OLESON +HOBBIE ARCHITECTS LLC
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T 507.385.1158

PROJECT MANUAL

NEW MAINTENANCE FACILITY

CITY OF MEDFORD

MEDFORD, MINNESOTA

February 23, 2026

SECTION 000105
CERTIFICATIONS PAGE

MEDFORD MAINTENANCE FACILITY

26-002MD

ARCHITECT - OLESON + HOBBIE ARCHITECTS

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Architect under the laws of the State of Minnesota.

_____

DENNIS G. HOBBIE, AIA **REGISTRATION NO. 47091**

STRUCTURAL ENGINEER - RISE STRUCTURAL ASSOCIATES, INC

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

_____

JUSTIN CHRISTENSEN, P.E. **REGISTRATION NO. 53480**

MECHANICAL ENGINEER - CCM ENGINEERS

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

_____

COLIN R. JONES, P.E. **REGISTRATION NO. 59**

FEBRUARY 23, 2026

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SECTION 001113
ADVERTISEMENT FOR BIDS

MEDFORD MAINTENANCE FACILITY

BID DATE AND LOCATION:

Notice is hereby given that sealed bids will be received, publicly opened, and read aloud by representatives of the City of Medford at the Medford City Hall, located at 408 2nd Avenue SE, Medford, Minnesota 55049 at 2:00 p.m. local time on Thursday, March 19, 2026, for furnishing of all work and materials for consideration of the project: Medford Maintenance Facility.

PROJECT DESCRIPTION:

Construction Documents and Project Manual describe construction for a building located at 409 2nd Avenue SE in Medford, MN 55049. The work includes, but is not limited to, building demolition, a new post-framed wood building with metal roof and wall panels, gutters and downspouts, insulation, concrete floor slab, sectional overhead doors, interior partitions, plumbing, mechanical and electrical systems and other work as required.

Construction work for the project is shown on the drawings and defined in the Project Manual as prepared by Oleson + Hobbie Architects LLC of Mankato, MN.

Contact QuestCDN.com at 952-233-1632 or info@questcdn.com for assistance in viewing or downloading with this digital project information. The QuestCDN project number is eBidDoc #10065042.

A bidders conference has been scheduled for 10:00 a.m. on Thursday, March 5, 2026 at the project site, 409 2nd Avenue SE in Medford, MN 55049. All general contract bidders and subcontractors are invited. Representatives of the design team and Owner will be in attendance. Summarized minutes of the meeting will be circulated to attendees. Information relevant to the Bid Documents will be recorded in an addendum, issued to Bid Document recipients.

WORK ON THIS PROJECT TO BE COMPLETED BY: AUGUST 31, 2026.

Bids must be on the basis of cash payment for the work and materials, and no bid will be considered unless sealed and filed with the City and accompanied by a cash deposit, certified check, or bidder's bond, payable to City of Medford, for not less than 5% of the bid, as a guarantee that the bidder will, within ten (10) days after notification of the award of contract, enter into an agreement with the City and furnish a bond for the full amount of the contract as provided for by law. This deposit will be subject to forfeiture as provided by law.

Cash deposits, certified checks, and bidder's bonds of the three (3) lowest bidders may be retained until the contract has been awarded and executed, but no longer than 60 days from the date of opening bids. All other deposits will be refunded promptly.

The City reserves the right to reject any and all bids, to waive any informalities therein; and to adjourn the meeting to a later date for the purpose of further consideration of the bids and taking action thereon. No bid may be withdrawn within 60 days from the date of opening of bids.

The City Council will consider award of contract at their regular meeting held on Monday, March 23, 2026.

The City of Medford does not discriminate on the basis of disability.

END OF SECTION

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SECTION 002113
INSTRUCTIONS TO BIDDERS

SUMMARY

1.01 DOCUMENT INCLUDES

A. Invitation
   1. Bid Submission
   2. Intent
   3. Work Identified in Contract Documents
   4. Contract Time

B. Bid Documents and Contract Documents
   1. Definitions
   2. Availability
   3. Examination
   4. Inquiries/Addenda
   5. Product/Assembly/System Substitutions

C. Site Assessment
   1. Site Examination
   2. Prebid Conference

D. Bid Submission
   1. Submission Procedure
   2. Bid Ineligibility

E. Bid Enclosures/Requirements
   1. Security Deposit
   2. Performance Assurance
   3. Insurance
   4. Bid Form Requirements
   5. Fees for Changes in the Work
   6. Bid Form Signature
   7. Additional Bid Information

F. Offer Acceptance/Rejection
   1. Duration of Offer
   2. Acceptance of Offer

1.02 RELATED DOCUMENTS

A. Document 011000 - Summary.

B. Document 001113 - Advertisement for Bids.

C. Document 004100 - Bid Form.

D. Document 007300 - Supplementary Conditions:

INVITATION

2.01 BID SUBMISSION

A. Bids signed and under seal, executed, and dated will be received at the office of the Owner at 408 2nd Avenue SE in Medford, MN 55049 before 2:00 p.m. local standard time on the 19th day of March 2026.

B. Offers submitted after the above time shall be rejected.

C. Offers will be opened publicly immediately after the time for receipt of bids.

2.02 INTENT

A. The intent of this Bid request is to obtain an offer to perform work to complete project named Medford Maintenance Facility for a Stipulated Sum contract, in accordance with Contract Documents.

2.03 WORK IDENTIFIED IN THE CONTRACT DOCUMENTS

A. Work of this proposed Contract comprises building construction and demolition, including general construction, structural, mechanical, and electrical Work.

B. Project Location:
409 2nd Avenue SE.
Medford, Minnesota55049.

2.04 CONTRACT TIME

A. Perform the Work within the time stated in Section 00 1113 - Advertisement for Bids.

BID DOCUMENTS AND CONTRACT DOCUMENTS

3.01 DEFINITIONS

A. Bid Documents: Contract Documents supplemented with Instructions to Bidders, Bid Form Supplements To Bid Forms and Appendices identified.

B. Contract Documents: Defined in AIA A201 Article 1 including issued Addenda.

C. Bid, Offer, or Bidding: Act of submitting an offer.

D. Bid Amount: Monetary sum identified by the Bidder in the Bid Form.

3.02 AVAILABILITY

A. Bidding Documents can be downloaded for a non-refundable charge of $22.00 at QuestCDN. Plan holders are parties that have downloaded the drawings and specifications. Plan holders will be notified via email as addenda are issued. Parties that download the drawings and specifications and need to have them printed elsewhere are solely responsible for those printing costs. The sales of paper copies for projects listed on this site are not available.

B. Contact QuestCDN.com at 952-233-1632 or info@questcdn.com for assistance in viewing or downloading with this digital project information. The QuestCDN project number is eBidDoc #10065042.

C. Bid Documents are made available only for the purpose of obtaining offers for this project. Their use does not grant a license for other purposes.

3.03 EXAMINATION

A. Upon receipt of Bid Documents verify that documents are complete. Notify Architect should the documents be incomplete.

B. Immediately notify Architect upon finding discrepancies or omissions in the Bid Documents.

3.04 INQUIRIES/ADDENDA

A. Direct questions to Tim Auringer, email; tima@oharchitects.com.

B. Addenda may be issued during the bidding period. All Addenda become part of Contract Documents. Include resultant costs in the Bid Amount.

C. Verbal answers are not binding on any party.

D. Clarifications requested by bidders must be in writing not less than 7 days before date set for receipt of bids. The reply will be in the form of an Addendum, a copy of which will be forwarded to known recipients.

3.05 PRODUCT/ASSEMBLY/SYSTEM SUBSTITUTIONS

A. General Requirements for Substitution Requests:
1. Project Manual establishes standards for products, assemblies, and systems.
2. Submit requests only for elements for which substitution is specifically allowed in the Project Manual.

3. Provide sufficient information to determine acceptability of proposed substitutions.
4. Provide complete information on required revisions to other work to accommodate each proposed substitution.

B. Substitution Request Form:
1. Submit substitution requests by completing CSI/CSC Form 1.5C - Substitution Request (During the Bidding/Negotiating Stage). See this form for additional information and instructions.

C. Review and Acceptance of Request:
1. Architect may approve the proposed substitution and will issue an Addendum to known bidders.

D. Where the Bid Documents stipulate a particular product, substitutions will be considered up to 10 days before receipt of bids.

E. When a request to substitute a product is made, Architect may approve the substitution and will issue an Addendum to known bidders.

F. The submission shall provide sufficient information to determine acceptability of such products.

G. Provide complete information on required revisions to other work to accommodate each proposed substitution.

H. Provide products as specified unless substitutions are submitted in this manner and accepted.

SITE ASSESSMENT

4.01 SITE EXAMINATION

A. Examine the project site before submitting a bid.

4.02 PREBID CONFERENCE

A. A bidders conference has been scheduled for 10:00 a.m. on the 5th day of March, 2026 at the location of 409 2nd Avenue SE in Medford, MN 55049.

B. All general contract and subcontract bidders are invited.

C. Representatives of Architect will be in attendance.

D. Summarized minutes of this meeting will be circulated to attendees. These minutes will form part of Contract Documents.

E. Information relevant to the Bid Documents will be recorded in an Addendum, issued to Bid Document recipients.

BID SUBMISSION

5.01 SUBMISSION PROCEDURE

A. Bidders shall be solely responsible for the delivery of their bids in the manner and time prescribed.

B. Improperly completed information or irregularities in security deposit may be cause to reject and declare the bid invalid or informal.

5.02 BID INELIGIBILITY

A. Bids that are unsigned, improperly signed, illegible, obscure, contain arithmetical errors, alterations, or irregularities of any kind, may at the discretion of the Owner, be declared unacceptable.

B. Bid Forms, Appendices, and enclosures that are improperly prepared may, at the discretion of Owner, be declared unacceptable.

BID ENCLOSURES/REQUIREMENTS

6.01 SECURITY DEPOSIT

A. Bids shall be accompanied by a security deposit as follows:
1. Bid Bond of a sum no less than 5 percent of the Bid Amount.

B. Endorse the Bid Bond in the name of the Owner as obligee, signed and sealed by the principal (Contractor) and surety.

C. The security deposit will be returned after delivery to the Owner of the required Performance and Payment Bond(s) by the accepted bidder.

D. Include the cost of bid security in the Bid Amount.

E. After a bid has been accepted, all securities will be returned to the respective bidders .

F. If no contract is awarded, all security deposits will be returned.

6.02 PERFORMANCE ASSURANCE

A. Accepted Bidder: Provide a Performance and Payment bond as described in 007300 - Supplementary Conditions.

B. Include the cost of Performance and Payment Bonds in the Bid Amount.

C. Performance and Payment Bonds shall be provided in an amount equalling 100% of the contract amount for the construction.

6.03 INSURANCE

A. Provide an executed "Undertaking of Insurance" on a standard form provided by the insurance company stating their intention to provide insurance to the bidder in accordance with the insurance requirements of the Contract Documents.

B. Contractor shall be responsible for providing "Builder's Risk" insurance in an amount covering the cost of the work and all materials and equipment used to construct the work.

6.04 BID FORM REQUIREMENTS

A. Complete all requested information in the Bid Form and Appendices.

B. Taxes: Refer to Document 007300 - Supplementary Conditions for inclusion of taxes.

C. General Contractor shall include cost for the building permit in their bid.

6.05 FEES FOR CHANGES IN THE WORK

A. Include the fees for overhead and profit on own Work and Work by subcontractors, identified in Document 007300 - Supplementary Conditions .

6.06 BID FORM SIGNATURE

A. The Bid Form shall be signed by the bidder, as follows:
   1. Sole Proprietorship: Signature of sole proprietor in the presence of a witness who will also sign. Insert the words "Sole Proprietor" under the signature. Affix seal.
   2. Partnership: Signature of all partners in the presence of a witness who will also sign. Insert the word "Partner" under each signature. Affix seal to each signature.
   3. Corporation: Signature of a duly authorized signing officer(s) in their normal signatures. Insert the officer's capacity in which the signing officer acts, under each signature. Affix the corporate seal. If the bid is signed by officials other than the president and secretary of the company, or the president/secretary/treasurer of the company, a copy of the by-law resolution of their board of directors authorizing them to do so, must also be submitted with the Bid Form in the bid envelope.
   4. Joint Venture: Each party of the joint venture shall execute the Bid Form under their respective seals in a manner appropriate to such party as described above, similar to the requirements of a Partnership.

6.07 ADDITIONAL BID INFORMATION

A. Submit the following Supplements concurrent with bid submission:
   1. Section 01 4513 - Responsible Contractor Verification and Certificate of Compliance.
   2. Section 01 4514 - Attachment A-1 First-Tier Subcontractor List.
   3. Section 01 4515 - Attachment A-2 Additional Subcontractor List.

OFFER ACCEPTANCE/REJECTION

7.01 DURATION OF OFFER

A. Bids shall remain open to acceptance and shall be irrevocable for a period of sixty (60) days after the bid closing date.

7.02 ACCEPTANCE OF OFFER

A. Owner reserves the right to accept or reject any or all offers.

B. After acceptance by Owner, Architect on behalf of Owner, will issue to the successful bidder, a written Bid Acceptance.

END OF SECTION

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SECTION 004100
BID FORM

THE PROJECT AND THE PARTIES

TO:

City of Medford (Owner)

408 2nd Avenue SE

Medford, MN 55049

FOR:

Project: Medford Maintenance Facility

Project Number: 26-002MD

409 2nd Avenue SE
Medford, Minnesota55049

FROM: (BIDDER TO ENTER NAME AND ADDRESS)

Bidder's Full Name _____

Address _____

City, State, Zip_____

OFFER

The undersigned, having become thoroughly familiar with terms and conditions of the proposed Contract documents and with local conditions affecting the work, proposes and agrees to fully perform the work within the stated time and in strict accordance with the Contract Documents, including all labor, materials, equipment, supplies, supervision and bonds, for the sum of money stated in this Bid Form.

In submitting this bid, the undersigned acknowledges agreement with the following: The undersigned is a lawfully authorized agent of the Bidder

Upon written Notice of Award, bidder will provide evidence of insurance coverage, and the signed, executed Agreement within the prescribed period of time.

Upon execution of the Agreement, bidder will commence work promptly (within 10 days) upon Notice to Proceed.

Upon execution of the Agreement, bidder will assure that specified work will be Substantially Completed within the time and according to the provisions of these documents.

If written notice of the acceptance of this bid is mailed or delivered to the undersigned within sixty (60) days after the date of bid opening, or at any other time thereafter before it is withdrawn, the Bidder will execute all required documents in a timely manner according to these instruments.

Notice of Award or requests for additional information may be addressed to the undersigned at the address set forth below.

Bidder agrees and attests that no unlawful discriminatory practices or segregated facilities will be permitted in the performance of the work. Under no circumstances within the bidder's control will segregation on the basis of race, color, religion, sex, or national origin be permitted.

If bidder is a corporation, indicate in the blank space to the right of the signature the legal name of the corporation, state of incorporation, and names of president and secretary; if a

partnership, give name of firm and names of all individual co-partners comprising the firm, if bidder is an individual, give first and last names in full.

BASE BID - GENERAL CONSTRUCTION

The bidder, having examined the place of the work, and being thoroughly familiar with these documents and conditions surrounding the proposed work and affecting the cost of the work, and being familiar with the Bid Documents, Contract Form, all Conditions of the Contract, Drawings, Project Manual, and Addenda, hereby propose to furnish all materials, labor, coordination, equipment and supplies to construct the above named project within the time set forth, in accordance with the Contract Documents prepared by Oleson + Hobbie Architects, LLC for the above mentioned project for the Sum of:

_____

_____

dollars ($_____), in lawful money of the United States of America.

We have included the required security Bid Bond as required by the Instruction to Bidders.

All applicable federal taxes are included and State of Minnesota taxes are included in the Bid Sum.

ACCEPTANCE

This offer shall be open to acceptance and is irrevocable for sixty days from the bid closing date.

If this bid is accepted by Owner within the time period stated above, we will endeavor to:

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

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

CONTRACT TIME

If this Bid is accepted, we will:

Complete the Work by the 31st day of August 2026.

ADDENDA

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

Addendum # _____ Dated _____.
Addendum # _____ Dated _____.
Addendum # _____ Dated _____.

BID FORM SUPPLEMENTS

The following Supplements are attached to this Bid Form and are considered an integral part of this Bid Form:

1. Section 01 4513 - Responsible Contractor Verification and Certificate of Compliance.
2. Section 01 4514 - Attachment A-1 First-Tier Subcontractor List.
3. Section 01 4515 - Attachment A-2 Additional Subcontractor List

BID FORM SIGNATURE(S)

The Corporate Seal of

_____

(Bidder - print the full name of your firm)
was hereunto affixed in the presence of:

_____

(Authorized signing officer, Title)

_____

(Authorized signing officer, Title)

BID DATED THIS_____DAY OF_____, 2026

END OF SECTION

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SECTION 004325
SUBSTITUTION REQUEST FORM - DURING PROCUREMENT

END OF SECTION

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SECTION 007200
GENERAL CONDITIONS

PART 1 - GENERAL

1.01 FORM OF GENERAL CONDITIONS

A. The General Conditions applicable to this project shall be the AIA A201 General Conditions of the Contract for Construction, Latest Version.

1.02 RELATED REQUIREMENTS

A. Section 007300 - Supplementary Conditions.

1.03 SUPPLEMENTARY CONDITIONS

A. Refer to document 007300 - Supplementary Conditions for amendments to these general conditions.

PART 2 - PRODUCTS

2.01 NOT USED

PART 3 - EXECUTION

3.01 NOT USED

END OF SECTION

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SECTION 007300
SUPPLEMENTARY CONDITIONS

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

A. General Conditions.

B. Supplements to the General Conditions.

1.02 GENERAL CONDITIONS

A. AIA Documents A201, "General Conditions of the Contract for Construction," Latest Edition, Articles 1 through 15 inclusive, is part of the Contract.

1.03 SUPPLEMENTS TO GENERAL CONDITIONS

A. Where articles, paragraphs, subparagraphs are supplemented by the following paragraphs, supplemental provisions are added to the original provisions which remain in effect.

B. Articles, paragraphs, subparagraphs not amended, voided, or superseded by the following paragraphs remain in effect.

ARTICLE 1 - GENERAL PROVISIONS

1.1.3 THE WORK

Add the following sub-paragraph:

1.1.3.1 The term "Provided" shall mean furnished and installed in place.

1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

Add the following subparagraph:

1.2.4 If there is an inconsistency in quality or quantity of Work required by the Contract Documents, provide quality or quantity consistent with Architect's interpretation. No change shall result in Contract sum based upon that interpretation providing that Work so required was within range of quality or quantity described in the Documents.

1.4 INTERPRETATION

Add the following four subparagraphs:

1.4.1 The general character and scope of the Work is shown by the Drawings. Where a portion of the Work is fully drawn and the remainder is merely indicated, the portion fully drawn shall apply to all similar parts of the Work.

1.4.2 Figured dimensions on the Drawings shall be followed in preference to scaled measurements on the Drawings.

1.4.3 Where Specifications are abbreviated type, they indicate complete sentences in the same manner as when a note occurs in the Drawings. Omissions of a word such as "the Contractor shall" and "as shown on the Drawings" is intentional. The words "shall" or "shall be" are to be supplied by inference.

