36,38 AND 40,42. 20 AMP 2 POLE CIRCUITS.

(11) CONTRACTOR TO COORDINATE 20 AMP CIRCUIT FOR POINT OF USE HOT WATER HEATER WITH PLUMBING CONTRACTOR. PROVIDE CIRCUIT FROM EXISTING PANEL CIRCUIT 37.

(12) CONTRACTOR TO PROVIDE 20 AMP CIRCUIT TO NEW UNIT HEATER, COORDINATE REQUIREMENTS WITH MECHANICAL CONTRACTOR. CIRCUIT THROUGH EXISTING PANEL CIRCUIT 35.

(13) CONTRACTOR TO PROVIDE NEW RECEPTACLE CIRCUIT TO OFFICE 13 RECEPTACLES, CIRCUIT THROUGH EXISTING PANEL CIRCUIT 33.

(14) CONTRACTOR TO PROVIDE NEW 20 AMP CIRCUIT FOR SINK PUMP, COORDINATE REQUIREMENTS WITH PLUMBING CONTRACTOR PRIOR TO ROUGH IN. CIRCUIT THROUGH EXISTING PANEL CIRCUIT 31.

(15) CONTRACTOR TO PROVIDE NEW LIGHTING FIXTURES PER SCHEDULE, CIRCUIT THROUGH EXISTING AREA LIGHTING CIRCUIT. PROVIDE NEW SWITCHING AS SHOWN.

(16) CONTRACTOR TO PROVIDE NEW RECEPTACLE CIRCUIT TO OFFICE 03 RECEPTACLES, CIRCUIT THROUGH EXISTING PANEL CIRCUIT 31.

(17) CONTRACTOR TO PROVIDE POWER AND LOW VOLTAGE FOR ENTRY GATE AND CARD READER, VERIFY REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH IN, CIRCUIT THROUGH EXISTING PANEL CIRCUIT 34.

(18) CONTRACTOR TO EXTEND EXTERIOR RECEPTACLE CIRCUIT TO NEW EXTERIOR RECEPTACLE LOCATED NEAR NEW CONDENSING UNITS.

GENERAL NOTES

UNLESS OTHERWISE NOTED 120 VOLT 20 AMP BRANCH CIRCUITS SHALL BE (2) #12 THHN, (1) #12 GRND 1/2" CONDUIT

CONTRACTOR TO VERIFY LOCATIONS OF EQUIPMENT AND DEVICES WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH IN

CONTRACTOR TO PROVIDE CAT 5E CABLING BETWEEN SERVER TO EACH NEW DATA LOCATION SHOWN. TYPICAL OF (2) DATA PORTS AT EACH LOCATION SHOWN.

CONTRACTOR TO FIELD VERIFY CIRCUITS PRIOR TO DEMOLITION. CONTRACTOR TO MAINTAIN ALL CIRCUITS TO RECEPTACLES IN EXISTING WALLS THAT REMAIN

CONTRACTOR TO PROVIDE PERMANENT, TYPE WRITTEN PANEL SCHEDULES FOR PANEL MODIFIED DURING REMODEL.

CONTRACTOR TO COORDINATE INSTALLATION OF NEW ELECTRICAL COMPONENTS AND DEVICES WITH GENERAL CONTRACTOR. ALL NEW CONDUIT, BOXES AND COMPONENTS TO BE CONCEALED IN WALLS/CEILINGS, WHERE PRESENT.

CONTRACTOR TO COORDINATE ELECTRICAL REQUIREMENTS WITH PLUMBING AND HVAC CONTRACTORS. CONTRACTOR TO PROVIDE DISCONNECTS, FUSES, BREAKERS, RELAYS, AND SWITCHES AS REQUIRED FOR A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM

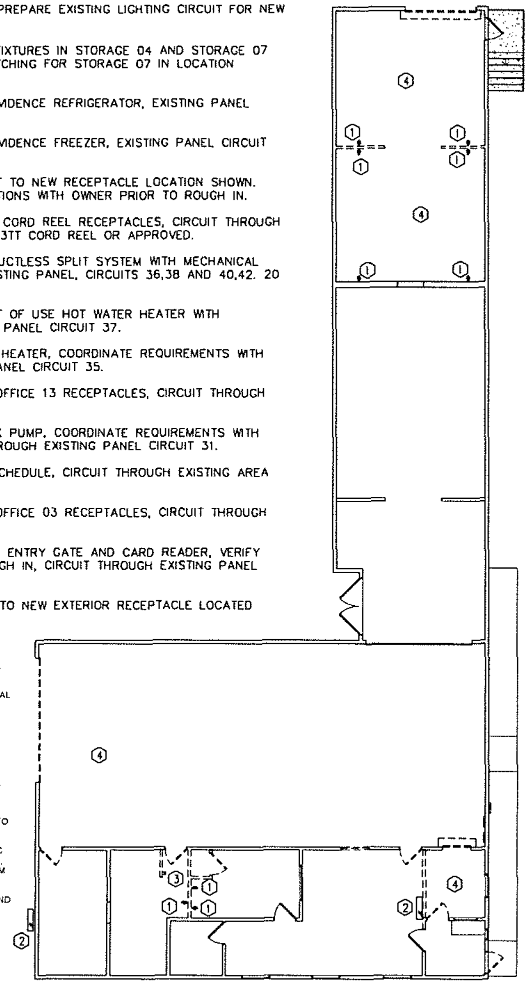
CONTRACTOR TO COORDINATE WITH PREMIER ELECTRIC FOR DOOR ACCESS REQUIREMENTS. CONTRACTOR TO PROVIDE POWER TO DOORS INTO PROCESSING 14 AND ENHANCED SECURITY STORAGE 09

Luminaire Schedule

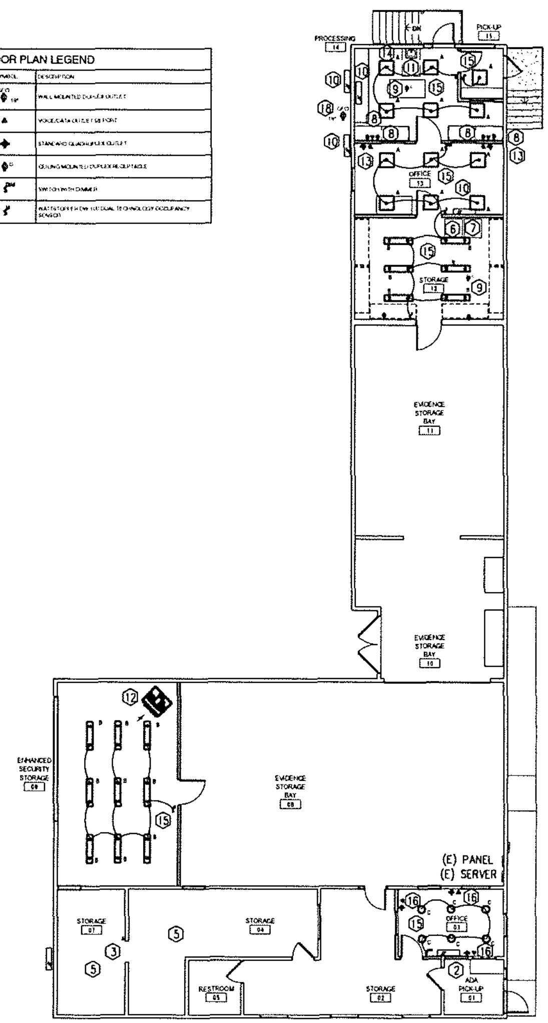
Label	Manufacturer	Catalog Number	Description	Lamp	Wattage
A	Eaton Metalux	22SR-LD2-26-C-UNV-L835-CD1-U	SKYRIDGE 2x2 TROFFER LED MODULE	LED	24
B	Lithonia Lighting	LBL4 30L LP835	LED WRAPAROUND	LED	37
C	Lithonia Lighting	LDN6 35 15 L06 WR LSS 120	6" RECESSED CAN	LED	18

FLOOR PLAN LEGEND

SYMBOL	DESCRIPTION
GFCI 18"	WALL MOUNTED DUPLEX OUTLET
▲	VOICE/DATA OUTLET SEE NOTE
◆	STANDARD QUADRUPLEX OUTLET
C	CEILING MOUNTED DUPLEX RECEPTACLE
S DIM	SWITCH WITH DIMMER
S	WATTSTOPPER DW-100 DUAL TECHNOLOGY OCCUPANCY SENSOR



(1) ELECTRICAL DEMOLITION PLAN
1/8" = 1'-0"



(2) ELECTRICAL FLOOR PLAN
1/8" = 1'-0"