1.4.4 Where a number is listed in the Specifications (as for gauges, weights, temperatures, amounts of time, etc.), the number shall be interpreted as that or better.

ARTICLE 3 - CONTRACTOR

3.4 LABOR AND MATERIALS

Add the following four subparagraphs:

3.4.4 Manufacturer's printed instructions covering details of installation shall be followed where not in conflict with these Specifications. If there is a conflict, notify the Architect and obtain approval before proceeding.

3.4.5 Completed Work shall be left plumb, level, true to line or plane, anchored securely in place, free from damage.

3.4.6 Unless otherwise called for, all pieces of material shall be as large a stock size as is in conformity with standard good practice of the trade.

3.4.7. Except where in conflict with the Specifications, current manufacturer's printed Specifications of herein-specified proprietary products are made part of the specifications.

3.7 PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS

Add the following sub-subparagraph:

3.7.1.1 The Contractor will purchase and pay for the building permit.

Add the following to subparagraph 3.7.2:

When the Contract Documents require Work better than that required by Statute, the Contract Documents shall govern.

3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

Add the following to subparagraph 3.10.1:

The General Contractor with the overall Project Construction Schedule shall coordinate the schedule.

3.13 USE OF SITE

Add the following subparagraph:

3.13.2 Owner may perform certain other work on site during the course of construction with own personnel or by separate Contract. Permit full access to entire site by Owner or other Contractors, coordinate Work with theirs, and cooperate in any way possible.

3.18 INDEMNIFICATION

Add the following sub-subparagraph:

3.18.2.1 In addition to any indemnification required under paragraph 3.18, purchase insurance as provided in the State Statutes, as most recently amended, and as required in Article 11. Provide copies of insurance to Owner, Architect, and include these items as additional insured.

ADD TO ARTICLE 3:

3.19 VERIFICATION OF FIELD CONDITIONS:

Add the following subparagraphs:

3.19.1 Take field measurements and verify field conditions. Thoroughly compare such measurements and conditions with Contract Documents and Shop Drawings or product information before commencing Work. Report any error, inconsistency, or omission to Architect and Owner immediately.

3.19.2 No change in Contract Sum will be allowed because of minor differences between actual field conditions and conditions described in Contract Documents.

ARTICLE 4 - ARCHITECT

4.2 ADMINISTRATION OF THE CONTRACT

Add the following to subparagraph 4.2.3:

The Architect shall not be responsible for the acts or omissions of the Owner. The Owner shall not be responsible for the acts or omissions of the Architect.

ARTICLE 5 - SUBCONTRACTORS

5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

Add the following to subparagraph 5.2.1:

Contractor's responsibility to furnish materials, products, and equipment in conformance with requirements of the Contract Documents shall not be modified or limited by Owner's or Architect's lack of reasonable objection to any selected Subcontractor or Supplier.

ARTICLE 7 - CHANGES IN THE WORK

7.2 CHANGE ORDERS

Add the following subparagraphs:

7.2.2 *Change Orders are understood to include cost plus amount for overhead and profit agreed upon under 7.3.3.3 supplemented herein and required adjustments to Contract Time. No further consideration for additional impact upon Contract Sum or Contract Time will be made as result of any or all change orders as may be agreed to by Owner and Contractor.*

7.2.3 *Neither the Owner nor the Architect is responsible to give Notice of Change Orders to the Contractor's Surety.*

7.3 CONSTRUCTIVE CHANGE DIRECTIVES

Change sub-subparagraph 7.3.3.3 as follows:

Delete the final "or" and add: "a reasonable allowance for overhead and profit shall not be more than: ten (10 %) percent of the net cost of the changed Work accomplished by Contractor's own forces; ten (10 %) percent of the net cost of the materials used in the changed Work; and five (5 %) of the net cost if the changed Work accomplished by the subcontractors. Subcontractors may add an allowance of not more than (10 %) percent of the net cost of the changed Work including materials performed or used by their own forces to cover their overhead and profit;

ARTICLE 8 - TIME

8.3 DELAYS AND EXTENSION OF TIME

Add the following subparagraph:

8.3.4 Contractor shall be responsible for damages incurred by Owner, Architect, Engineer and any other separate Contractors for delay resulting from Contractor's failure to complete work within Contract Time.

ARTICLE 9 - PAYMENTS AND COMPLETION

9.3 APPLICATIONS FOR PAYMENT

Add the following to subparagraph 9.3.1:

Substantiating documents shall include waivers of liens from subcontractors and suppliers.

Add the following subparagraph:

9.3.4 Progress payments shall be made monthly upon application, in the amount of ninety-five (95 %) of the Work completed and materials stored on site or off site. The retained five (5 %) percent shall be held until such time as all the Contractor's Work has been completed in full. Said retainage of five (5 %), does not preclude the Owner and Architect to withhold additional sums for Contractor's failure to perform, or make payments to its subcontractors and suppliers.

9.8 SUBSTANTIAL COMPLETION

Add the following to subparagraph 9.8.1:

Minor corrective Work and the replacement of defective work or materials, and the adjustment of control apparatus will not delay the determination or progress of substantial completion. See paragraph 12.2.2.2.

9.9 PARTIAL OCCUPANCY OR USE

Add the following to subparagraph 9.9.1:

The insurance company or companies providing property insurance required by Paragraph 11.3 shall consent to use or occupancy by endorsement prior to such use or occupancy.

Add the following to subparagraph 9.9.2:

After occupancy, the Owner will allow the Contractor reasonable access to occupied areas to complete and correct the work.

Add the following to subparagraph 9.9.3:

Use or occupancy by the Owner shall not be deemed to constitute waiver of existing claims on behalf of Owner or Contractor against each other.

Add the following subparagraph:

9.9.4 Owner shall have the right to install furnishings and equipment within project prior to substantial completion of the Work. Such installation shall not constitute occupancy or use by Owner.

ARTICLE 10 - PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

Add the following four subparagraphs:

10.1.2 The Contractor shall have on site at all times a copy of its Safety Program, Hazardous Communications Program and Material Safety Data Sheets (MSDS) for products to be used in connection with the Work; a copy of each Program and MSDS shall be provided to the Architect prior to commencing Work on site.

10.1.3 The Contractor shall immediately notify the Architect of all accidents which happen in connection with the Work, and within 24 hours have a written report as to what happened and what if any remedies or cautions are being implemented to prevent further injuries or damages. The contractor shall also give the Architect a copy of OSHA Form 200, each time it is updated.

10.1.4 If reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material, substance or condition encountered on the site by the Contractor, the Contractor shall upon recognizing the condition, immediately stop the work in the affected area and report the condition to the Owner and Architect in writing. The Owner, Contractor, and Architect shall then proceed in the same manner as outlined in Subparagraph 10.3.1.

10.1.5 The Owner shall be responsible for obtaining services of a licensed laboratory to verify a presence or absence of the material or substance reported by the Contractor and, in the event such material, substance or condition is found to be present, to verify that it has been rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material, substance or condition and who are to perform the task or removal or safe containment of such material, substance, or condition. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either have reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall proposed another to whom the Contractor and the Architect have no reasonable objection.

ARTICLE 11 - INSURANCE AND BONDS

11.1 CONTRACTOR'S LIABILITY INSURANCE

Delete paragraphs 11.1.1 through 11.1.4 and substitute the following:

11.1.1 Purchase from and maintain in a company or companies lawfully authorized to do business in jurisdictions in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractors operations under the Contract, and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone whose acts any of them may be liable.

11.1.2 Worker's Compensation and Employer's Liability Insurance coverage as per State Statute.

11.1.3 Commercial General Liability

- *.1 $2,000,000 General Aggregate.*
- *.2 $2,000,000 Products-Completed Operations Aggregate.*
- *.3 $2,000,000 Each Occurrence.*
- *.4 $2,000,000 Personal Injury.*

The Commercial General Liability shall provide at a minimum the following coverages:

- *.5 Operations of Contractor;*

.6 *Operations of Contractor (Contingent Liability);*

.7 *Products/Completed Operations (To be carried for one year after completion of contract);*

.8 *Personal injury including employee related claims;*

.9 *Employees as additional insured;*

.10 *Broad Form Property Damage including but not limited to hazards of explosion, collapse and underground; and*

.11 Contractual Liability.

11.1.4 Comprehensive Automobile Liability

.1 $2,000,000 Combined single limit bodily injury and property damage;

.2 All owned vehicles;

.3 All non-owned vehicles;

.4 All hired vehicles.

11.1.5 Umbrella Liability

.1 $4,000,000 Each Claim;

.2 $4,000,000 Annual Aggregate; and,

.3 Umbrella Liability shall provide excess limits over and above Commercial General Liability, Employers Liability, and Comprehensive Automobile liability limits stated in this Article.

11.1.6 Insurance required by 11.1.1 shall be written for limits specified or required by law, whichever is greater. Coverages, whether written on an occurrence or claims made basis, shall be maintained without interruption from date of final payment and termination of any coverage required to be maintained after final payment.

11.1.7 Certificates of Insurance. File Certificates of Insurance with Architect prior to commencement of work, indicating that all insurance required by this Article is in force; such certificates to be prepared on ACORD or CICC forms. Owner shall be listed as additional insured on the Contractor Insurance Certificate. Such coverage shall contain provision that coverages afforded shall not be canceled or non-renewed without 30 days prior written notice to Owner.

11.1.8 Builder's Risk. The Contractor will be responsible to purchase and maintain an "All Risk" or equivalent Builder's Risk policy insuring the interest of the Owner, its consultants, Contractor, and Subcontractors of all tiers. Coverage on an "All Risk" or equivalent basis shall include the perils of flood, earthquake, and pollution clean-up expense. Any deductible shall be the sole responsibility of the Contractor and shall not exceed $10,000 without the written approval of the Owner.

.1 The Builder's Risk policy will cover all materials, supplies and equipment that are intended for construction of and specific installation in the Project while such materials, supplies and equipment are located at the Project site, in transit, and while temporarily located away from the Project site for the purpose of repair, adjustment or storage at the risk of one of the insured patties.

.2 Any property not covered by the Builder's Risk policy, such as the Contractor's or any Subcontractor's licensed motor vehicles or personal property, including job trailers, machinery, tools, equipment, and property of a similar nature not destined to become a part of the Project, shall be the Contractor's responsibility, and the Contractor may self-insure or provide other insurance at its option for the same.

.3 Waiver of Liability: Absent Owner or Architect negligence or breach of a specific contractual duty specifically and logically related to the damage or loss, the Owner or Architect will not be responsible for loss or damage to property of any kind owned or leased by the Contractor, the Contractor's Subcontractors of all tiers, and/or the Contractor's/Subcontractors' employees, servants, or agents.

.4 Waivers of Subrogation: To the extent that loss or damage to property, materials, supplies and equipment is covered by insurance pursuant to the provisions of Subsection 11.4.1 hereof, the Owner, the Owner's consultants of all tiers, the Contractor and the Contractor's Subcontractors of all tiers waive all rights against each other and against the Architect and the Architect's subconsultants of all tiers for

loss or damage to said property, materials, supplies and equipment. The Owner shall require a conforming agreement from the Architect and the Architect's subconsultants of all tiers to waive rights against the Owner and Contractor and their respective consultants and Subcontractors of all tiers. The insurance policies providing the coverage referred to herein shall provide such waivers of subrogation by endorsement or otherwise.

.5 All losses and claims shall be immediately reported to the Owner and applicable insurance carrier, under loss notice procedures as directed by the Contractor.

.6 Any loss insured under this Subsection 11.1.4 shall be adjusted with the Contractor and made payable to the Contractor as trustee for all insured parties, as their interests may appear, subject to the requirements of any applicable security clause. The Contractor shall pay the Owner a just share of any insurance moneys received by the Contractor, and by appropriate agreement, written where legally required for validity, the Contractor shall make payments to the Subcontractors and lower tiered Sub-subcontractors in similar manner.

.7 The Contractor shall be responsible for payment of any Builder's Risk insurance deductible at each and every loss occurrence. The Contractor may self-insure or obtain insurance to cover any losses, at its option. The Contractor's insurance carrier will be responsible for and pay the amount of any insured loss occurrence above any deductible amounts specified herein, up to the Builder's Risk policy limit, as it may be applied to any loss under the Contract.

11.3 PROPERTY INSURANCE

Add the following:

11.3.1.6 Owner, Architect, and Engineer shall be listed as additional insured on the Contractor Insurance Certificate.

ARTICLE 12 - UNCOVERING AND CORRECTION OF WORK

12.2 CORRECTION OF WORK

Add the following to sub-subparagraph 12.2.2.1:

12.2.2.1.1 Warrant Work for one year from date of Substantial Completion Certification. Any specific warranties required by Contract Documents to remain in effect beyond a one year period shall not be considered modified by this one year warranty. Warranty period on Work not completed on date of Substantial Completion will begin on the date of Final Completion Certification or actual completion of the Work, whichever is later.

12.2.2.1.2 Neither the final Certificate of Payment nor any provision in the Contract Documents shall relieve the Contractor of responsibility for negligence or for faulty materials or work within extent and period provided by law. Upon written notice, remedy, any defect due thereto, and pay all expenses to any other work resulting therefrom.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

SECTION 011000
SUMMARY

PART 1 GENERAL

1.01 PROJECT

A. Project Name: Medford Maintenance Facility

B. Owner's Name: City of Medford.

C. Architect's Name: Oleson + Hobbie Architects, LLC.

D. The Project consists of the construction of building demolition, a new pre-engineered metal building with metal roof and wall panels, gutters and downspouts, insulation, concrete floor slab, sectional overhead doors, interior partitions, plumbing, mechanical and electrical systems and other work as required..

1.02 CONTRACT DESCRIPTION

A. Contract Type: A single prime contract based on a Stipulated Price as described in Document 005200 - Agreement Form.

1.03 DESCRIPTION OF ALTERATIONS WORK

A. Scope of demolition and removal work is indicated on drawings and specified in Section 024100.

1.04 OWNER OCCUPANCY

A. Owner intends to occupy the Project upon Substantial Completion.

B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

C. Schedule the Work to accommodate Owner occupancy.

1.05 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Limited to areas noted on Drawings.

B. Arrange use of site and premises to allow:
   1. Owner occupancy.
   2. Work by Others.
   3. Work by Owner.

C. Provide access to and from site as required by law and by Owner:
   1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
   2. Do not obstruct roadways, sidewalks, or other public ways without permit.

D. Time Restrictions:
   1. Limit conduct of especially noisy exterior work to the hours of 8:00 a.m. to 5:00 p.m..

E. Utility Outages and Shutdown:
   1. Do not disrupt or shut down life safety systems, including but not limited to fire sprinklers and fire alarm system, without 7 days notice to Owner and authorities having jurisdiction.
   2. Prevent accidental disruption of utility services to other facilities.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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SECTION 012000
PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedures for preparation and submittal of applications for progress payments.

B. Documentation of changes in Contract Sum and Contract Time.

C. Change procedures.

D. Procedures for preparation and submittal of application for final payment.

1.02 RELATED REQUIREMENTS

A. Section 007200 - General Conditions: Additional requirements for progress payments, final payment, changes in the Work.

B. Section 007300 - Supplementary Conditions: Percentage allowances for Contractor's overhead and profit.

C. Section 017800 - Closeout Submittals: Project record documents.

1.03 SCHEDULE OF VALUES

A. Use Schedule of Values Form: AIA G703, edition stipulated in the Agreement.

B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Architect for approval.

C. Forms filled out by hand will not be accepted.

D. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.

E. Revise schedule to list approved Change Orders, with each Application For Payment.

1.04 APPLICATIONS FOR PROGRESS PAYMENTS

A. Payment Period: Submit at intervals stipulated in the Agreement.

B. Use Form AIA G702 and Form AIA G703, edition stipulated in the Agreement.

C. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect for approval.

D. Forms filled out by hand will not be accepted.

E. For each item, provide a column for listing each of the following:
   1. Item Number.
   2. Description of work.
   3. Scheduled Values.
   4. Previous Applications.
   5. Work in Place and Stored Materials under this Application.
   6. Authorized Change Orders.
   7. Total Completed and Stored to Date of Application.
   8. Percentage of Completion.
   9. Balance to Finish.
   10. Retainage.

F. Execute certification by signature of authorized officer.

G. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.

H. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of work.

I. Submit one electronic and two hard-copies of each Application for Payment.

J. Include the following with the application:
   1. Transmittal letter as specified for submittals in Section 013000.
   2. Partial release of liens from major subcontractors and vendors.
   3. Affidavits attesting to off-site stored products.

K. When Architect requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

1.05 MODIFICATION PROCEDURES

A. For minor changes not involving an adjustment to the Contract Sum or Contract Time, Architect will issue instructions directly to Contractor.

B. For other required changes, Architect will issue a document signed by Owner instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.
   1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
   2. Promptly execute the change.

C. For changes for which advance pricing is desired, Architect will issue a document that includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation within five days.

D. Contractor may propose a change by submitting a request for change to Architect, describing the proposed change and its full effect on the work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation. Document any requested substitutions in accordance with Section 016000.

E. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
   1. For change requested by Architect for work falling under a fixed price contract, the amount will be based on Contractor's price quotation.
   2. For change requested by Contractor, the amount will be based on the Contractor's request for a Change Order as approved by Architect.
   3. For pre-determined unit prices and quantities, the amount will based on the fixed unit prices.
   4. For change ordered by Architect without a quotation from Contractor, the amount will be determined by Architect based on the Contractor's substantiation of costs as specified for Time and Material work.

F. Substantiation of Costs: Provide full information required for evaluation.
   1. On request, provide the following data:
      a. Quantities of products, labor, and equipment.
      b. Taxes, insurance, and bonds.
      c. Overhead and profit.
      d. Justification for any change in Contract Time.
      e. Credit for deletions from Contract, similarly documented.
   2. For Time and Material work, submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.

G. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

1.06 APPLICATION FOR FINAL PAYMENT

A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.

B. Application for Final Payment will not be considered until the following have been accomplished:
   1. All closeout procedures specified in Section 017000.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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SECTION 012500
SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedural requirements for proposed substitutions.

1.02 RELATED REQUIREMENTS

A. Section 002113 - Instructions to Bidders: Restrictions on timing of substitution requests.

B. Section 013000 - Administrative Requirements: Submittal procedures, coordination.

C. Section 016000 - Product Requirements: Fundamental product requirements, product options, delivery, storage, and handling.

1.03 DEFINITIONS

A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. A Substitution Request for products, assemblies, materials, and equipment constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
   2. Agrees to provide the same warranty for the substitution as for the specified product.
   3. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.
   4. Waives claims for additional costs or time extension that may subsequently become apparent.

B. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.

C. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.

D. Limit each request to a single proposed substitution item.

3.02 RESOLUTION

A. Architect may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.

B. Architect will notify Contractor in writing of decision to accept or reject request.
   1. Architect's decision following review of proposed substitution will be noted on the submitted form.

3.03 ACCEPTANCE

A. Accepted substitutions change the work of the Project. They will be documented and incorporated into work of the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

3.04 CLOSEOUT ACTIVITIES

A. See Section 017800 - Closeout Submittals, for closeout submittals.

END OF SECTION

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SECTION 013000
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General administrative requirements.

B. Preconstruction meeting.

C. Progress meetings.

D. Submittals for review, information, and project closeout.

E. Number of copies of submittals.

F. Submittal procedures.

1.02 RELATED REQUIREMENTS

A. Section 007200 - General Conditions: Dates for applications for payment.

B. Section 013216 - Construction Progress Schedule: Form, content, and administration of schedules.

C. Section 016000 - Product Requirements: General product requirements.

D. Section 017000 - Execution and Closeout Requirements: Additional coordination requirements.

E. Section 017800 - Closeout Submittals: Project record documents; operation and maintenance data; warranties and bonds.

1.03 GENERAL ADMINISTRATIVE REQUIREMENTS

A. Comply with requirements of Section 017000 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRECONSTRUCTION MEETING

A. Schedule meeting after Notice of Award.

B. Attendance Required:
   1. Owner.
   2. Architect.
   3. Contractor.

C. Agenda:
   1. Execution of Owner-Contractor Agreement.
   2. Submission of executed bonds and insurance certificates.
   3. Distribution of Contract Documents.
   4. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
   5. Designation of personnel representing the parties to Contract and <1|A/E|>.
   6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
   7. Scheduling.

D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.02 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the work at maximum bi-monthly intervals.

B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.

C. Attendance Required:
   1. Contractor.
   2. Owner.
   3. Architect.
   4. Contractor's superintendent.
   5. Major subcontractors.

D. Agenda:
   1. Review minutes of previous meetings.
   2. Review of work progress.
   3. Field observations, problems, and decisions.
   4. Identification of problems that impede, or will impede, planned progress.
   5. Review of submittals schedule and status of submittals.
   6. Review of RFIs log and status of responses.
   7. Review of off-site fabrication and delivery schedules.
   8. Maintenance of progress schedule.
   9. Corrective measures to regain projected schedules.
   10. Planned progress during succeeding work period.
   11. Coordination of projected progress.
   12. Maintenance of quality and work standards.
   13. Effect of proposed changes on progress schedule and coordination.
   14. Other business relating to work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.03 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:
   1. Product data.
   2. Shop drawings.
   3. Samples for selection.
   4. Samples for verification.

B. Submit to Architect for review for the limited purpose of checking for compliance with information given and the design concept expressed in Contract Documents.

C. Samples will be reviewed for aesthetic, color, or finish selection.

D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 017800 - Closeout Submittals.

3.04 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:
   1. Design data.
   2. Certificates.
   3. Test reports.
   4. Inspection reports.
   5. Manufacturer's instructions.
   6. Manufacturer's field reports.
   7. Other types indicated.

B. Submit for Architect's knowledge as contract administrator or for Owner.

3.05 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit Correction Punch List for Substantial Completion.

B. Submit Final Correction Punch List for Substantial Completion.

C. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 017800 - Closeout Submittals:
   1. Project record documents.
   2. Operation and maintenance data.
   3. Warranties.
   4. Bonds.
   5. Other types as indicated.

D. Submit for Owner's benefit during and after project completion.

3.06 NUMBER OF COPIES OF SUBMITTALS

A. Electronic Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.

B. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.
   1. After review, produce duplicates.
   2. Retained samples will not be returned to Contractor unless specifically so stated.

3.07 SUBMITTAL PROCEDURES

A. General Requirements:
   1. Use a single transmittal for related items.
   2. Sequentially identify each item. For revised submittals use original number and a sequential numerical suffix.
   3. Identify: Project; Contractor; subcontractor or supplier; pertinent drawing and detail number; and specification section number and article/paragraph, as appropriate on each copy.
   4. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.
      a. Submittals from sources other than the Contractor, or without Contractor's stamp will not be acknowledged, reviewed, or returned.
   5. Schedule submittals to expedite the Project, and coordinate submission of related items.
      a. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
   6. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
   7. Provide space for Contractor and Architect review stamps.
   8. When revised for resubmission, identify all changes made since previous submission.
   9. Distribute reviewed submittals. Instruct parties to promptly report inability to comply with requirements.
   10. Incomplete submittals will not be reviewed, unless they are partial submittals for distinct portion(s) of the work, and have received prior approval for their use.
   11. Submittals not requested will be recognized, and will be returned "Not Reviewed",

B. Product Data Procedures:
   1. Submit only information required by individual specification sections.
   2. Collect required information into a single submittal.
   3. Do not submit (Material) Safety Data Sheets for materials or products.

C. Shop Drawing Procedures:
   1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting Contract Documents and coordinating related work.
   2. Generic, non-project-specific information submitted as shop drawings do not meet the requirements for shop drawings.

D. Samples Procedures:

1. Transmit related items together as single package.
2. Identify each item to allow review for applicability in relation to shop drawings showing installation locations.

3.08 SUBMITTAL REVIEW

A. Submittals for Review: Architect will review each submittal, and approve, or take other appropriate action.

B. Submittals for Information: Architect will acknowledge receipt and review. See below for actions to be taken.

C. Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.

D. Architect's and consultants' actions on items submitted for review:
   1. Authorizing purchasing, fabrication, delivery, and installation:
      a. "Approved", or language with same legal meaning.
      b. "Approved as Noted, Resubmission not required", or language with same legal meaning.
         1) At Contractor's option, submit corrected item, with review notations acknowledged and incorporated.
      c. "Approved as Noted, Resubmit for Record", or language with same legal meaning.
   2. Not Authorizing fabrication, delivery, and installation:

E. Architect's and consultants' actions on items submitted for information:
   1. Items for which no action was taken:
      a. "Received" - to notify the Contractor that the submittal has been received for record only.
   2. Items for which action was taken:
      a. "Reviewed" - no further action is required from Contractor.

END OF SECTION

SECTION 013216
CONSTRUCTION PROGRESS SCHEDULE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Preliminary schedule.

B. Construction progress schedule, bar chart type.

1.02 RELATED SECTIONS

A. Section 011000 - Summary: Work sequence.

1.03 SUBMITTALS

A. Within 10 days after date of Agreement, submit preliminary schedule.

B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.

C. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.

1. Include written certification that major contractors have reviewed and accepted proposed schedule.

D. Within 10 days after joint review, submit complete schedule.

E. Submit the number of opaque reproductions that Contractor requires, plus two copies that will be retained by Architect.

1.04 SCHEDULE FORMAT

A. Listings: In chronological order according to the start date for each activity. Identify each activity with the applicable specification section number.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRELIMINARY SCHEDULE

A. Prepare preliminary schedule in the form of a horizontal bar chart.

3.02 CONTENT

A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.

B. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.

C. Provide legend for symbols and abbreviations used.

3.03 BAR CHARTS

A. Include a separate bar for each major portion of Work or operation.

B. Identify the first work day of each week.

3.04 DISTRIBUTION OF SCHEDULE

A. Distribute copies of updated schedules to Contractor's project site file, to subcontractors, suppliers, Architect, Owner, and other concerned parties.

B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.

END OF SECTION

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SECTION 014000
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Submittals.

B. References and standards.

C. Control of installation.

D. Tolerances.

E. Defect Assessment.

1.02 RELATED REQUIREMENTS

A. Document 007200 - General Conditions: Inspections and approvals required by public authorities.

B. Section 013000 - Administrative Requirements: Submittal procedures.

C. Section 016000 - Product Requirements: Requirements for material and product quality.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Design Data: Submit for Architect's knowledge as contract administrator for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents, or for Owner's information.

C. Test Reports: After each test/inspection, promptly submit two copies of report to Architect and to Contractor.
   1. Include:
      a. Date issued.
      b. Project title and number.
      c. Name of inspector.
      d. Date and time of sampling or inspection.
      e. Identification of product and specifications section.
      f. Location in the Project.
      g. Type of test/inspection.
      h. Date of test/inspection.
      i. Results of test/inspection.
      j. Compliance with Contract Documents.
      k. When requested by Architect, provide interpretation of results.

D. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the Owner's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

E. Manufacturer's Field Reports: Submit reports for Architect's benefit as contract administrator or for Owner.
   1. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.

F. Erection Drawings: Submit drawings for Architect's benefit as contract administrator or for Owner.
   1. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.

1.04 REFERENCES AND STANDARDS

A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Comply with reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.

C. Obtain copies of standards where required by product specification sections.

D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.

E. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.

F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Architect shall be altered from Contract Documents by mention or inference otherwise in any reference document.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Have work performed by persons qualified to produce required and specified quality.

F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.02 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

3.03 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not complying with specified requirements.

END OF SECTION

SECTION 014513
RESPONSIBLE CONTRACTOR VERIFICATION AND CERTIFICATION OF COMPLIANCE

A. Minn. Stat. §16.285, Subd,. 7, IMPLEMENTATION. any prime contractor or subcontractor that does not meet the minimum criteria in subdivision 3 or fails to verify it meets those criteria is not a responsible contractor and is not eligible to be awarded a construction contract for the project or to perform work on the project.

B. Minn. Stat. §16.285, Subd. 3. RESPONSIBLE CONTRACTOR, MINIMUM CRITERIA. "Responsible contractor" means a contractor that conforms to the responsibility requirements in the solicitation document for its portion of the work on the project and verifies that it meets the following minimum criteria:
   1. The Contractor:
      a. is in compliance with workers' compensation and unemployment insurance requirements;
      b. is currently registered with the Department of Revenue and the Department of Employment and Economic Development if it has employees;
      c. has a valid federal tax identification number or a valid Social Security number if an individual; and
      d. has filed a certificate of authority to transact business in Minnesota with the secretary of state if a foreign corporation or cooperative.
   2. The contractor or related entity is in compliance with and, during the three-year period before submitting the verification, has not violated section 177.24, 177.25, 177.41 to 177.44, 181.13, 181.14, or 181.722, and has not violated United States Code, title 29, sections 201 to 219, or United States Code, title 40, sections 3141 to 3148. For purposes of this clause, a violation occurs when a contractor or related entity:
      a. repeatedly fails to pay statutorily required wages or penalties on one or more separate projects for a total underpayment of $25,000 or more within the three-year period;
      b. has been issued an order to comply by the commissioner of labor and industry that has become final;
      c. has been issued at least two determination letters within the three-year period by the Department of Transportation finding an underpayment by the contractor or related entity to its own employees;
      d. has been found by the commissioner of labor and industry to have repeatedly or willfully violated any of the sections referenced in this clause pursuant to section 177.27;
      e. has been issued a ruling or findings of underpayment by the administrator of the Wage and Hour Division of the United States Department of Labor that have become final or have been upheld by an administrative law judge or the Administrative Review Board; or
      f. has been found liable for underpayment of wages or penalties or misrepresenting a construction worker as an independent contractor in an action brought in a court having jurisdiction. Provided that, if the contractor or related entity contests a determination of underpayment by the Department of Transportation in a contested case proceeding, a violation does not occur until the contested case proceeding has concluded with a determination that the contractor or related entity underpaid wages or penalties.
   3. The contractor or related entity is in compliance with and, during the three-year period before submitting the verification, has not violated section 181.723 or chapter 326B. For purposes of this clause, a violation occurs when a contractor or related entity has been issued a final administrative or licensing order.

4. The contractor or related entity has not, more than twice during the three-year period before submitting the verification, had a certificate of compliance under section 363A.36 revoked or suspended based on the provisions of section 363A.36, with the revocation or suspension becoming final because it was upheld by the Office of Administrative Hearings or was not appealed to the office.
5. The contractor or related entity has not received a final determination assessing a monetary sanction from the Department of Administration or Transportation for failure to meet targeted group business, disadvantaged business enterprise, or veteran-owned business goals, due to a lack of good faith effort, more than once during the three-year period before submitting the verification.
6. The contractor or related entity is not currently suspended or debarred by the federal government or the state of Minnesota or any of its departments, commissions, agencies, or political subdivisions; and
7. All subcontractors that the contractor intends to use to perform project work have verified to the contractor through a signed statement under oath by an owner or officer that they meet the minimum criteria listed in clauses (1) to (6).

C. Minn. Stat. 1§16.285, Subd. 5. SUBCONTRACTOR VERIFICATION. A prime contractor or subcontractor shall include in its verification of compliance under subdivision 4 a list of all of its first-tier subcontractors that it intends to retain for work on the project.

D. If a prime contractor or any subcontractor retains additional subcontractors on the project after submitting its verification of compliance, the prime contractor or subcontractor shall obtain verifications of compliance from each additional subcontractor with which it has a direct contractual relationship and shall submit a supplemental verification confirming compliance with subdivision 3, clause (7),within 14 days of retaining the additional subcontractors.

E. A prime contractor shall submit to the contracting authority upon request copies of the signed verifications of compliance from all subcontractors of any tier pursuant to subdivision 3, clause (7). A prime contractor and subcontractors shall not be responsible for the false statements of any subcontractor with which they do not have a direct contractual relationship. A prime contractor and subcontractors shall be responsible for false statements by their first-tier subcontractors with which they have a direct contractual relationship only if they accept the verification of compliance with actual knowledge that it contains a false statement.

F. Minn.Stat. §16.285, Subd. 4. VERIFICATION OF COMPLIANCE. A contractor responding to a solicitation document of a contracting authority shall submit to the contracting authority a signed statement under oath by an owner or officer verifying compliance with each of the minimum criteria in subdivision 3 at the time that it responds to the solicitation document.

G. A contracting authority may accept a sworn statement as sufficient to demonstrate that a contractor is a responsible contractor and shall not be held liable for awarding a contract in reasonable reliance on that statement. Failure to verify compliance with any one of the minimum criteria or a false statement under oath in a verification of compliance shall render the prime contractor or subcontractor that makes the false statement ineligible to be awarded a construction contract on the project for which the verification was submitted.

H. A false statement under oath verifying compliance with any of the minimum criteria may result in termination of a construction contract that has already been awarded to a prime contractor or subcontractor that submits a false statement. A contracting authority shall not be liable for declining to award a contract or terminating a contract based on a reasonable determination that the contractor

CERTIFICATION

By signing this document, I certify that I am an owner or officer of the company, and I swear under oath that:

1. My company meets each of the Minimum Criteria to be a responsible contractor as defined herein and is in compliance with Minn. Stat. §16.285,

2. I have included Attachment A-1 with my company's solicitation response, and
3. if my company is awarded a contract, I will also submit Attachment A-2 as required.

AUTHORIZED SIGNATURE OF OWNER OR OFFICER:	**PRINTED NAME:**
TITLE:	**DATE:**
COMPANY NAME:	

END OF SECTION

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SECTION 014514
ATTACHMENT A-1

FIRST-TIER SUBCONTRACTOR LIST

(SUBMIT WITH RESPONSIBLE CONTRACTOR VERIFICATION)

A. Minn. Stat. §16.285, Subd. 5: A prime contractor or subcontractor shall include in its verification of compliance under subdivision 4 a list of all of its first-tier subcontractors that it intends to retain for work on the project.

FIRST-TIER SUBCONTRACTOR NAMES (LEGAL NAME OF COMPANY AS REGISTERED WITH THE SECRETARY OF STATE)	**NAME OF CITY WHERE COMPANY HOME OFFICE IS LOCATED**

END OF SECTION

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SECTION 014515
ATTACHMENT A-2

ADDITIONAL SUBCONTRACTOR LIST

(PRIME CONTRACTOR TO SUBMIT AS SUBCONTRACTORS ARE ADDED TO THE PROJECT)

THIS FORM MUST BE SUBMITTED TO THE PROJECT MANAGER OR INDIVIDUAL AS IDENTIFIED IN THE SOLICITATION DOCUMENT.

Minn. Stat. §16.285, Subd. 5: If a prime contractor or any subcontractor retains additional subcontractors on the project after submitting its verification of compliance, the prime contractor or subcontractor shall obtain verifications of compliance from each additional subcontractor with which it has a direct contractual relationship and shall submit a supplemental verification confirming compliance with subdivision 3, clause (7),within 14 days of retaining the additional subcontractors.

ADDITIONAL SUBCONTRACTOR NAMES (LEGAL NAME OF COMPANY AS REGISTERED WITH THE SECRETARY OF STATE)	**NAME OF CITY WHERE COMPANY HOME OFFICE IS LOCATED**

SUPPLEMENTAL CERTIFICATION FOR ATTACHMENT A-2

By signing this document I certify that I am an owner or officer of the company, and I swear under oath that:

All additional subcontractors listed on Attachment A-2 have verified through a signed statement under oath by an owner or officer that they meet the minimum criteria to be a responsible contractor as defined in Minn. Stat. §16.285.

AUTHORIZED SIGNATURE OF OWNER OR OFFICER:	**PRINTED NAME:**
TITLE:	**DATE:**
COMPANY NAME:	

END OF SECTION

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SECTION 014533
CODE-REQUIRED SPECIAL INSPECTIONS AND PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Code-required special inspections.

B. Submittals.

1.02 DEFINITIONS

A. Code or Building Code: ICC (IBC), International Building Code, most recent edition adopted by authority having jurisdiction, including all applicable amendments and supplements without limitation, and specifically Chapter 17 - Special Inspections and Tests.

B. Authority Having Jurisdiction (AHJ): Agency or individual officially empowered to enforce the building, fire and life safety code requirements of the permitting jurisdiction in which the Project is located.

C. Special Inspections and Tests: Inspections and testing of materials, installation, fabrication, erection, or placement of components and connections mandated by Building Code to safeguard public welfare.

1. Special inspections and tests are separate from and independent of tests and inspections conducted by Owner or Contractor for purposes of quality assurance and contract administration.

1.03 REFERENCE STANDARDS

A. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection; 2025a.

B. IAS AC89 - Accreditation Criteria for Testing Laboratories; 2021.

C. IAS AC291 - Accreditation Criteria for Special Inspection Agencies AC291; 2025, with Editorial Revision.

D. ICC (IBC) - International Building Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

1.05 SPECIAL INSPECTION AND TESTING AGENCY

A. Owner or Architect to employ services of Special Inspection Agency to perform inspections and associated testing and sampling in accordance with ASTM E329 and required by building code.

B. Special Inspection Agency may delegate to independent testing agency to perform testing and sampling associated with special inspections and required by building code.

C. Employment of agency in no way relieves Contractor of obligation to perform work in accordance with requirements of contract documents.

1.06 TESTING AND INSPECTION AGENCIES

A. Owner or Architect may employ services of independent testing agency to perform additional testing and sampling required by contract documents or associated with special inspections but not required by building code.

B. Employment of agency in no way relieves Contractor of obligation to perform work in accordance with requirements of contract documents.

1.07 QUALITY ASSURANCE

A. Special Inspection Agency Qualifications:

1. Independent firm specializing in performing testing and inspections of the type specified in this section.
2. Accredited by IAS according to IAS AC291.

B. Testing Agency Qualifications:
   1. Independent firm specializing in performing testing and inspections of the type specified in this section.
   2. Accredited by IAS according to IAS AC89.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 SPECIAL INSPECTIONS AND TESTING

A. The Code requires special inspections and testing of certain materials, components, assemblies, and connections used in constructing the project. Special inspections and testing will be performed in accordance with the Code.