LINN COUNTY SHERIFF'S DEPT.
EVIDENCE STORAGE
1050 SE JACKSON ST, ALBANY, OREGON

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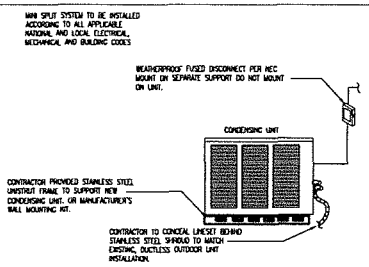
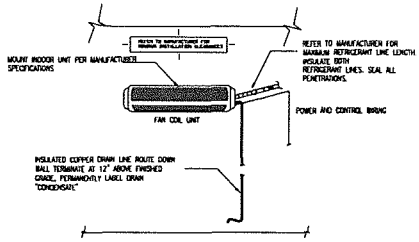
ELECTRICAL FLOOR PLAN

E1.00



3 M1.00 SPLIT SYSTEM INSTALLATION DETAIL

NTS



4 M1.00 SPLIT SYSTEM INSTALLATION DETAIL

NTS

SPLIT SYSTEM AIR CONDITIONING SCHEDULE

UNIT	CAPACITY BTUH	HEATING BTUH	INDOOR FAN CFM HI/LOW	SEER	HSPF	VOLTAGE/ PHASE	HERTZ	MCA	MOP	MANUFACTURER	INDOOR UNIT	WEIGHT	OUTDOOR UNIT	WEIGHT	NOTES
DAC1	9,000	10,800	450/190	23.5	11.3	230/1	60	10	20	LG	LSU090HSV5	25 LBS	LSN090HSV5	80 LBS	A,B,C,D
DAC2	9,000	10,800	450/190	23.5	11.3	230/1	60	10	20	LG	LSU090HSV5	25 LBS	LSN090HSV5	80 LBS	A,B,C,D

A. PROVIDE WITH SINGLE POINT ELECTRICAL CONNECTION
B. PROVIDE WITH LINE SET AND CONTROLS FOR COMPLETE AND OPERATING SYSTEM.
C. PROVIDE WALL MOUNTING KIT FOR OUTDOOR UNIT.
D. ALTERNATE MANUFACTURERS: MITSUBISHI, DAIKIN OR APPROVED.

UNIT HEATER SCHEDULE

UNIT	CFM	ELECTRICAL (V/PH)	FLA	HEATING MBTUh	EFF%	INDOOR UNIT MAKE/MODEL	WEIGHT (LBS)	NOTES
UH1	500	115/1	13.0	30	82	REZNOR/UDBS30	150	a,b,c

a. PROVIDE WITH THERMOSTAT SET TO 55 DEGREES (ADJUSTABLE)
b. PROVIDE WITH 30 DEGREE NOZZLE.
c. PROVIDE WITH MANUFACTURER'S CONCENTRIC ROOF KIT FOR SEALED COMBUSTION.
d. ALTERNATE MANUFACTURERS: MODINE, TRANE, OR APPROVED.

GENERAL NOTES

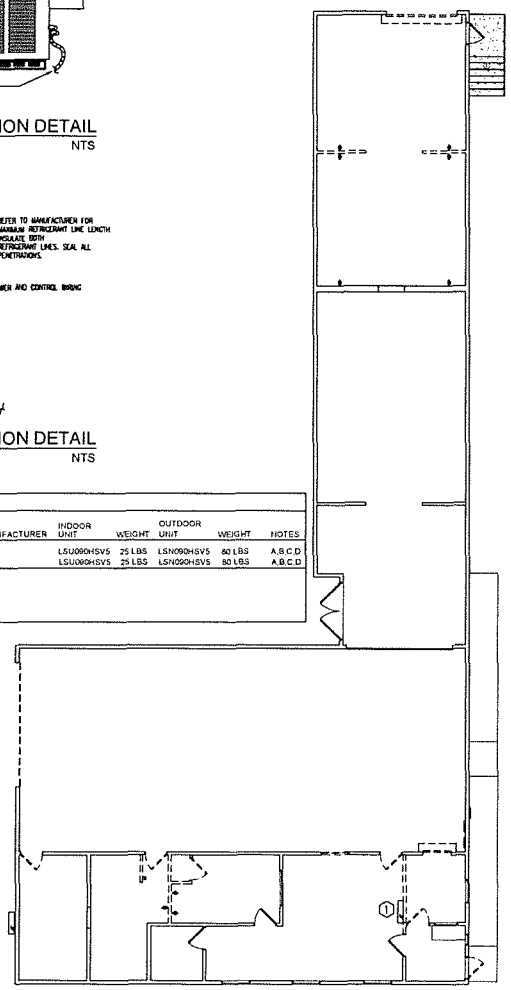
1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SATISFY HIMSELF AS TO THE NATURE AND LOCATION OF THE WORK. THE GENERAL CONDITIONS, EXISTING EQUIPMENT TO REMAIN AND THE EXISTING EQUIPMENT TO BE REMOVED OR MODIFIED, NEW EQUIPMENT TO BE PROVIDED AND ALL OTHER MATTERS WHICH CAN IN ANY WAY AFFECT THE WORK OR THE COST THEREOF UNDER THIS CONTRACT. ANY FAILURE OF THE CONTRACTOR TO ACQUAINT HIMSELF WITH ALL AVAILABLE INFORMATION WILL NOT RELIEVE HIM OF RESPONSIBILITY OF SUCCESSFULLY PERFORMING THE WORK.