B. Special inspections and testing will be performed in accordance with the Code for the following materials and project components:
   1. Steel.
   2. Concrete.
   3. Soils.

3.02 SPECIAL INSPECTION AGENCY DUTIES AND RESPONSIBILITIES

A. Special Inspection Agency shall:
   1. Verify samples submitted by Contractor comply with the referenced standards and the approved Contract Documents.
   2. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
   3. Perform specified sampling and testing of products in accordance with specified reference standards.
   4. Ascertain compliance of materials and products with requirements of Contract Documents.
   5. Promptly notify Architect and Contractor of observed irregularities or non-compliance of work or products.
   6. Perform additional tests and inspections required by Architect.
   7. Submit reports of all tests or inspections specified.

B. Limits on Special Inspection Agency Authority:
   1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
   2. Agency may not approve or accept any portion of the work.
   3. Agency may not assume any duties of Contractor.
   4. Agency has no authority to stop the work.

C. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Architect.

D. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

3.03 CONTRACTOR DUTIES AND RESPONSIBILITIES

A. Contractor Responsibilities, General:
   1. Deliver to agency at designated location, adequate samples of materials for special inspections that require material verification.
   2. Cooperate with agency and laboratory personnel; provide access to approved documents at project site, to the work, to manufacturers' facilities, and to fabricators' facilities.
   3. Provide incidental labor and facilities:
      a. To provide access to work to be tested or inspected.
      b. To obtain and handle samples at the site or at source of Products to be tested or inspected.
      c. To facilitate tests or inspections.
      d. To provide storage and curing of test samples.

4. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing or inspection services.
5. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

END OF SECTION

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SECTION 015000
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary utilities.

B. Temporary sanitary facilities.

C. Temporary Controls: Barriers and enclosures.

D. Security requirements.

E. Vehicular access and parking.

F. Waste removal facilities and services.

G. Field offices.

1.02 REFERENCE STANDARDS

A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2025.

1.03 TEMPORARY UTILITIES

A. Owner will provide the following:
   1. Electrical power, consisting of connection to existing facilities.
   2. Water supply, consisting of connection to existing facilities.

1.04 TEMPORARY SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.

B. Maintain daily in clean and sanitary condition.

C. At end of construction, return facilities to same or better condition as originally found.

1.05 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.

C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.06 EXTERIOR ENCLOSURES

A. Provide temporary insulated weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.07 SECURITY

A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

1.08 VEHICULAR ACCESS AND PARKING

A. Coordinate access and haul routes with governing authorities and Owner.

B. Provide and maintain access to fire hydrants, free of obstructions.

C. Provide means of removing mud from vehicle wheels before entering streets.

D. Existing on-site roads may be used for construction traffic.

E. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

1.09 WASTE REMOVAL

A. See Section 017419 - Construction Waste Management and Disposal, for additional requirements.

B. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

C. Provide containers with lids. Remove trash from site periodically.

D. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

E. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.10 FIELD OFFICES

A. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, drawing rack, and drawing display table.

B. Provide space for Project meetings, with table and chairs to accommodate 6 persons.

C. Locate offices a minimum distance of 30 feet (10 m) from existing and new structures.

1.11 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, prior to Date of Substantial Completion inspection.

B. Clean and repair damage caused by installation or use of temporary work.

C. Restore existing facilities used during construction to original condition.

D. Restore new permanent facilities used during construction to specified condition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 016000
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General product requirements.

B. Transportation, handling, storage and protection.

C. Product option requirements.

D. Substitution limitations.

E. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 RELATED REQUIREMENTS

A. Section 012500 - Substitution Procedures: Substitutions made during procurement and/or construction phases.

B. Section 017419 - Construction Waste Management and Disposal: Waste disposal requirements potentially affecting product selection, packaging and substitutions.

1.03 SUBMITTALS

A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by Contract Documents.

B. Unforeseen historic items encountered remain the property of the Owner; notify Owner promptly upon discovery; protect, remove, handle, and store as directed by Owner.

C. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.

2.02 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by Contract Documents.

B. Use of products having any of the following characteristics is not permitted:

1. Made of wood from newly cut old growth timber.
2. Containing lead, cadmium, or asbestos.

C. Where other criteria are met, Contractor shall give preference to products that:

1. Are extracted, harvested, and/or manufactured closer to the location of the project.
2. Have longer documented life span under normal use.
3. Are made of recycled materials.
4. If made of wood, are made of sustainably harvested wood, wood chips, or wood fiber.

2.03 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.04 MAINTENANCE MATERIALS

A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 TRANSPORTATION AND HANDLING

A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.

B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.

C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

D. Transport and handle products in accordance with manufacturer's instructions.

E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.

H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.02 STORAGE AND PROTECTION

A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication. See Section 017419.

B. Store and protect products in accordance with manufacturers' instructions.

C. Store with seals and labels intact and legible.

D. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.

E. For exterior storage of fabricated products, place on sloped supports above ground.

F. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.

G. Comply with manufacturer's warranty conditions, if any.

H. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

I. Prevent contact with material that may cause corrosion, discoloration, or staining.

J. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

K. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

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SECTION 017000
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Cutting and patching.

C. Cleaning and protection.

D. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

1.02 RELATED REQUIREMENTS

A. Section 011000 - Summary: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.

B. Section 013000 - Administrative Requirements: Submittals procedures.

C. Section 014000 - Quality Requirements: Testing and inspection procedures.

D. Section 015000 - Temporary Facilities and Controls: Temporary exterior enclosures.

E. Section 017800 - Closeout Submittals: Project record documents, operation and maintenance data, warranties.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
   1. Structural integrity of any element of Project.
   2. Integrity of weather exposed or moisture resistant element.
   3. Efficiency, maintenance, or safety of any operational element.
   4. Visual qualities of sight exposed elements.
   5. Work of Owner or separate Contractor.

1.04 PROJECT CONDITIONS

A. Use of explosives is not permitted.

B. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

C. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

D. Perform dewatering activities, as required, for the duration of the project.

E. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

1.05 COORDINATION

A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

B. Notify affected utility companies and comply with their requirements.

C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

F. Coordinate completion and clean-up of work of separate sections.

G. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 016000 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.

E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 LAYING OUT THE WORK

A. Promptly notify Architect of any discrepancies discovered.

B. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
   1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
   2. Grid or axis for structures.
   3. Building foundation, column locations, ground floor elevations.

C. Periodically verify layouts by same means.

3.04 GENERAL INSTALLATION REQUIREMENTS

A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.05 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. Perform whatever cutting and patching is necessary to:
   1. Complete the work.
   2. Fit products together to integrate with other work.
   3. Provide openings for penetration of mechanical, electrical, and other services.
   4. Match work that has been cut to adjacent work.
   5. Repair areas adjacent to cuts to required condition.
   6. Repair new work damaged by subsequent work.
   7. Remove samples of installed work for testing when requested.
   8. Remove and replace defective and non-complying work.

C. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

D. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

E. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

F. Restore work with new products in accordance with requirements of Contract Documents.

G. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

H. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material , to full thickness of the penetrated element.

I. Patching:
   1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
   2. Match color, texture, and appearance.
   3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.06 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.07 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide special protection where specified in individual specification sections.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

G. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.08 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.09 FINAL CLEANING

A. Use cleaning materials that are nonhazardous.

B. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

C. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

D. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

E. Clean filters of operating equipment.

F. Clean debris from roofs, gutters, downspouts, scuppers, overflow drains, area drains, and drainage systems.

G. Clean site; sweep paved areas, rake clean landscaped surfaces.

H. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.10 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.

B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.

C. Notify Architect when work is considered ready for Architect's Substantial Completion inspection.

D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.

E. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.

F. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.

G. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.

H. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

END OF SECTION

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SECTION 017419
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.01 WASTE MANAGEMENT REQUIREMENTS

A. Owner requires that this project generate the least amount of trash and waste possible.

B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.

C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.

D. Methods of trash/waste disposal that are not acceptable are:
   1. Burning on the project site.
   2. Burying on the project site.
   3. Dumping or burying on other property, public or private.
   4. Other illegal dumping or burying.

E. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.02 RELATED REQUIREMENTS

A. Section 012500 - Substitution Procedures.

B. Section 013000 - Administrative Requirements: Additional requirements for project meetings, reports, submittal procedures, and project documentation.

C. Section 015000 - Temporary Facilities and Controls: Additional requirements related to trash/waste collection and removal facilities and services.

D. Section 016000 - Product Requirements: Waste prevention requirements related to product substitutions.

E. Section 016000 - Product Requirements: Waste prevention requirements related to delivery, storage, and handling.

F. Section : Trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

1.03 DEFINITIONS

A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.

B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.

C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.

D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.

E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.

F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.

G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.

H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

I. Return: To give back reusable items or unused products to vendors for credit.

J. Reuse: To reuse a construction waste material in some manner on the project site.

K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.

L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.

M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.

N. Toxic: Poisonous to humans either immediately or after a long period of exposure.

O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.

P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

PART 2 PRODUCTS

2.01 PRODUCT SUBSTITUTIONS

A. See Section 016000 and Section 012500.

PART 3 EXECUTION

3.01 WASTE MANAGEMENT PROCEDURES

A. See Section 013000 for additional requirements for project meetings, reports, submittal procedures, and project documentation.

B. See Section 015000 for additional requirements related to trash/waste collection and removal facilities and services.

C. See Section 016000 for waste prevention requirements related to delivery, storage, and handling.

D. See Section for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

3.02 WASTE MANAGEMENT PLAN IMPLEMENTATION

A. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.
   1. Provide containers as required.
   2. Provide adequate space for pick-up and delivery and convenience to subcontractors.
   3. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.

B. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.

C. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.

D. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.

E. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

END OF SECTION

SECTION 017800
CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Project record documents.

B. Operation and maintenance data.

C. Warranties and bonds.

1.02 RELATED REQUIREMENTS

A. Section 007200 - General Conditions and 007300 - Supplementary Conditions: Performance bond and labor and material payment bonds, warranty, and correction of work.

B. Section 013000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.

C. Section 017000 - Execution and Closeout Requirements: Contract closeout procedures.

D. Individual Product Sections: Specific requirements for operation and maintenance data.

E. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.

B. Operation and Maintenance Data:
   1. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
   2. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.
   3. Submit two sets of revised final documents in final form within 10 days after final inspection.

C. Warranties and Bonds:
   1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
   2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
   3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
   1. Drawings.
   2. Specifications.
   3. Addenda.
   4. Change Orders and other modifications to the Contract.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress.

E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
   1. Manufacturer's name and product model and number.
   2. Product substitutions or alternates utilized.
   3. Changes made by Addenda and modifications.

F. Record Drawings: Legibly mark each item to record actual construction including:
   1. Field changes of dimension and detail.
   2. Details not on original Contract drawings.

3.02 OPERATION AND MAINTENANCE DATA

A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:
   1. Product data, with catalog number, size, composition, and color and texture designations.

B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

C. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

A. For Each Item of Equipment and Each System:
   1. Description of unit or system, and component parts.
   2. Identify function, normal operating characteristics, and limiting conditions.
   3. Include performance curves, with engineering data and tests.
   4. Complete nomenclature and model number of replaceable parts.

B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

C. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.

D. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

E. Provide servicing and lubrication schedule, and list of lubricants required.

F. Include manufacturer's printed operation and maintenance instructions.

G. Include sequence of operation by controls manufacturer.

H. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

I. Additional Requirements: As specified in individual product specification sections.

3.05 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.

B. Where systems involve more than one specification section, provide separate tabbed divider for each system.

C. Binders: Commercial quality, 8-1/2 by 11 inch (216 by 280 mm) three D side ring binders with durable plastic covers; 2 inch (50 mm) maximum ring size. When multiple binders are used, correlate data into related consistent groupings.

D. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.

E. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.

F. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.

G. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.

H. Text: Manufacturer's printed data, or typewritten data on 20 pound paper.

I. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

J. Arrangement of Contents: Organize each volume in parts as follows:
   1. Project Directory.
   2. Table of Contents, of all volumes, and of this volume.
   3. Operation and Maintenance Data: Arranged by system, then by product category.
      a. Source data.
      b. Product data, shop drawings, and other submittals.
      c. Operation and maintenance data.
      d. Field quality control data.
      e. Photocopies of warranties and bonds.

3.06 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

END OF SECTION

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SECTION 024100
DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Building demolition excluding removal of hazardous materials and toxic substances.

1.02 RELATED REQUIREMENTS

A. Section 011000 - Summary: Limitations on Contractor's use of site and premises.

B. Section 015000 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.

C. Section 015713 - Temporary Erosion and Sediment Control.

D. Section 017000 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.

E. Section 017419 - Construction Waste Management and Disposal: Limitations on disposal of removed materials; requirements for recycling.

F. Section 026500 - Underground Storage Tank Removal.

G. Section 312200 - Grading: Rough and fine grading.

H. Section 312323 - Fill: Fill material for filling holes, pits, and excavations generated as a result of removal operations.

1.03 DEFINITIONS

A. Demolish: Dismantle, raze, destroy, or wreck any building or structure or any part thereof.

B. Remove: Detach or dismantle items from existing construction and dispose of them off site, unless items are indicated to be salvaged or reinstalled.

C. Existing to Remain: Designation for existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.

1.04 REFERENCE STANDARDS

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.01 DEMOLITION

A. Remove the entire building designated on the drawings.

B. Within area of new construction, remove foundation walls and footings to minimum 2 feet (600 mm) below finished grade.

C. Outside area of new construction, remove foundation walls and footings to minimum 2 feet (600 mm) below finished grade.

D. Remove concrete slabs on grade within site boundaries.

E. Remove underground tanks.

F. Fill excavations, open pits, and holes in ground areas generated as result of removals, using specified fill; compact fill as specified in Section 312200.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
   1. Obtain required permits.
   2. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
   3. Provide, erect, and maintain temporary barriers and security devices.
   4. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
   5. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
   6. Do not close or obstruct roadways or sidewalks without permits from authority having jurisdiction.
   7. Conduct operations to minimize obstruction of public and private entrances and exits. Do not obstruct required exits at any time. Protect persons using entrances and exits from removal operations.
   8. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon, or limit access to their property.

B. Do not begin removal until receipt of notification to proceed from Owner.

C. Protect existing structures and other elements to remain in place and not removed.
   1. Provide bracing and shoring.
   2. Prevent movement or settlement of adjacent structures.
   3. Stop work immediately if adjacent structures appear to be in danger.

D. Minimize production of dust due to demolition operations. Do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

E. Hazardous Materials:
   1. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCBs, and mercury.

F. Underground Storage Tanks: Remove and dispose of as specified in Section 026500.

3.03 EXISTING UTILITIES

A. Coordinate work with utility companies. Notify utilities before starting work, comply with their requirements, and obtain required permits.

B. Protect existing utilities to remain from damage.

C. Do not disrupt public utilities without permit from authority having jurisdiction.

D. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.

E. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

F. Prepare building demolition areas by disconnecting and capping utilities outside the demolition zone. Identify and mark, in same manner as other utilities to remain, utilities to be reconnected.

3.04 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site.

B. Leave site in clean condition, ready for subsequent work.

C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 031000
CONCRETE FORMING AND ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Formwork for cast-in-place concrete, with shoring, bracing and anchorage.

B. Openings for other work.

C. Form accessories.

D. Form stripping.

1.02 RELATED REQUIREMENTS

A. Section 032000 - Concrete Reinforcing.

B. Section 033000 - Cast-in-Place Concrete.

1.03 REFERENCE STANDARDS

A. ACI CODE-318 - Building Code Requirements for Structural Concrete and Commentary; 2019 (Reapproved 2022).

B. ACI PRC-347 - Guide to Formwork for Concrete; 2014 (Reapproved 2021).

C. ACI SPEC-117 - Specification for Tolerances for Concrete Construction and Materials; 2010 (Reapproved 2015).

D. ACI SPEC-301 - Specifications for Concrete Construction; 2020.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on void form materials and installation requirements.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver prefabricated forms and installation instructions in manufacturer's packaging.

B. Store prefabricated forms off ground in ventilated and protected manner to prevent deterioration from moisture.

C. Protect plastic foam products from damage and exposure to sunlight.

PART 2 PRODUCTS

2.01 FORMWORK - GENERAL

A. Provide concrete forms, accessories, shoring, and bracing as required to accomplish cast-in-place concrete work.

B. Design and construct concrete that complies with design with respect to shape, lines, and dimensions.

C. Comply with applicable state and local codes with respect to design, fabrication, erection, and removal of formwork.

D. Comply with relevant portions of ACI CODE-318, ACI PRC-347, and ACI SPEC-301.

2.02 WOOD FORM MATERIALS

A. Form Materials: At the discretion of the Contractor.

2.03 REMOVABLE PREFABRICATED FORMS

A. Preformed Steel Forms: Minimum 16 gauge, 0.0598 inch (1.52 mm) thick, matched, tight fitting, stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished surfaces.

B. Void Forms: Moisture resistant treated paper faces, biodegradable, structurally sufficient to support weight of wet concrete mix until initial set; 2 inches (50 mm) thick.

2.04 FORMWORK ACCESSORIES

A. Form Ties: Removable type, galvanized metal, fixed length, cone type, with waterproofing washer, free of defects that could leave holes larger than 1 inch (25 mm) in concrete surface.

B. Embedded Anchor Shapes, Plates, Angles and Bars: As specified in Section 051200.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify lines, levels and centers before proceeding with formwork. Ensure that dimensions agree with drawings.

3.02 ERECTION - FORMWORK

A. Erect formwork, shoring and bracing to achieve design requirements, in accordance with requirements of ACI SPEC-301.

B. Provide bracing to ensure stability of formwork. Shore or strengthen formwork subject to overstressing by construction loads.

C. Install void forms in accordance with manufacturer's recommendations. Protect forms from moisture or crushing.

3.03 INSERTS, EMBEDDED PARTS, AND OPENINGS

A. Provide formed openings where required for items to be embedded in passing through concrete work.

B. Locate and set in place items that will be cast directly into concrete.

C. Coordinate with work of other sections in forming and placing openings, slots, reglets, recesses, sleeves, bolts, anchors, other inserts, and components of other work.

D. Install accessories in accordance with manufacturer's instructions, so they are straight, level, and plumb. Ensure items are not disturbed during concrete placement.

3.04 FORMWORK TOLERANCES

A. Construct formwork to maintain tolerances required by ACI SPEC-117, unless otherwise indicated.

3.05 FORM REMOVAL

A. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and imposed loads.

B. Loosen forms carefully. Do not wedge pry bars, hammers, or tools against finish concrete surfaces scheduled for exposure to view.

C. Store removed forms to prevent damage to form materials or to fresh concrete. Discard damaged forms.

END OF SECTION

SECTION 032000
CONCRETE REINFORCING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Reinforcing steel for cast-in-place concrete.

B. Supports and accessories for steel reinforcement.

1.02 RELATED REQUIREMENTS

A. Section 031000 - Concrete Forming and Accessories.

B. Section 033000 - Cast-in-Place Concrete.

1.03 REFERENCE STANDARDS

A. ACI SPEC-301 - Specifications for Concrete Construction; 2020.

B. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2025.

C. ASTM A706/A706M - Standard Specification for Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement; 2025.

D. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2024.

E. CRSI (DA4) - Manual of Standard Practice; 2024.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

1.05 QUALITY ASSURANCE

A. Perform work of this section in accordance with ACI SPEC-301.

PART 2 PRODUCTS

2.01 REINFORCEMENT

A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi) (420 MPa).
   1. Plain billet-steel bars.
   2. Unfinished.

B. Reinforcing Steel: ASTM A706/A706M, deformed low-alloy steel bars.
   1. Unfinished.

C. Steel Welded Wire Reinforcement (WWR): Galvanized, deformed type; ASTM A1064/A1064M.
   1. Form: Coiled Rolls.
   2. WWR Style: As indicated on drawings.

D. Reinforcement Accessories:
   1. Tie Wire: Annealed, minimum 16 gauge, 0.0508 inch (1.29 mm).
   2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.
   3. Provide stainless steel components for placement within 1-1/2 inches (38 mm) of weathering surfaces.

2.02 FABRICATION

A. Fabricate concrete reinforcing in accordance with CRSI (DA4) - Manual of Standard Practice.

B. Welding of reinforcement is not permitted.

PART 3 EXECUTION

3.01 PLACEMENT

A. Place, support and secure reinforcement against displacement. Do not deviate from required position.

B. Do not displace or damage vapor barrier.

C. Accommodate placement of formed openings.

D. Maintain concrete cover around reinforcing as follows:
   1. Walls (exposed to weather or backfill): 1.5 inch (____ mm).
   2. Footings and Concrete Formed Against Earth: 3 inch (____ mm).
   3. Slabs on Fill: 2 inch (____ mm).

E. Comply with applicable code for concrete cover over reinforcement.

END OF SECTION

SECTION 033000
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Floors and slabs on grade.

B. Concrete foundation walls.

C. Concrete curing.

1.02 RELATED REQUIREMENTS

A. Section 031000 - Concrete Forming and Accessories: Forms and accessories for formwork.

B. Section 032000 - Concrete Reinforcing.

1.03 REFERENCE STANDARDS

A. ACI CODE-318 - Building Code Requirements for Structural Concrete and Commentary; 2019 (Reapproved 2022).

B. ACI PRC-211.1 - Selecting Proportions for Normal-Density and High Density-Concrete - Guide; 2022.

C. ACI PRC-302.1 - Guide to Concrete Floor and Slab Construction; 2015.

D. ACI PRC-304 - Guide for Measuring, Mixing, Transporting, and Placing Concrete; 2000 (Reapproved 2009).

E. ACI PRC-305 - Guide to Hot Weather Concreting; 2020.

F. ACI PRC-306 - Guide to Cold Weather Concreting; 2016.

G. ACI PRC-347 - Guide to Formwork for Concrete; 2014 (Reapproved 2021).

H. ACI SPEC-117 - Specification for Tolerances for Concrete Construction and Materials; 2010 (Reapproved 2015).

I. ACI SPEC-301 - Specifications for Concrete Construction; 2020.

J. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2024a.

K. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2024.

L. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2025a.

M. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic-Cement Concrete; 2020.

N. ASTM C150/C150M - Standard Specification for Portland Cement; 2024.

O. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete; 2024.

P. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete; 2025.

Q. ASTM C618 - Standard Specification for Coal Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2025a.

R. ASTM C685/C685M - Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing; 2025.

S. ASTM C1240 - Standard Specification for Silica Fume Used in Cementitious Mixtures; 2020.

T. ASTM C1602/C1602M - Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete; 2022.

U. ASTM E1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs; 2024.

V. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs; 2017 (Reapproved 2023).

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.

C. Mix Design: Submit proposed concrete mix design.
   1. Indicate proposed mix design complies with requirements of ACI 301, Section 4 - Concrete Mixtures and structural general notes.

D. Samples: Submit samples of underslab vapor retarder to be used.

E. Test Reports: Submit report for each test or series of tests specified.

F. Manufacturer's Installation Instructions: For concrete accessories, indicate installation procedures and interface required with adjacent construction.

1.05 QUALITY ASSURANCE

A. Perform work of this section in accordance with ACI SPEC-301 and ACI CODE-318.

B. Follow recommendations of ACI PRC-305 when concreting during hot weather.

C. Follow recommendations of ACI PRC-306 when concreting during cold weather.

1.06 WARRANTY

A. See Section 017800 - Closeout Submittals for additional warranty requirements.

PART 2 PRODUCTS

2.01 FORMWORK

A. Formwork Design and Construction: Comply with guidelines of ACI PRC-347 to provide formwork that will produce concrete complying with tolerances of ACI SPEC-117.

B. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
   1. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches (38 mm) of concrete surface.

2.02 REINFORCEMENT MATERIALS

A. Comply with requirements of Section 032000.

2.03 CONCRETE MATERIALS

A. Cement: ASTM C150/C150M, Type I - Normal Portland type.
   1. Acquire cement for entire project from same source.

B. Fine and Coarse Aggregates: ASTM C33/C33M.
   1. Acquire aggregates for entire project from same source.

C. Fly Ash: ASTM C618, Class C or F.

D. Calcined Pozzolan: ASTM C618, Class N.

E. Silica Fume: ASTM C1240, proportioned in accordance with ACI PRC-211.1.

F. Water: ASTM C1602/C1602M; clean, potable, and not detrimental to concrete.

2.04 ADMIXTURES

A. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.

B. Air Entrainment Admixture: ASTM C260/C260M.

2.05 ACCESSORY MATERIALS

A. Underslab Vapor Retarder:

1. Sheet Material: ASTM E1745, Class A; stated by manufacturer as suitable for installation in contact with soil or granular fill under concrete slabs. Single-ply polyethylene is prohibited.
2. Accessory Products: Vapor retarder manufacturer's recommended tape, adhesive, mastic, prefabricated boots, etc., for sealing seams and penetrations.
3. Products:
    a. FullForce by ABC Polymers Industries, LLC; VaporForce - 15 Mil: www.fullforcesolutions.us/#sle.
    b. Henry, a Carlisle Company; Moistop Ultra 15: www.henry.com/#sle.
    c. ISI Building Products; Viper VaporCheck II 15-mil (Class A): www.isibp.com/#sle.
    d. Poly-America; Husky Yellow Guard 15-mil Vapor Barrier: www.yellowguard.com/#sle.
    e. Stego Industries, LLC: www.stegoindustries.com/#sle.
    f. Tex-Trude, LP; Xtreme Vapor Barrier (15-mil): www.tex-trude.com/#sle.
    g. W. R. Meadows, Inc; PERMINATOR Class A - 15 mils (0.38 mm): www.wrmeadows.com/#sle.
    h. Substitutions: See Section 016000 - Product Requirements.

2.06 CURING MATERIALS

A. Curing Compound, Non-Dissipating: Liquid, membrane-forming, clear, nonyellowing acrylic; complying with ASTM C309.
    1. Vehicle: Water-based.
    2. Gloss: Low.
    3. Solids by Mass: 15 percent, minimum.
    4. VOC Content: OTC compliant.
    5. Products:
        a. Kaufman Products Inc; Krystal 15 Emulsion: www.kaufmanproducts.net/#sle.
        b. SpecChem, LLC; Cure and Seal WB 25: www.specchemllc.com/#sle.
        c. W. R. Meadows, Inc; VOCOMP-20: www.wrmeadows.com/#sle.
        d. TCC Materials: ProSpec Cure & Seal WB: www.tccmaterials.com.
        e. Substitutions: See Section 016000 - Product Requirements.

2.07 CONCRETE MIX DESIGN

A. Proportioning Normal Weight Concrete: Comply with ACI PRC-211.1 recommendations.
    1. Replace as much Portland cement as possible with fly ash, ground granulated blast furnace slag, silica fume, or rice hull ash as is consistent with ACI recommendations.

B. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI SPEC-301.
    1. For trial mixtures method, employ independent testing agency acceptable to Architect for preparing and reporting proposed mix designs.

C. Admixtures: Add acceptable admixtures as recommended in ACI PRC-211.1 and at rates recommended or required by manufacturer.

D. Normal Weight Concrete:
    1. Compressive strength as indicated in structural notes.
    2. Fly Ash Content: Maximum 15 percent of cementitious materials by weight.
    3. Calcined Pozzolan Content: Maximum 10 percent of cementitious materials by weight.
    4. Silica Fume Content: Maximum 5 percent of cementitious materials by weight.
    5. Water-Cement Ratio: As indicated in structural notes.
    6. Total Air Content: As indicated in structural notes.
    7. Maximum Slump: 3 inches (75 mm).
    8. Maximum Aggregate Size: 5/8 inch (16 mm).

2.08 MIXING

A. On Project Site: Mix in drum type batch mixer, complying with ASTM C685/C685M. Mix each batch not less than 1-1/2 minutes and not more than 5 minutes.

B. Transit Mixers: Comply with ASTM C94/C94M.

C. Adding Water: If concrete arrives on-site with slump less than suitable for placement, do not add water that exceeds the maximum water-cement ratio or exceeds the maximum permissible slump.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 PREPARATION

A. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning and applying bonding agent in according to bonding agent manufacturer's instructions.
   1. Use epoxy bonding system for bonding to damp surfaces, for structural load-bearing applications, and where curing under humid conditions is required.
   2. Use latex bonding agent only for non-load-bearing applications.

B. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout.

C. Interior Slabs on Grade: Install vapor retarder under interior slabs on grade. Comply with ASTM E1643. Lap joints minimum 6 inches (150 mm). Seal joints, seams and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions. Repair damaged vapor retarder before covering.

3.03 PLACING CONCRETE

A. Place concrete in accordance with ACI PRC-304.

B. Place concrete for floor slabs in accordance with ACI PRC-302.1.

C. Notify Architect not less than 24 hours prior to commencement of placement operations.

D. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.

E. Ensure reinforcement, inserts, waterstops, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.

F. Place concrete continuously without construction (cold) joints wherever possible; where construction joints are necessary, before next placement prepare joint surface by removing laitance and exposing the sand and sound surface mortar, by sandblasting or high-pressure water jetting.

G. Finish floors level and flat, unless otherwise indicated, within the tolerances specified below.

3.04 SLAB JOINTING

A. Locate joints as indicated on drawings. Where not indicated use 10 ftx10 ft. max. spacing.

B. Anchor joint fillers and devices to prevent movement during concrete placement.

C. Isolation Joints: Use preformed joint filler with removable top section for joint sealant, total height equal to thickness of slab, set flush with top of slab.

3.05 FLOOR FLATNESS AND LEVELNESS TOLERANCES

A. Maximum Variation of Surface Flatness:
   1. Exposed Concrete Floors: 1/4 inch (6 mm) in 10 feet (3 m).
   2. Under Seamless Resilient Flooring: 1/4 inch (6 mm) in 10 feet (3 m).
   3. Under Carpeting: 1/4 inch (6 mm) in 10 feet (3 m).

B. Correct the slab surface if tolerances are less than specified.

C. Correct defects by grinding or by removal and replacement of the defective work. Areas requiring corrective work will be identified. Re-measure corrected areas by the same process.

3.06 CONCRETE FINISHING

A. Repair surface defects, including tie holes, immediately after removing formwork.

B. Unexposed Form Finish: Rub down or chip off fins or other raised areas 1/4 inch (6 mm) or more in height.

C. Concrete Slabs: Finish to requirements of ACI PRC-302.1 and as follows:
   1. Surfaces to Receive Thick Floor Coverings: "Wood float" as described in ACI PRC-302.1; thick floor coverings include quarry tile, ceramic tile, and Portland cement terrazzo with full bed setting system.
   2. Surfaces to Receive Thin Floor Coverings: "Steel trowel" as described in ACI PRC-302.1; thin floor coverings include carpeting, resilient flooring, seamless flooring, resinous matrix terrazzo, thin set quarry tile, and thin set ceramic tile.
   3. Other Surfaces to Be Left Exposed: Trowel as described in ACI PRC-302.1, minimizing burnish marks and other appearance defects.

3.07 CURING AND PROTECTION

A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury. Follow hot/cold weather placement requirements per ACI 301/ACI 306.1/ACI 305.1 as conditions occur.

B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

C. Surfaces Not in Contact with Forms:
   1. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by water ponding, water-saturated sand, water-fog spray, or saturated burlap.
   2. Final Curing: Begin after initial curing but before surface is dry.

3.08 FIELD QUALITY CONTROL

A. An independent testing agency will perform field quality control tests, as specified in Section 014000 - Quality Requirements.

B. Provide free access to concrete operations at project site and cooperate with appointed firm.

C. Tests of concrete and concrete materials may be performed at any time to ensure compliance with specified requirements.

D. Compressive Strength Tests: ASTM C39/C39M, for each test, mold and cure at least three concrete test cylinders for each day. Obtain test samples for every 50 cubic yards (38 cu m) or less of each class of concrete placed.

E. Take one additional test cylinder during cold weather concreting, cured on job site under same conditions as concrete it represents.

F. Perform one slump test for each set of test cylinders taken, following procedures of ASTM C143/C143M.

3.09 DEFECTIVE CONCRETE

A. Defective Concrete: Concrete not complying with required lines, details, dimensions, tolerances or specified requirements.

B. Repair or replacement of defective concrete will be determined by the Architect. The cost of additional testing shall be borne by Contractor when defective concrete is identified.

3.10 PROTECTION

A. Do not permit traffic over unprotected concrete floor surface until fully cured.

END OF SECTION

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SECTION 061000
ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Structural dimension lumber framing.

B. Nonstructural dimension lumber framing.

C. Rough opening framing for doors, windows, and roof openings.

D. Sheathing.

E. Roof-mounted curbs.

F. Roofing nailers.

G. Roofing cant strips.

H. Fire retardant treated wood materials.

I. Miscellaneous framing and sheathing.

J. Communications and electrical room mounting boards.

K. Concealed wood blocking, nailers, and supports.

L. Miscellaneous wood nailers, furring, and grounds.

1.02 RELATED REQUIREMENTS

A. Section 055000 - Metal Fabrications: Miscellaneous steel connectors and support angles for wood framing.

B. Section 076200 - Sheet Metal Flashing and Trim: Sill flashings.

1.03 REFERENCE STANDARDS

A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2023.

B. ASTM B695 - Standard Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel; 2021.

C. AWC (WFCM) - Wood Frame Construction Manual for One- and Two-Family Dwellings; 2024, with Errata.

D. AWPA U1 - Use Category System: User Specification for Treated Wood; 2025.

E. ITS (DIR) - Directory of Listed Products; Current Edition.

F. PS 2 - Performance Standard for Wood Structural Panels; 2019.

G. PS 20 - American Softwood Lumber Standard; 2025.

H. UL (DIR) - Online Certifications Directory; Current Edition.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide technical data on application instructions.

C. Product Data: Submit technical data on wood treatment.

1.05 DELIVERY, STORAGE, AND HANDLING

A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

B. Fire Retardant Treated Wood: Prevent exposure to precipitation during shipping, storage, and installation.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
   1. If no species is specified, provide species graded by the agency specified; if no grading agency is specified, provide lumber graded by grading agency meeting the specified requirements.
   2. Grading Agency: Grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee at www.alsc.org, and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

A. Sizes: Nominal sizes as indicated on drawings, S4S.

B. Moisture Content: S-dry or MC19.

C. Stud Framing (2 by 2 through 2 by 6 (50 by 50 mm through 50 by 150 mm)):
   1. Species: Allowed under referenced grading rules.
   2. Grade: No. 2.

2.03 EXPOSED DIMENSION LUMBER

A. Sizes: Nominal sizes as indicated on drawings.

B. Surfacing: S4S.

C. Moisture Content: S-dry or MC19.

D. Stud Framing (2 by 2 through 2 by 6 (50 by 50 through 50 by 150 mm)):
   1. Species: Douglas Fir.
   2. Grade: Clear.

2.04 CONSTRUCTION PANELS

A. Wall Sheathing: PS 2 type.
   1. Bond Classification: Exterior.
   2. Grade: Structural I Sheathing.
   3. Span Rating: 24.
   4. Performance Category: 5/16 PERF CAT.
   5. Edge Profile: Square edge.

2.05 FIRE-RETARDANT TREATMENT (FRT)

A. Factory-treat wood members in accordance with AWPA U1 and use category indicated.

B. Kiln-dry after treatment (KDAT) to maximum moisture content of 19 percent for sawn material and 15 percent for plywood.

C. Fabrication of FRT Wood:
   1. Ripping or milling of boards, lumber, and timber after treatment is not permitted.
   2. Field cutting to length and drilling of holes in boards, lumber, and timber are permitted without additional treatment.
   3. Field cutting and drilling of holes in plywood are permitted.

D. Label or brand FRT wood with classification mark of UL (DIR) or ITS (DIR) or other approved inspection agency, the treatment plant, name of treatment, species of wood, flame spread and smoke developed index, method of drying after treatment, and treating standard.

2.06 ACCESSORIES

A. Metal and Finish of Fasteners:
   1. Fire-Retardant-Treated Wood:
      a. Nails, timber rivets, wood screws, and lag screws: Hot-dip galvanized steel complying with ASTM A153/A153M Class D.

b. Fasteners other than staples, nails, timber rivets, wood screws, and lag screws: Mechanically deposited zinc-coated steel, ASTM B695 Class 55 or better.

2. Untreated Wood: Unfinished steel.

PART 3 EXECUTION

3.01 PREPARATION

A. Coordinate installation of rough carpentry members specified in other sections.

3.02 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

3.03 FRAMING INSTALLATION

A. Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.

B. Make provisions for temporary construction loads, and provide temporary bracing sufficient to maintain structure in true alignment and safe condition until completion of erection and installation of permanent bracing.

C. Install structural members full length without splices unless otherwise specifically detailed.

D. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes and AWC (WFCM) Wood Frame Construction Manual.

E. Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists; use metal joist hangers unless otherwise detailed.

F. Frame wall openings with two or more studs at each jamb; support headers on cripple studs.

3.04 BLOCKING, NAILERS, AND SUPPORTS

A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

B. In metal stud walls, provide continuous blocking around door and window openings for anchorage of frames, securely attached to stud framing.

3.05 ROOF-RELATED CARPENTRY

A. Coordinate installation of roofing carpentry with deck construction, framing of roof openings, and roofing assembly installation.

3.06 INSTALLATION OF CONSTRUCTION PANELS

A. Roof Sheathing: Secure panels with long dimension perpendicular to framing members, with ends staggered and over firm bearing.

1. Nail panels to framing; staples are not permitted.

B. Wall Sheathing: Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using nails, screws, or staples.

3.07 TOLERANCES

A. Framing Members: 1/4 inch (6 mm) from true position, maximum.

B. Variation from Plane, Other than Floors: 1/4 inch in 10 feet (2 mm/m) maximum, and 1/4 inch in 30 feet (7 mm in 10 m) maximum.

3.08 CLEANING

A. Waste Disposal: See Section 017419 - Construction Waste Management and Disposal.

1. Comply with applicable regulations.
2. Do not burn scrap on project site.
3. Do not burn scraps that have been pressure treated.