2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE INSTALLATION OF EQUIPMENT AND ACCESSORIES WITH ALL OTHER TRADES PRIOR TO ROUGH IN. CONTRACTOR TO INSTALL EQUIPMENT REQUIRING SERVICE IN ACCESSIBLE LOCATIONS. CONTRACTOR TO MAINTAIN ADEQUATE ACCESS TO SUCH EQUIPMENT.

3. CONTRACTOR TO INSTALL ALL PIPING AND ACCESSORIES IN STRICT CONFORMANCE TO THE SPECIFICATIONS, 2014 OREGON MECHANICAL SPECIALTY CODE AND AHJ.

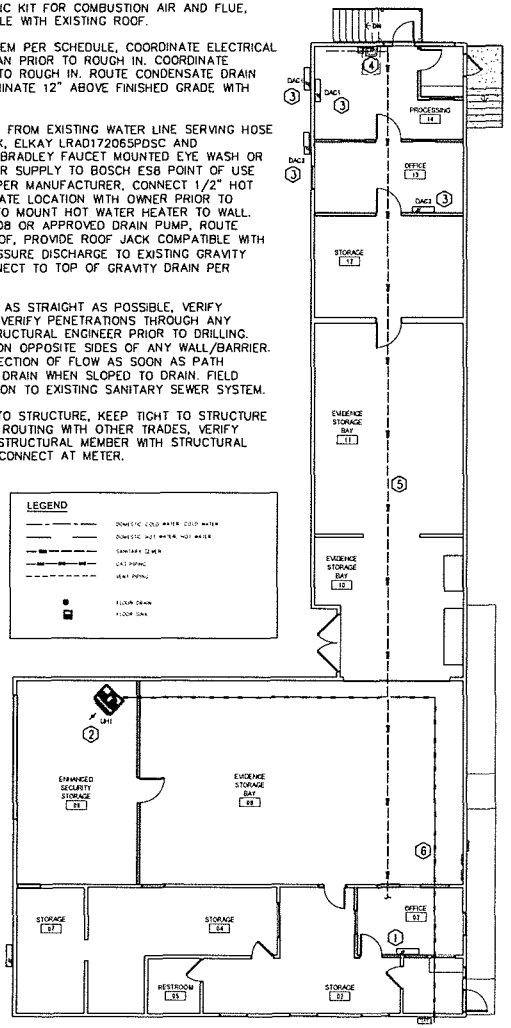
M-1.00 MECHANICAL PLAN NOTES

1. CONTRACTOR TO RELOCATE EXISTING DUCTLESS AIR HANDLING UNIT TO NEW WALL, COORDINATE WITH OWNER PRIOR TO ROUGH IN.
2. CONTRACTOR TO PROVIDE NEW UNIT HEATER PER SCHEDULE, EXTEND 1/2" GAS LINE FROM EXISTING GAS METER TO NEW UNIT HEATER LOCATION. PROVIDE WITH ROOF CONCENTRIC KIT FOR COMBUSTION AIR AND FLUE, PROVIDE ROOF JACK COMPATIBLE WITH EXISTING ROOF.
3. PROVIDE DUCTLESS SPLIT SYSTEM PER SCHEDULE, COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICIAN PRIOR TO ROUGH IN. COORDINATE LOCATION WITH OWNER PRIOR TO ROUGH IN. ROUTE CONDENSATE DRAIN DOWN IN EXTERIOR WALL, TERMINATE 12" ABOVE FINISHED GRADE WITH ELBOW DOWN.
4. PROVIDE 1/2" PEX WATER LINE FROM EXISTING WATER LINE SERVING HOSE BIB, ROUTE TO NEW HAND SINK, ELKAY LRAD172065PDSC AND LK406GN04T4SC FAUCET WITH BRADLEY FAUCET MOUNTED EYE WASH OR APPROVED. EXTEND 1/2" WATER SUPPLY TO BOSCH ES8 POINT OF USE HOT WATER HEATER, INSTALL PER MANUFACTURER, CONNECT 1/2" HOT WATER LINE TO SINK. COORDINATE LOCATION WITH OWNER PRIOR TO ROUGH IN, PROVIDE WITH KIT TO MOUNT HOT WATER HEATER TO WALL. PROVIDE SANIFLOW SANIVITE 008 OR APPROVED DRAIN PUMP, ROUTE 1-1/2" VENT UP THROUGH ROOF, PROVIDE ROOF JACK COMPATIBLE WITH EXISTING ROOF, ROUTE 1" PRESSURE DISCHARGE TO EXISTING GRAVITY DRAIN ABOVE OFFICE 03, CONNECT TO TOP OF GRAVITY DRAIN PER OPSSC.
5. CONTRACTOR TO ROUTE DRAIN AS STRAIGHT AS POSSIBLE, VERIFY ROUTING PRIOR TO ROUGH IN, VERIFY PENETRATIONS THROUGH ANY STRUCTURAL MEMBER WITH STRUCTURAL ENGINEER PRIOR TO DRILLING. LABEL DRAIN EVERY 20' AND ON OPPOSITE SIDES OF ANY WALL/BARRIER. CONTRACTOR TO SLOPE IN DIRECTION OF FLOW AS SOON AS PATH ALLOWS, INCREASE TO 1-1/2" DRAIN WHEN SLOPED TO DRAIN. FIELD VERIFY LOCATION OF CONNECTION TO EXISTING SANITARY SEWER SYSTEM.
6. ROUTE GAS PIPING PARALLEL TO STRUCTURE, KEEP TIGHT TO STRUCTURE WHERE POSSIBLE, COORDINATE ROUTING WITH OTHER TRADES, VERIFY PENETRATIONS THROUGH ANY STRUCTURAL MEMBER WITH STRUCTURAL ENGINEER PRIOR TO DRILLING. CONNECT AT METER.



1 MECHANICAL DEMOLITION PLAN

1/8" = 1'-0"



2 MECHANICAL FLOOR PLAN

1/8" = 1'-0"

LINN COUNTY SHERIFF'S DEPT.
EVIDENCE STORAGE
1050 SE JACKSON ST. ALBANY, OREGON