4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or “waste-to-energy” facilities.

B. Do not leave wood, shavings, sawdust, etc. on the ground or buried in fill.

C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION

SECTION 072100
THERMAL INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Board insulation at perimeter foundation wall.

B. Batt insulation for filling perimeter window and door shim spaces and crevices in exterior wall and roof.

1.02 RELATED REQUIREMENTS

A. Section 075300 - Elastomeric Membrane Roofing: Installation requirements for board insulation over low slope roof deck.

1.03 REFERENCE STANDARDS

A. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation; 2023.

B. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2024.

C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2025.

D. ASTM E136 - Standard Test Method for Assessing Combustibility of Materials Using a Vertical Tube Furnace at 750 Degrees C; 2024c.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide data on product characteristics, performance criteria, and product limitations.

C. Manufacturer's Installation Instructions: Include information on special environmental conditions required for installation and installation techniques.

1.05 FIELD CONDITIONS

A. Do not install insulation adhesives when temperature or weather conditions are detrimental to successful installation.

PART 2 PRODUCTS

2.01 APPLICATIONS

A. Insulation at Perimeter of Foundation: Extruded polystyrene (XPS) board.

B. Insulation in Metal Framed Walls: Batt insulation with no vapor retarder.

2.02 FOAM BOARD INSULATION MATERIALS

A. Extruded Polystyrene (XPS) Board Insulation: Comply with ASTM C578 with either natural skin or cut cell surfaces.
   1. Flame Spread Index (FSI): Class A - 0 to 25, when tested in accordance with ASTM E84.
   2. Smoke Developed Index (SDI): 450 or less, when tested in accordance with ASTM E84.
   3. Type and Thermal Resistance, R-value (RSI-value): Type IV, 5.0 (0.88), minimum, per 1 inch (25.4 mm) thickness at 75 degrees F (24 degrees C) mean temperature.
   4. Board Edges: Square.
   5. Products:
      a. Owens Corning Corporation: www.owenscorning.com/en-us/#sle.
      b. Substitutions: See Section 016000 - Product Requirements.

2.03 MINERAL FIBER BLANKET INSULATION MATERIALS

A. Flexible Glass Fiber Blanket Thermal Insulation: Preformed insulation, complying with ASTM C665; friction fit.
   1. Flame Spread Index: 75 or less, when tested in accordance with ASTM E84.

2. Smoke Developed Index: 450 or less, when tested in accordance with ASTM E84.
3. Combustibility: Non-combustible, when tested in accordance with ASTM E136.
4. Formaldehyde Content: Zero.
5. Products:
    a. CertainTeed Corporation: www.certainteed.com/#sle.
    b. Johns Manville: www.jm.com/#sle.
    c. Knauf Insulation: www.knaufinsulation.com/#sle.
    d. Owens Corning Corporation; EcoTouch PINK FIBERGLAS Insulation: www.owenscorning.com/en-us/#sle.
    e. Substitutions: See Section 016000 - Product Requirements.

2.04 ACCESSORIES

A. Sheet Vapor Retarder: See Section 072600.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrate, adjacent materials, and insulation materials are dry and that substrates are ready to receive insulation.

B. Verify substrate surfaces are flat, free of honeycomb, fins, irregularities, or materials or substances that may impede adhesive bond.

3.02 BOARD INSTALLATION AT FOUNDATION PERIMETER

A. Install boards horizontally on foundation perimeter.
    1. Install in running bond pattern.
    2. Butt edges and ends tightly to adjacent boards and to protrusions.

B. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.

3.03 BATT INSTALLATION

A. Install insulation in accordance with manufacturer's instructions.

B. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.

C. Fit insulation tightly in cavities and tightly to exterior side of mechanical and electrical services within the plane of the insulation.

3.04 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements for additional requirements.

3.05 PROTECTION

A. Do not permit installed insulation to be damaged prior to its concealment.

END OF SECTION

SECTION 079200
JOINT SEALANTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Nonsag gunnable joint sealants.

B. Joint backings and accessories.

1.02 REFERENCE STANDARDS

A. ASTM C834 - Standard Specification for Latex Sealants; 2017 (Reapproved 2023).

B. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018 (Reapproved 2024).

C. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2025.

D. ASTM C1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants; 2022.

E. SCAQMD 1168 - Adhesive and Sealant Applications; 1989, with Amendment (2022).

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Submit manufacturer's technical datasheets for each product to be used; include the following:
   1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
   2. List of backing materials approved for use with the specific product.
   3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
   4. Substrates the product should not be used on.
   5. Installation instructions, including precautions, limitations, and recommended backing materials and tools.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Nonsag Sealants:
   1. Adhesives Technology Corporation: www.atcepoxy.com/#sle.
   2. Bostik Inc: www.bostik-us.com/#sle.
   3. Dow Chemical Company: consumer.dow.com/en-us/industry/ind-building-construction.html/#sle.
   4. Fortifiber Building Systems Group: www.fortifiber.com/#sle.
   5. Franklin International, Inc: www.titebond.com/#sle.
   6. Hilti, Inc: www.us.hilti.com/#sle.
   7. Master Builders Solutions by BASF: www.master-builders-solutions.basf.us/en-us/#sle.
   8. Momentive Performance Materials, Inc (formerly GE Silicones): www.momentive.com/#sle.
   9. Pecora Corporation: www.pecora.com/#sle.
   10. QUIKRETE Companies: www.quikrete.com/#sle.
   11. Sherwin-Williams Company: www.sherwin-williams.com/#sle.
   12. Sika Corporation: www.usa-sika.com/#sle.
   13. Specified Technologies Inc: www.stifirestop.com/#sle.
   14. Tremco Commercial Sealants & Waterproofing: www.tremcosealants.com/#sle.
   15. W.R. Meadows, Inc: www.wrmeadows.com/#sle.
   16. Substitutions: See Section 016000 - Product Requirements.

2.02 JOINT SEALANT APPLICATIONS

A. Scope:
   1. Do Not Seal:

a. Intentional weep holes in masonry.
b. Joints indicated to be covered with expansion joint cover assemblies.
c. Joints where sealant is specified to be furnished and installed by manufacturer of product to be sealed.
d. Joints where sealant installation is specified in other sections.
e. Joints between suspended ceilings and walls.

B. Exterior Joints: Use non-sag non-staining silicone sealant, unless otherwise indicated.

C. Interior Joints: Use non-sag polyurethane sealant, unless otherwise indicated.
1. Wall and Ceiling Joints in Non-Wet Areas: Acrylic emulsion latex sealant.
2. Joints between Fixtures in Wet Areas and Floors, Walls, and Ceilings: Mildew-resistant silicone sealant; white.

2.03 JOINT SEALANTS - GENERAL

A. Sealants and Primers: Provide products having lower volatile organic compound (VOC) content than indicated in SCAQMD 1168.

2.04 NONSAG JOINT SEALANTS

A. Non-Staining Silicone Sealant: ASTM C920, Grade NS, Uses M and A; not expected to withstand continuous water immersion or traffic.
1. Movement Capability: Plus and minus 25 percent, minimum.
2. Nonstaining to Porous Stone: Nonstaining to light-colored natural stone when tested in accordance with ASTM C1248.
3. Dirt Pick-Up: Reduced dirt pick-up compared to other silicone sealants.
4. Color: To be selected by Architect from manufacturer's standard range.
5. Cure Type: Single-component, neutral moisture curing.
6. Service Temperature Range: Minus 20 to 180 degrees F (Minus 29 to 82 degrees C).
7. Products:
a. Dow; DOWSIL 795 Silicone Building Sealant, Carbon Neutral: www.dow.com/#sle.
b. Sika Corporation; Sikasil WS-295: usa.sika.com/#sle.
c. Tremco Commercial Sealants & Waterproofing; Tremsil 400: www.tremcosealants.com/#sle.
d. Substitutions: See Section 016000 - Product Requirements.

B. Mildew-Resistant Silicone Sealant: ASTM C920, Grade NS, Uses M and A; single component, mildew resistant; not expected to withstand continuous water immersion or traffic.
1. Color: White.
2. Products:
a. Pecora Corporation: www.pecora.com/#sle.
b. Sika Corporation; Sikasil GP: usa.sika.com/#sle.
c. Substitutions: See Section 016000 - Product Requirements.

C. Polyurethane Sealant: ASTM C920, Grade NS, Uses M and A; single or multi-component; not expected to withstand continuous water immersion or traffic.
1. Movement Capability: Plus and minus 25 percent, minimum.
2. Color: To be selected by Architect from manufacturer's standard range.
3. Service Temperature Range: Minus 40 to 180 degrees F (Minus 40 to 82 degrees C).
4. Products:
a. Pecora Corporation: www.pecora.com/#sle.
b. Sherwin-Williams Company; Stampede 2NS Polyurethane Sealant: www.sherwin-williams.com/#sle.
c. Sika Corporation; Sikaflex-2c NS EZ Mix+: usa.sika.com/#sle.
d. Tremco Commercial Sealants & Waterproofing; Dymonic 100: www.tremcosealants.com/#sle.
e. W. R. Meadows, Inc; POURTHANE NS: www.wrmeadows.com/#sle.
f. Substitutions: See Section 016000 - Product Requirements.

D. Acrylic Emulsion Latex: Water-based; ASTM C834, single component, non-staining, non-bleeding, non-sagging; not intended for exterior use.
   1. Color: To be selected by Architect from manufacturer's standard range.
   2. Grade: ASTM C834; Grade 0 Degrees F (Minus 18 Degrees C).
   3. Products:
      a. Hilti, Inc; CP 506 Smoke and Acoustical Sealant: www.us.hilti.com/#sle.
      b. Sherwin-Williams Company; White Lightning 3006 Siliconized Acrylic Latex Caulk: www.sherwin-williams.com/#sle.
      c. Top Gun, a brand of PPG Architectural Coatings; Top Gun 200: www.pittsburghpaintsco.com/#sle.
      d. Tremco Commercial Sealants & Waterproofing; Tremstop Smoke and Sound: www.tremcosealants.com/#sle.
      e. Substitutions: See Section 016000 - Product Requirements.

2.05 ACCESSORIES

A. Backer Rod: Cylindrical cellular foam rod with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.
   1. Manufacturers:
      a. Nomaco, Inc: www.nomaco.com/#sle.

B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.

C. Primers: Type recommended by sealant manufacturer to suit application; nonstaining.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that joints are ready to receive work.

B. Verify that backing materials are compatible with sealants.

C. Verify that backer rods are of the correct size.

3.02 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.

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

C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

3.03 INSTALLATION

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

B. Provide joint sealant installations complying with ASTM C1193.

C. Install bond breaker backing tape where backer rod cannot be used.

D. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.

E. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.

F. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

3.04 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements for additional requirements.

B. Perform field quality control inspection/testing as specified in PART 1 under QUALITY ASSURANCE article.

C. Remove and replace failed portions of sealants using same materials and procedures as indicated for original installation.

END OF SECTION

SECTION 080671
DOOR HARDWARE SCHEDULE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Preliminary schedule of door hardware sets for swinging as indicated on drawings.

1.02 RELATED REQUIREMENTS

A. Section 087100 - Door Hardware: Requirements to comply with in coordination with this section.

1.03 REFERENCE STANDARDS

A. BHMA A156.5 - Cylinders and Input Devices for Locks; 2020.

B. BHMA A156.18 - Standard for Materials and Finishes; 2020.

C. DHI (H&S) - Sequence and Format for the Hardware Schedule; 2019.

1.04 PROJECT INFORMATION

A. Project Name: Medford Maintenance Facility.

B. Architect: Oleson + Hobbie Architects, LLC.

C. Contractor: To Be Determined.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Comply with submittal requirements as indicated in Section 087100.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Only manufacturers listed in Door Hardware Schedule or Section 087100 are considered acceptable, unless noted otherwise.

B. Obtain each type of door hardware as indicated from a single manufacturer and single supplier.

C. Manufacturer's Abbreviations: Coordinate with manufacturers listed in Section 087100.
   1. AR - Adams Rite.
   2. BAS - Best Access Systems.
   3. CR - Corbin Russwin.
   4. CUR - Curries.
   5. DMA - Dorma.
   6. FC - Falcon.
   7. GJ - Glynn Johnson.
   8. HGR - Hager.
   9. HIA - Hiawatha.
   10. IVE - Ives.
   11. LCN - LCN.
   12. McK - McKinney.
   13. NGP - National Guard Products.
   14. NOR - Norton.
   15. PEM - Pemko.
   16. PH - Precision Hardware.
   17. RIX - Rixson.
   18. ROC - Rockwood.
   19. SA - Sargent.
   20. SCH - Schlage.
   21. SDC - Stanley Door Closers.

22. SH - Stanley Hinges.
23. STH - Stanley Commercial Hardware.
24. TR - Trimco.
25. VD - Von Duprin.
26. YA - Yale.

2.02 DESCRIPTION

A. Door hardware sets provided represent the design intent, they are only a guideline and should not be considered a detailed or complete hardware schedule.
   1. Provide door hardware item(s) as required for similar purposes, even when item is not listed for a door in Door Hardware Schedule.
   2. Necessary items that are not included in a Hardware Set should be added and have the appropriate additional hardware as required for proper application and functionality.
   3. Door hardware supplier is responsible for providing proper size and hand of door for products required in accordance with Door Hardware Schedule and as indicated on drawings.
   4. Quantities listed are for each Pair (PR) of doors, or for each Single (SGL) door, as indicated in hardware sets.

2.03 LOCK FUNCTION CODES

A. Function Codes for Cylindrical Locks: Complying with BHMA A156.5.
   1. Code F82; Entry Lock: Push button locking. Button on inside locks outside lever until unlocked by key or by rotating the inside lever. Inside lever always free. Deadlocking latch bolt.
   2. Code F86; Storeroom Lock: Outside lever always locked/rigid. Latchbolt retracted by key in outside knob/lever or by rotating inside lever. Inside lever always free. Deadlocking latchbolt.

2.04 FINISHES

A. Finishes: Complying with BHMA A156.18.
   1. Code 626: Satin chromium plated over nickel, with brass or bronze base material (former US equivalent US26D).

PART 3 EXECUTION

3.01 DOOR HARDWARE SCHEDULE

A. Organize listing of door hardware components within each hardware set in compliance with 10-Part scheduling sequence indicated in DHI (H&S), unless otherwise indicated.

3.02 HARDWARE SET # [01]: OFFICE FUNCTION

A. For use on Door Number(s): [105.1, 109.1, 109.2, 110.1, 111.1, 115.1, 116.1, 117.1, 117.2, 118.1, 119.1, 120.1, 121.1, 122.1, 124.1, 125.1, 126.1, 126.2, 130.1, 131].

B. Provide for each Single (SGL) door.

UNITS	ITEM	DESCRIPTION	FINISH	MFR
3 Each	Hinges	BB1279 4-1/2"x4-1/2"	626	Hager
1 Each	Passage Latchset	ND10S RHO	626	Schlage

1 Each	Wall Stop	236	626	Hager
1 Set	Gasketing			

3.03 HARDWARE SET # [02]: STORAGE/MECHANICAL/ELECTRICAL

A. For use on Door Numbers: [113.1, 114.1, 127.1, 133.1].

B. Provide for each Single (SGL) door.

UNITS	ITEM	DESCRIPTION	FINISH	MFR
3 Each	Hinges	BB1279 4-1/2"x4-1/2"	626	Hager
1 Each	Classroom Lockset	ND70	626	Schlage
1 Each	Closer w/stop	4040XP CUSH	626	LCN
1 Set	Gasketing			
1 Each	Wall Stop	236	626	Hager

3.04 HARDWARE SET # [03]: PRIVACY FUNCTION

A. For use on Door Numbers: [107.1, 108.11].

B. Provide for each Single (SGL) door.

UNITS	ITEM	DESCRIPTION	FINISH	MFR
3 Each	Hinges	BB1279 4-1/2"x4-1/2"	626	Hager
1 Each	Push Plate	8200 4"x16"	626	Ives
1 Each	Pull	8303-8 3.5"x15"	626	Ives
1 Each	Closer w/stop	4040XP CUSH	626	LCN
1 Set	Gasketing			
1 Each	Wall Stop	236	626	Hager

3.05 HARDWARE SET # [04]: CLASSROOM FUNCTION

A. For use on Door Numbers: [106.1, 135.1, 136.1, 141.1, 146.1].

B. Provide for each Single (SGL) door.

UNITS	ITEM	DESCRIPTION	FINISH	MFR
3 Each	Hinges	BB1279 4-1/2"x4-1/2"	626	Hager
1 Each	Classroom Lockset	ND70	626	Schlage
1 Each	Closer w/stop	4040XP CUSH	626	LCN
1 Set	Gasketing			

1 Each	Wall Stop	236	626	Hager

3.06 HARDWARE SET # [05]: ENTRY FUNCTION

A. For use on Door Numbers: [101.1, 123.1, 145.1, 145.41].

B. Provide for each Single (SGL) door.

UNITS	ITEM	DESCRIPTION	FINISH	MFR
3Each	Hinges	BB1199 4-1/2"x4-1/2" NRP	626	Hager
1 Each	Exit Device	9847NL 996L	626	Von Duprin
1 Each	Closer w/stop	4041XP CUSH	626	LCN
1 Each	Drop Plate	4041XP-18	626	LCN
1 Each	Spacer	4041XP-61	626	
1 Each	Shoe	4041XP-30	626	
1 Each	Threshold	171D x 36"	626	Pemko
1 Each	Sweep	315RD	626	Pemko
1 Set	Weatherstrip			

3.07 HARDWARE SET # [06]: ENTRY FUNCTION

A. For use on Door Numbers: [123.2, 145.2].

B. Provide for each Single (SGL) door.

UNITS	ITEM	DESCRIPTION	FINISH	MFR
3Each	Hinges	BB1199 4-1/2"x4-1/2" NRP	626	Hager
1 Each	Exit Device	9847NL 996L	626	Von Duprin
1 Each	Closer w/stop	4041XP CUSH	626	LCN
1 Each	Drop Plate	4041XP-18	626	LCN
1 Each	Spacer	4041XP-61	626	
1 Each	Shoe	4041XP-30	626	
1 Each	Sweep	315RD	626	Pemko

3.08 HARDWARE SET # [07]: PASSAGE FUNCTION

A. For use on Door Numbers: [129.1, 132.1, 145.31].

B. Provide for each Single (SGL) door.

UNITS	ITEM	DESCRIPTION	FINISH	MFR
3 Each	Hinges	BB1279 4-1/2"x4-1/2"	626	Hager
1 Each	Exit Device	9847NL 996L	626	Von Duprin
1 Each	Closer w/Stop	4041XP CUSH	626	LCN

3.09 HARDWARE SET # [08]: PRIVACY FUNCTION

A. For use on Door Numbers: [128.1, 143.1, 144.1].

B. Provide for each Single (SGL) door.

UNITS	ITEM	DESCRIPTION	FINISH	MFR
3 Each	Hinges	BB1279 4-1/2"x4-1/2"	626	Hager
1 Each	Privacy Lockset	ND40 RHO	626	Schlage
1 Each	Closer w/Stop	4041XP CUSH	626	LCN

END OF SECTION

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SECTION 081113
HOLLOW METAL DOORS AND FRAMES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Non-fire-rated hollow metal doors and frames.

B. Hollow metal frames for wood doors.

C. Thermally insulated hollow metal doors with frames.

D. Hollow metal borrowed lites glazing frames.

E. Accessories, including glazing.

1.02 RELATED REQUIREMENTS

A. Section 087100 - Door Hardware.

B. Section 088000 - Glazing: Glass for doors and borrowed lites.

C. Section 099113 - Exterior Painting: Field painting.

D. Section 099123 - Interior Painting: Field painting.

1.03 ABBREVIATIONS AND ACRONYMS

A. ANSI: American National Standards Institute.

B. ASCE: American Society of Civil Engineers.

C. HMMA: Hollow Metal Manufacturers Association.

D. NAAMM: National Association of Architectural Metal Manufacturers.

E. NFPA: National Fire Protection Association.

F. SCIF: Sensitive Compartmented Information Facility.

G. SDI: Steel Door Institute.

H. UL: Underwriters Laboratories.

1.04 REFERENCE STANDARDS

A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.

B. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors; 2024.

C. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100); 2023.

D. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames; 2025.

E. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2025a.

F. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable; 2025.

G. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength; 2025.

H. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.

I. NAAMM HMMA 840 - Guide Specifications for Receipt, Storage and Installation of Hollow Metal Doors and Frames; 2024.

J. NAAMM HMMA 861 - Guide Specifications for Commercial Hollow Metal Doors and Frames; 2014.

K. SDI 117 - Manufacturing Tolerances for Standard Steel Doors and Frames; 2023.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes; and one copy of referenced standards/guidelines.

C. Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, and any indicated finish requirements.

D. Installation Instructions: Manufacturer's published instructions, including any special installation instructions relating to this project.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Comply with NAAMM HMMA 840 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.

B. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion and adverse effects on factory applied painted finish.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Hollow Metal Doors and Frames:
   1. Ceco Door, an Assa Abloy Group company: www.assaabloydss.com/#sle.
   2. Curries, an Assa Abloy Group company: www.assaabloydss.com/#sle.
   3. Fleming Door Products, an Assa Abloy Group company: www.assaabloydss.com/#sle.
   4. Steelcraft, an Allegion brand: www.allegion.com/#sle.
   5. Substitutions: See Section 016000 - Product Requirements.

2.02 PERFORMANCE REQUIREMENTS

A. Requirements for Hollow Metal Doors and Frames:
   1. Steel Sheet: Comply with one or more of the following requirements; galvannealed steel complying with ASTM A653/A653M, cold-rolled steel complying with ASTM A1008/A1008M, or hot-rolled pickled and oiled (HRPO) steel complying with ASTM A1011/A1011M, commercial steel (CS) Type B, for each.
   2. Accessibility: Comply with ICC A117.1 and ADA Standards.
   3. Exterior Door Top Closures: Flush end closure channel, with top and door faces aligned.
   4. Door Edge Profile: Manufacturers standard for application indicated.
   5. Glazed Lights: Non-removable stops on non-secure side; sizes and configurations as indicated on drawings. Style: Manufacturer's standard.

B. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; for instance, an exterior door that is also indicated as being sound-rated must comply with the requirements specified for exterior doors and for sound-rated doors; where two requirements conflict, comply with the most stringent.

2.03 HOLLOW METAL DOORS

A. Door Finish: Factory primed and field finished.

B. Exterior Doors: Thermally insulated.
   1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
      a. Level 2 - Heavy-duty.
      b. Physical Performance Level B, 500,000 cycles; in accordance with ANSI/SDI A250.4.
      c. Model 1 - Full Flush.
      d. Door Face Metal Thickness: 18 gauge, 0.042 inch (1.0 mm), minimum.

2. Door Core Material: Manufacturers standard core material/construction and in compliance with requirements.
3. Door Thickness: 1-3/4 inches (44.5 mm), nominal.
4. Door Face Sheets: Flush.

C. Interior Doors, Non-Fire-Rated:
1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
a. Level 2 - Heavy-duty.
b. Physical Performance Level B, 500,000 cycles; in accordance with ANSI/SDI A250.4.
c. Model 1 - Full Flush.
d. Door Face Metal Thickness: 18 gauge, 0.042 inch (1.0 mm), minimum.
2. Door Core Material: Manufacturers standard core material/construction and in compliance with requirements.
3. Door Thickness: 1-3/4 inches (44.5 mm), nominal.
4. Door Face Sheets: Flush.

2.04 HOLLOW METAL FRAMES

A. Comply with standards and/or custom guidelines as indicated for corresponding door in accordance with applicable door frame requirements.

B. Frame Finish: Factory primed and field finished.

C. Exterior Door Frames: Full profile/continuously welded type.
1. Frame Metal Thickness: 18 gauge, 0.042 inch (1.0 mm), minimum.
2. Weatherstripping: Separate, see Section 087100.

D. Interior Door Frames, Non-Fire Rated: Full profile/continuously welded type.
1. Frame Metal Thickness: 18 gauge, 0.042 inch (1.0 mm), minimum.

E. Frames for Wood Doors: Comply with frame requirements in accordance with corresponding door.

F. Borrowed Lites Glazing Frames: Construction and face dimensions to match door frames, and as indicated on drawings.

2.05 FINISHES

A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.

2.06 ACCESSORIES

A. Glazing: As specified in Section 088000, factory installed.

B. Silencers: Resilient rubber, fitted into drilled hole; provide three on strike side of single door, three on center mullion of pairs, and two on head of pairs without center mullions.

C. Temporary Frame Spreaders: Provide for factory- or shop-assembled frames.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that opening sizes and tolerances are acceptable.

C. Verify that finished walls are in plane to ensure proper door alignment.

3.02 PREPARATION

A. Coat inside of frames to be installed in masonry or to be grouted, with bituminous coating, prior to installation.

3.03 INSTALLATION

A. Install doors and frames in accordance with manufacturer's instructions and related requirements of specified door and frame standards or custom guidelines indicated.

B. Coordinate frame anchor placement with wall construction.

C. Install door hardware as specified in Section 087100.

D. Comply with glazing installation requirements of Section 088000.

3.04 TOLERANCES

A. Clearances Between Door and Frame: Comply with related requirements of specified frame standards or custom guidelines indicated in accordance with SDI 117 or NAAMM HMMA 861.

B. Maximum Diagonal Distortion: 1/16 inch (1.6 mm) measured with straight edge, corner to corner.

3.05 ADJUSTING

A. Adjust for smooth and balanced door movement.

END OF SECTION

SECTION 083613
SECTIONAL DOORS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Overhead sectional doors, electrically operated.

B. Operating hardware and supports.

C. Electrical controls.

1.02 RELATED REQUIREMENTS

A. Section 061000 - Rough Carpentry: Rough wood framing for door opening.

B. Section 079200 - Joint Sealants: Sealing joints between frames and adjacent construction.

1.03 REFERENCE STANDARDS

A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2025a.

B. ASTM C1036 - Standard Specification for Flat Glass; 2025.

C. ASTM E283/E283M - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen; 2019.

D. ASTM E330/E330M - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference; 2014 (Reapproved 2021).

E. DASMA 102 - American National Standard Specifications for Sectional Doors; 2018.

F. ITS (DIR) - Directory of Listed Products; Current Edition.

G. NEMA ICS 2 - Industrial Control and Systems Controllers, Contactors and Overload Relays Rated 600 Volts; 2008 (Reaffirmed 2020).

H. NEMA MG 00001 - Motors and Generators; 2024.

I. NEMA EN 10250 - Enclosures for Electrical Equipment (1000 Volts Maximum); 2024.

J. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

K. UL (DIR) - Online Certifications Directory; Current Edition.

L. UL 325 - Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems; Current Edition, Including All Revisions.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Shop Drawings: Indicate opening dimensions and required tolerances, connection details, anchorage spacing, hardware locations, and installation details.

C. Product Data: Show component construction, anchorage method, and hardware.

D. Manufacturer's Installation Instructions: Include any special procedures required by project conditions.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

B. Comply with applicable code for motor and motor control requirements.

C. Products Requiring Electrical Connection: Listed and classified by testing firm acceptable to authorities having jurisdiction, as suitable for purpose specified.

1.06 WARRANTY

A. Extended Correction Period: Correct defective work within a 2-year period commencing on Date of Substantial Completion.

B. Manufacturer Warranty: Provide 5-year manufacturer warranty for electric operating equipment. Complete forms in Owner's name and register with manufacturer.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Sectional Doors:
   1. C.H.I. Overhead Doors: www.chiohd.com/#sle.
   2. Clopay: www.clopaydoor.com/#sle.
   3. Overhead Door Corporation; 592 Series Thermacore Sectional Steel Door: www.overheaddoor.com/#sle.
   4. Raynor Garage Doors: www.raynor.com/#sle.
   5. Wayne-Dalton, a Division of Overhead Door Corporation: www.wayne-dalton.com/#sle.
   6. Substitutions: See Section 016000 - Product Requirements.

2.02 PERFORMANCE REQUIREMENTS

A. Performance: Withstand positive and negative wind loads equal to 1.5 times design wind loads specified by local code without damage or permanent set, when tested in accordance with ASTM E330/E330M, using 10 second duration of maximum load.

B. Air Leakage Rate: Less than 0.40 cfm/sq ft (2 L/sec/sq m) when tested in accordance with ASTM E283/E283M at test pressure difference of 1.57 psf (75 Pa).

C. Thermal Transmittance: U-factor (Usi-factor) of 0.31 Btu/hr sq ft degrees F (1.76 W/sq m K), maximum, in accordance with DASMA 102.

2.03 STEEL DOORS

A. Type SSD-1 - Doors: Flush steel, insulated; standard lift operating style with track and hardware; complying with DASMA 102, Commercial application.
   1. Door Panels: Steel construction; outer steel sheet of 26 gauge, 0.016 inch (0.41 mm) minimum thickness, flush profile; inner steel sheet of 20 gauge, 0.0359 inch (0.91 mm) minimum thickness, flat profile; core reinforcement sheet steel roll formed to channel shape, rabbeted weather joints at meeting rails; polyurethane insulation.
   2. Door Nominal Thickness: 2 inches (51 mm) thick.
   3. Exterior Finish:
      a. Factory finished with acrylic baked enamel; color as selected by Architect.
   4. Interior Finish:
      a. Factory finished with powder coated finish; color as selected from manufacturer's standard line.
   5. Glazed Lites: Three glazed lights per panel, one row; set in place with resilient glazing channel.
      a. Glazing: Annealed float glass; single pane; clear; 1/8 inch (3 mm) nominal overall thickness.
   6. Electric Operation: Electric control station.

2.04 COMPONENTS

A. Track: Rolled galvanized steel, 0.090 inch (2.3 mm) minimum thickness; 2 inch (50 mm) wide, continuous one piece per side; galvanized steel mounting brackets 1/4 inch (6 mm) thick.

B. Hinge and Roller Assemblies: Heavy duty hinges and adjustable roller holders of galvanized steel; floating hardened steel bearing rollers, located at top and bottom of each panel, each side.

C. Lift Mechanism: Torsion spring on cross head shaft, with braided galvanized steel lifting cables.

D. Sill Weatherstripping: Resilient hollow rubber strip, one piece; fitted to bottom of door panel, full length contact.

E. Jamb Weatherstripping: Roll formed steel section full height of jamb, fitted with resilient weatherstripping, placed in moderate contact with door panels.

F. Head Weatherstripping: EPDM rubber seal, one piece full length.

G. Panel Joint Weatherstripping: Neoprene foam seal, one piece full length.

H. Lock: Inside center mounted, adjustable keeper, spring activated latch bar with feature to retain in locked or retracted position; interior and exterior handle.

2.05 MATERIALS

A. Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M, with G60/Z180 coating, plain surface.

B. Float Glass: Provide float glass glazing, unless noted otherwise.
   1. Annealed Type: ASTM C1036, Type I, transparent flat, Class 1 clear, Quality Q3 (glazing select).

C. Insulation: Foamed-in-place polyurethane, bonded to facing.
   1. R-value of 17.5 (RSI-value of ___).

2.06 ELECTRIC OPERATION

A. Operator, Controls, Actuators, and Safeties: Comply with UL 325; provide products listed by ITS (DIR), UL (DIR), or testing agency acceptable to authorities having jurisdiction.
   1. Provide interlock switches on motor operated units.

B. Electric Operators:
   1. Mounting: Side mounted on cross head shaft.
   2. Motor Enclosure:
      a. Exterior Doors: NEMA MG 00001, Type 4; open drip proof.
   3. Motor Rating: 1/3 hp (250 W); continuous duty.
   4. Motor Voltage: 120 volts, single phase, 60 Hz.
   5. Motor Controller: NEMA ICS 2, full voltage, reversing magnetic motor starter.
   6. Controller Enclosure: NEMA EN 10250, Type 1.
   7. Opening Speed: 12 inches per second (300 mm/s).
   8. Brake: Adjustable friction clutch type, activated by motor controller.
   9. Manual override in case of power failure.
   10. See Section 260583 for electrical connections.

C. Wiring Terminations: Provide terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated; enclose terminal lugs in terminal box sized to comply with NFPA 70.

D. Control Station: Provide standard three button (Open-Close-Stop) momentary-contact control device for each operator complying with UL 325.
   1. 24 volt circuit.
   2. Surface mounted, at interior door jamb.
   3. Entrapment Protection Devices: Provide sensing devices and safety mechanisms complying with UL 325.
      a. Primary Device: Provide electric sensing edge, wireless sensing, NEMA 1 photo eye sensors, or NEMA 4X photo eye sensors as required with momentary-contact control device.

E. Safety Edge: Located at bottom of sectional door panel, full width; electro-mechanical sensitized type, wired to stop and reverse door direction upon striking object; hollow neoprene covered to provide weatherstrip seal.

F. Hand Held Transmitter: Digital control, and resettable.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that wall openings are ready to receive work and opening dimensions and tolerances are within specified limits.

B. Verify that electric power is available and of the correct characteristics.

3.02 PREPARATION

A. Prepare opening to permit correct installation of door unit to perimeter air and vapor barrier seal.

B. Apply primer to wood frame.

3.03 INSTALLATION

A. Install door unit assembly in accordance with manufacturer's instructions.

B. Anchor assembly to wall construction and building framing without distortion or stress.

C. Securely brace door tracks suspended from structure. Secure tracks to structural members only.

D. Fit and align door assembly including hardware.

E. Coordinate installation of electrical service. Complete power and control wiring from disconnect to unit components.

F. Install perimeter trim.

3.04 TOLERANCES

A. Maximum Variation from Plumb: 1/16 inch (1.5 mm).

B. Maximum Variation from Level: 1/16 inch (1.5 mm).

C. Longitudinal or Diagonal Warp: Plus or minus 1/8 inch (3 mm) from 10 ft (3 m) straight edge.

D. Maintain dimensional tolerances and alignment with adjacent work.

3.05 ADJUSTING

A. Adjust door assembly for smooth operation and full contact with weatherstripping.

3.06 CLEANING

A. Clean doors and frames and glazing.

B. Remove temporary labels and visible markings.

3.07 PROTECTION

A. Protect installed products from damage until Date of Substantial Completion.

B. Do not permit construction traffic through overhead door openings after adjustment and cleaning.

END OF SECTION

SECTION 087100
DOOR HARDWARE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Hardware for wood doors.

B. Thresholds.

C. Weatherstripping and gasketing.

1.02 RELATED REQUIREMENTS

A. Section 079200 - Joint Sealants: Sealants for setting exterior door thresholds.

B. Section 080671 - Door Hardware Schedule: Schedule of door hardware sets.

C. Section 081113 - Hollow Metal Doors and Frames.

D. Section 081416 - Flush Wood Doors.

E. Section 084313 - Aluminum-Framed Storefronts: Door hardware, except as noted in section.

1.03 REFERENCE STANDARDS

A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.

B. BHMA A156.1 - Standard for Butts and Hinges; 2021.

C. BHMA A156.2 - Bored and Preassembled Locks and Latches; 2022.

D. BHMA A156.3 - Exit Devices; 2025.

E. BHMA A156.4 - Door Closers and Pivots; 2024.

F. BHMA A156.5 - Cylinders and Input Devices for Locks; 2020.

G. BHMA A156.6 - Standard for Architectural Door Trim; 2021.

H. BHMA A156.7 - Template Hinge Dimensions; 2022.

I. BHMA A156.8 - Door Controls - Overhead Stops and Holders; 2021.

J. BHMA A156.13 - Mortise Locks and Latches; 2022.

K. BHMA A156.16 - Standard for Auxiliary Hardware; 2023.

L. BHMA A156.18 - Standard for Materials and Finishes; 2020.

M. BHMA A156.21 - Thresholds; 2025.

N. BHMA A156.22 - Standard for Gasketing; 2021.

O. BHMA A156.31 - Electric Strikes and Frame Mounted Actuators; 2024.

P. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.

Q. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2025.

R. NFPA 101 - Life Safety Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

S. UL (DIR) - Online Certifications Directory; Current Edition.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordinate the manufacture, fabrication, and installation of products that door hardware is installed on.

B. Furnish templates for door and frame preparation to manufacturers and fabricators of products requiring internal reinforcement for door hardware.

C. Keying Requirements Meeting:
   1. Attendance Required:
      a. Contractor.

b. Owner.
c. Architect.
d. Installer's Architectural Hardware Consultant (AHC).
e. Hardware Installer.

2. Agenda:
   a. Establish keying requirements.
   b. Verify locksets and locking hardware are functionally correct for project requirements.
   c. Verify that keying and programming complies with project requirements.
   d. Establish keying submittal schedule and update requirements.
3. Incorporate "Keying Requirements Meeting" decisions into keying submittal upon review of door hardware keying system including, but not limited to, the following:
   a. Access control requirements.
   b. Key control system requirements.
   c. Schematic diagram of preliminary key system.
   d. Flow of traffic and extent of security required.
4. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.
5. Deliver established keying requirements to manufacturers.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Manufacturer's catalog literature for each type of hardware, marked to clearly show products to be furnished for this project, and includes construction details, material descriptions, finishes, and dimensions and profiles of individual components.

C. Shop Drawings - Door Hardware Schedule: Submit detailed listing that includes each item of hardware to be installed on each door. Use door numbering scheme as included in Contract Documents.
   1. Prepared by or under supervision of Architectural Hardware Consultant (AHC).
   2. List groups and suffixes in proper sequence.
   3. Provide complete description for each door listed.
   4. Provide manufacturer name, product names, and catalog numbers; include functions, types, styles, sizes and finishes of each item.
   5. Include account of abbreviations and symbols used in schedule.

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

E. Maintenance Data: Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.

F. Keying Schedule:
   1. Submit three (3) copies of Keying Schedule in compliance with requirements established during Keying Requirements Meeting unless otherwise indicated.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years of documented experience.

B. Installer Qualifications: Company specializing in performing work of the type specified for commercial door hardware with at least three years of documented experience.

C. Supplier Qualifications: Company with certified Architectural Hardware Consultant (AHC) and Electrified Hardware Consultant (EHC) to assist in work of this section.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Package hardware items individually; label and identify each package with door opening code to match door hardware schedule.