Issue	CD SET
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ELECTRICAL FLOOR PLAN

M1.00

Exhibit 2

Advertisement

Linn County Sheriff's Office
Invitation To Bid
Evidence Annex Renovation and Remodel

LINN COUNTY SHERIFF'S OFFICE

INVITATION TO BID

ADVERTISEMENT

NOTICE IS HEREBY GIVEN that sealed bids will be accepted at the Linn County Sheriff's Office, located at 1115 SE Jackson Street, Albany, Oregon 97322, until 1500 hours Local Time, Thursday, September 24, 2020, at which time and place bids will be closed. The bids will be publicly opened and read at the Linn County Sheriff's Office immediately after closing.

A mandatory Pre-Bid Meeting will be held at the Linn County Sheriff's Office on September 1, 2020 at 1115 SE Jackson Street, Albany, Oregon 97322.

The Linn County Sheriff's Office Evidence Annex Renovation and Remodel Project encompasses the renovation of a warehouse to occupied office space, demolition and remodel to existing office space, construction of enhanced security evidence area, and reconstruction of the gated entry to secure fenced area.

A copy of an ODOT prequalification approval letter or application must be filed with the County at least fourteen (14) calendar days prior to the last day for receipt of bids, unless stated otherwise in the bid documents. The classes of work for which contractors must be prequalified include either *BLD1 – Buildings* and/ or *OTH1 – OTHER*.

This is a public works contract subject to the prevailing wage requirements of ORS 279C.800 – 279C.870.

Bid packages, including instructions for bidders, plans, specifications and required bid forms, may be obtained by contacting Lieutenant Micah Smith by mailing 1115 SE Jackson Street, Albany, Oregon 97322, by calling (541) 812-9200, or by e-mailing msmith@linnsheriff.org. Bids must be clearly labeled and follow all bid instructions.

Any questions, objections, or comments to the bid package must be submitted in writing to the attention of Lieutenant Micah Smith at 1115 SE Jackson Street, Albany, Oregon 97322 or msmith@linnsheriff.org no later than 10 days prior to bid closing. Clarifications, whether verbal or in writing, do not change the plans, specifications, contractual terms, or procurement requirements of the bid package unless a formal amendment is issued by the Linn County Sheriff's Office.

The Linn County Sheriff's Office reserves the right to reject any or all bids, to waive formalities, and to postpone the award of the contract for thirty (30) days. All bids and all prices quoted in bids shall be firm for a period of thirty (30) days after the bid closing date.