1.08 WARRANTY

A. See Section 017800 - Closeout Submittals for additional warranty requirements.

B. Manufacturer's Warranty: Provide warranty against defects in material and workmanship for period indicated. Complete forms in Owner's name and register with manufacturer.
   1. Closers: Five years, minimum.
   2. Exit Devices: Three years, minimum.
   3. Locksets and Cylinders: Three years, minimum.
   4. Other Hardware: Two years, minimum.

PART 2 PRODUCTS

2.01 DESIGN AND PERFORMANCE CRITERIA

A. Provide specified door hardware as required to make doors fully functional, compliant with applicable codes, and secure to extent indicated.

B. Provide individual items of single type, of same model, and by same manufacturer.

C. Provide door hardware products that comply with the following requirements:
   1. Applicable provisions of federal, state, and local codes.
   2. Accessibility: ADA Standards and ICC A117.1.
   3. Applicable provisions of NFPA 101.

D. Lock Function: Provide lock and latch function numbers and descriptions of manufacturer's series. See Door Hardware Schedule.

E. Fasteners:
   1. Provide fasteners of proper type, size, quantity, and finish that comply with commercially recognized standards for proposed applications.
      a. Aluminum fasteners are not permitted.
      b. Provide phillips flat-head screws with heads finished to match door surface hardware unless otherwise indicated.

2.02 HINGES

A. Manufacturers:
   1. Hager Companies: www.hagerco.com/#sle.
   2. Stanley, dormakaba Group: www.stanleyhardwarefordoors.com/#sle.
   3. Ives, an Allegion brand: www.allegion.com/us/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Hinges: Comply with BHMA A156.1, Grade 1.
   1. Butt Hinges: Comply with BHMA A156.1 and BHMA A156.7 for templated hinges.
      a. Provide hinge width required to clear surrounding trim.
   2. Provide hinges on every swinging door.
   3. Provide five-knuckle full mortise butt hinges unless otherwise indicated.
   4. Provide ball-bearing hinges at each door with closer.
   5. Provide non-removable pins on exterior outswinging doors.
   6. Provide following quantity of butt hinges for each door:
      a. Doors From 60 inches (1.5 m) High up to 90 inches (2.3 m) High: Three hinges.

2.03 EXIT DEVICES

A. Manufacturers:
   1. Von Duprin, an Allegion brand: www.allegion.com/us/#sle.
   2. Substitutions: See Section 016000 - Product Requirements.

B. Exit Devices: Comply with BHMA A156.3, Grade 1.
   1. Lever design to match lockset trim.
   2. Provide cylinder with cylinder dogging or locking trim.
   3. Provide exit devices properly sized for door width and height.

4. Provide strike as recommended by manufacturer for application indicated.
5. Provide UL (DIR) listed exit device assemblies for fire-rated doors and panic device assemblies for non-fire-rated doors.

2.04 ELECTRIC STRIKES

A. Manufacturers:
   1. [Von Duprin, an Allegion brand <> : www.allegion.com/us/#sle].
   2. Substitutions: See Section 016000 - Product Requirements.

B. Electric Strikes: Comply with BHMA A156.31, Grade 1.
   1. Provide UL (DIR) listed burglary-resistant electric strike; style to suit locks.
   2. Provide non-handed 24 VDC electric strike suitable for door frame material and scheduled lock configuration.

2.05 LOCK CYLINDERS

A. Lock Cylinders: Provide key access on outside of each lock, unless otherwise indicated.
   1. Provide standard type cylinders, Grade 1, with six-pin core in compliance with BHMA A156.5 at locations indicated.
   2. Provide cylinders from same manufacturer as locking device.
   3. Provide cams and/or tailpieces as required for locking devices.
   4. Within specific Door Sections, when provisions for lock cylinder are being referenced to this Section, provide specified lock cylinder and keyed to building keying system, unless otherwise indicated.

2.06 MORTISE LOCKS

A. Manufacturers:
   1. Schlage, an Allegion brand: www.allegion.com/us/#sle.
   2. Substitutions: See Section 016000 - Product Requirements.

B. Mortise Locks: Comply with BHMA A156.13, Grade 1, Security, 1000 Series.
   1. Latchbolt Throw: 3/4 inch (19 mm), minimum.
   2. Deadbolt Throw: 1 inch (25.4 mm), minimum.
   3. Backset: 2-3/4 inch (70 mm) unless otherwise indicated.
   4. Strikes: Provide manufacturer's standard strike for each latchset or lockset with strike box and curved lip extending to protect frame in compliance with indicated requirements.
      a. Finish: To match lock or latch.
   5. Lever Style: Schlage 02.
   6. Rose Style: Schlage A rose.

2.07 CLOSERS

A. Manufacturers; Surface Mounted:
   1. LCN, an Allegion brand: www.allegion.com/us/#sle.
   2. Substitutions: See Section 016000 - Product Requirements.

B. Closers: Comply with BHMA A156.4, Grade 1.
   1. Type: Surface mounted to door.
   2. Provide door closer on each exterior door.
   3. At corridor entry doors, mount closer on room side of door.
   4. At outswinging exterior doors, mount closer on interior side of door.

2.08 OVERHEAD STOPS AND HOLDERS

A. Manufacturers:
   1. Glynn-Johnson, an Allegion brand: www.allegion.com/us/#sle.
   2. Substitutions: See Section 016000 - Product Requirements.

B. Overhead Stops and Holders (Door Checks): Comply with BHMA A156.8, Grade 1.
   1. Provide stop for every swinging door, unless otherwise indicated.

2.09 WALL STOPS

A. Manufacturers:
   1. Ives, an Allegion brand: www.allegion.com/us/#sle.
   2. Door Controls International.
   3. Substitutions: See Section 016000 - Product Requirements.

B. Wall Stops: Comply with BHMA A156.16, Grade 1 and Resilient Material Retention Test as described in this standard.
   1. Provide wall stops to prevent damage to wall surface upon opening door.
   2. Type: Bumper, concave, wall stop.
   3. Material: Aluminum housing with rubber insert.

2.10 THRESHOLDS

A. Manufacturers:
   1. Pemko; an Assa Abloy Group company: www.assaabloydss.com/#sle.
   2. Hager Companies: www.hagerco.com/#sle.
   3. Reese Enterprises, Inc: www.reeseusa.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Thresholds: Comply with BHMA A156.21.
   1. Provide threshold at each exterior door, unless otherwise indicated.
   2. Type: Flat surface.
   3. Material: Aluminum.
   4. Threshold Surface: Fluted horizontal grooves across full width.
   5. Field cut threshold to profile of frame and width of door sill for tight fit.
   6. Provide non-corroding fasteners at exterior locations.

2.11 WEATHERSTRIPPING AND GASKETING

A. Manufacturers:
   1. Pemko; an Assa Abloy Group company: www.assaabloydss.com/#sle.
   2. Hager Companies: www.hagerco.com/#sle.
   3. Reese Enterprises, Inc: www.reeseusa.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

B. Weatherstripping and Gasketing: Comply with BHMA A156.22.
   1. Head and Jamb Type: Adjustable.
   2. Door Sweep Type: Encased in retainer.
   3. Material: Aluminum, with brush weatherstripping.
   4. Provide weatherstripping on each exterior door at head, jambs, and meeting stiles of door pairs, unless otherwise indicated.
   5. Provide door bottom sweep on each exterior door, unless otherwise indicated.

2.12 SILENCERS

A. Manufacturers:
   1. Rockwood; an Assa Abloy Group company: www.assaabloydss.com/#sle.
   2. Substitutions: See Section 016000 - Product Requirements.

B. Silencers: Provide at equal locations on door frame to mute sound of door's impact upon closing.
   1. Single Door: Provide three on strike jamb of frame.
   2. Pair of Doors: Provide two on head of frame, one for each door at latch side.
   3. Material: Rubber, gray color.

2.13 POWER SUPPLY

A. Manufacturers:
   1. Von Duprin, an Allegion brand: www.allegion.com/us/#sle.
   2. Substitutions: See Section 016000 - Product Requirements.

B. Power Supply: Hard wired, with multiple zones providing eight (8) breakers for each output panel with individual control switches and LED's; UL (DIR) Class 2 listed.
   1. Power: 12 VAC, 20 Amp; with 120 VAC power supply.
   2. Operating Temperature: 32 to 110 degrees F (0 to 43 degrees C).
   3. Provide with emergency release terminals that release devices upon activation of fire alarm system.

2.14 FINISHES

A. Finishes: Provide door hardware of same finish, unless otherwise indicated.
   1. Primary Finish: 630; satin stainless steel, with stainless steel 300 series base material (former US equivalent US32D); BHMA A156.18.
   2. Secondary Finish: 626; satin chromium plated over nickel, with brass or bronze base material (former US equivalent US26D); BHMA A156.18.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that doors and frames are ready to receive this work; labeled, fire-rated doors and frames are properly installed, and dimensions are as indicated on shop drawings.

3.02 INSTALLATION

A. Install hardware in accordance with manufacturer's instructions and applicable codes.

B. Use templates provided by hardware item manufacturer.

C. Door Hardware Mounting Heights: Distance from finished floor to center line of hardware item. As indicated in following list; unless noted otherwise in Door Hardware Schedule or on drawings.
   1. Mounting heights in compliance with ADA Standards:
      a. Locksets: 40-5/16 inch (1024 mm).
      b. Push Plates/Pull Bars: 42 inch (1067 mm).
      c. Exit Devices: 40-5/16 inch (1024 mm).

D. Set exterior door thresholds with full-width bead of elastomeric sealant at each point of contact with floor providing a continuous weather seal; anchor thresholds with stainless steel countersunk screws.

3.03 ADJUSTING

A. Adjust work under provisions of Section 017000 - Execution and Closeout Requirements.

B. Adjust hardware for smooth operation.

C. Adjust gasketing for complete, continuous seal; replace if unable to make complete seal.

3.04 CLEANING

A. Clean finished hardware in accordance with manufacturer's written instructions after final adjustments have been made.

B. Clean adjacent surfaces soiled by hardware installation.

C. Replace items that cannot be cleaned to manufacturer's level of finish quality at no additional cost.

3.05 PROTECTION

A. Protect finished Work under provisions of Section 017000 - Execution and Closeout Requirements.

B. Do not permit adjacent work to damage hardware or finish.

END OF SECTION

SECTION 092116
GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Performance criteria for gypsum board assemblies.

B. Metal stud wall framing.

C. Gypsum wallboard.

D. Joint treatment and accessories.

E. Textured finish system.

1.02 RELATED REQUIREMENTS

A. Section 061000 - Rough Carpentry: Wood blocking product and execution requirements.

B. Section 072100 - Thermal Insulation: Acoustic insulation.

1.03 REFERENCE STANDARDS

A. AISI S220 - North American Standard for Cold-Formed Steel Nonstructural Framing; 2020.

B. AISI S240 - North American Standard for Cold-Formed Steel Structural Framing; 2015, with Errata (2020).

C. ASTM A1003/A1003M - Standard Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members; 2025.

D. ASTM C1007 - Standard Specification for Installation of Load Bearing (Transverse and Axial) Steel Studs and Related Accessories; 2020 (Reapproved 2024).

E. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2017 (Reapproved 2022).

F. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2020.

G. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2025.

H. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2022.

I. ASTM C1047 - Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base; 2019.

J. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2024.

K. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2023.

L. ASTM E413 - Classification for Rating Sound Insulation; 2022.

M. GA-216 - Application and Finishing of Gypsum Panel Products; 2024.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide data on gypsum board, accessories, and joint finishing system.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing gypsum board installation and finishing.

1.06 DELIVERY, STORAGE, AND HANDLING

A. See Section 017419 - Construction Waste Management and Disposal for packaging waste requirements.

B. Store gypsum products and accessories indoors and keep above freezing. Elevate boards above floor, on nonwicking supports, in accordance with manufacturer's recommendations.

C. Store metal products to prevent corrosion.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

A. Provide completed assemblies complying with ASTM C840 and GA-216.
   1. See PART 3 for finishing requirements.

B. Interior Partitions: Provide completed assemblies with the following characteristics:
   1. Acoustic Attenuation: STC of 45-49 calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.

2.02 METAL FRAMING MATERIALS

A. Steel Sheet: ASTM A1003/A1003M, subject to the ductility limitations indicated in AISI S220 or equivalent.

B. Manufacturers - Metal Framing, Connectors, and Accessories:
   1. Clarkwestern Dietrich Building Systems LLC: www.clarkdietrich.com/#sle.
   2. Jaimes Industries: www.jaimesind.com/#sle.
   3. Marino: www.marinoware.com/#sle.
   4. Phillips Manufacturing Co: www.phillipsmfg.com/#sle.
   5. SCAFCO Corporation: www.scafco.com/#sle.
   6. Steel Construction Systems: www.steelconsystems.com/#sle.
   7. Substitutions: See Section 016000 - Product Requirements.

C. Nonstructural Framing System Components: AISI S220; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/120 at 5 psf (L/120 at 240 Pa).
   1. Studs: C-shaped with knurled or embossed faces.
   2. Runners: U shaped, sized to match studs.
   3. Furring Members: Hat-shaped sections, minimum depth of 7/8 inch (22 mm).
   4. Resilient Furring Channels: Single or double leg configuration; 1/2 inch (13 mm) channel depth.
      a. Products:
         1) ClarkDietrich; RC Deluxe Resilient Channel: www.clarkdietrich.com/#sle.
         2) Phillips Manufacturing Co; RC-1 Tru-25 Resilient Sound Channel: www.phillipsmfg.com/#sle.
         3) Substitutions: See Section 016000 - Product Requirements.

2.03 BOARD MATERIALS

A. Manufacturers - Gypsum-Based Board:
   1. American Gypsum Company: www.americangypsum.com/#sle.
   2. CertainTeed Corporation: www.certainteed.com/#sle.
   3. Continental Building Products: www.continental-bp.com/#sle.
   4. Georgia-Pacific Gypsum: www.gpgypsum.com/#sle.
   5. National Gypsum Company: www.nationalgypsum.com/#sle.
   6. PABCO Gypsum: www.pabcogypsum.com/#sle.
   7. USG Corporation: www.usg.com/#sle.
   8. Substitutions: See Section 016000 - Product Requirements.

B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
   1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
   2. Thickness:
      a. Vertical Surfaces: 5/8 inch (16 mm).
      b. Ceilings: 5/8 inch (16 mm).

3. Paper-Faced Products:
    a. American Gypsum Company; FireBloc Type X Gypsum Wallboard: www.americangypsum.com/#sle.
    b. Georgia-Pacific Gypsum; ToughRock Fireguard X: www.gpgypsum.com/#sle.
    c. Gold Bond Building Products, LLC provided by National Gypsum Company; Gold Bond Fire-Shield Gypsum Board: www.goldbondbuilding.com/#sle.
    d. USG Corporation; SHEETROCK brand EcoSmart Firecode X Gypsum Panels. (ULIX).
    e. Substitutions: See Section 016000 - Product Requirements.

2.04 GYPSUM BOARD ACCESSORIES

A. Acoustic Insulation: See Section 072100.

B. Acoustic Sealant: Acrylic emulsion latex or water-based elastomeric sealant; do not use solvent-based non-curing butyl sealant.

C. Beads, Joint Accessories, and Other Trim: ASTM C1047, rigid plastic, galvanized steel, or rolled zinc, unless noted otherwise.
1. Corner Beads: Low profile, for 90 degree outside corners.
    a. Products:
        1) Phillips Manufacturing Co; Everlast Corner Bead: www.phillipsmfg.com/#sle.
        2) Trim-Tex, Inc: www.trim-tex.com/#sle.
        3) Substitutions: See Section 016000 - Product Requirements.
2. L-Trim with Tear-Away Strip: Sized to fit 5/8 inch (_____ mm) thick gypsum wallboard.
    a. Products:
        1) Phillips Manufacturing Co; gripSTIK L-Tear: www.phillipsmfg.com/#sle.
        2) Substitutions: See Section 016000 - Product Requirements.
3. Expansion Joints:
    a. Type: V-shaped metal with factory-installed protective tape.
    b. Products:
        1) Phillips Manufacturing Co; 093 Expansion Control Joint: www.phillipsmfg.com/#sle.
        2) Trim-Tex, Inc: www.trim-tex.com/#sle.
        3) Substitutions: See Section 016000 - Product Requirements.

D. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
1. Fiberglass Tape: 2 inch (50 mm) wide, coated glass fiber tape for joints and corners, except as otherwise indicated.
2. Joint Compound: Setting type, field-mixed.

E. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inches (0.84 mm) in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion-resistant.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that project conditions are appropriate for work of this section to commence.

3.02 FRAMING INSTALLATION

A. Metal Framing: Install in accordance with ASTM C1007AISI S220 and manufacturer's instructions.

B. Studs: Space studs at 16 inches on center (at 406 mm on center).
1. Extend partition framing to structure where indicated and to ceiling in other locations.
2. Partitions Terminating at Ceiling: Attach ceiling runner securely to ceiling track in accordance with manufacturer's instructions.

C. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.

D. Acoustic Furring: Install resilient channels at maximum 24 inches (600 mm) on center. Locate joints over framing members.

E. Blocking: Install wood blocking for support of:
   1. Framed openings.
   2. Wall-mounted cabinets.
   3. Plumbing fixtures.
   4. Toilet partitions.
   5. Toilet accessories.
   6. Wall-mounted door hardware.

3.03 ACOUSTIC ACCESSORIES INSTALLATION

A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.

B. Acoustic Sealant: Install in accordance with manufacturer's instructions.
   1. Place one bead continuously on substrate before installation of perimeter framing members.
   2. Place continuous bead at perimeter of each layer of gypsum board.
   3. Seal around all penetrations by conduit, pipe, ducts, and rough-in boxes, except where firestopping is provided.

3.04 BOARD INSTALLATION

A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

B. Single-Layer Nonrated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.
   1. Exception: Tapered edges to receive joint treatment at right angles to framing.

C. Installation on Metal Framing: Use screws for attachment of gypsum board except face layer of nonrated double-layer assemblies, which may be installed by means of adhesive lamination.

3.05 INSTALLATION OF TRIM AND ACCESSORIES

A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
   1. Not more than 30 feet (10 meters) apart on walls and ceilings over 50 feet (16 meters) long.

B. Corner Beads: Install at external corners, using longest practical lengths.

C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.

3.06 JOINT TREATMENT

A. Paper Faced Gypsum Board: Use fiberglass joint tape, bedded with ready-mixed vinyl-based joint compound and finished with ready-mixed vinyl-based joint compound.

B. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
   1. Level 5: Walls and ceilings to receive semi-gloss or gloss paint finish and other areas specifically indicated. Walls receiving P-2 shall be Level 5 finish.
   2. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
   3. Level 3: Walls to receive textured wall finish.
   4. Level 2: In utility areas, behind cabinetry, and on backing board to receive tile finish.
   5. Level 1: Fire-resistance-rated wall areas above finished ceilings, whether or not accessible in the completed construction.

C. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.

1. Feather coats of joint compound so that camber is maximum 1/32 inch (0.8 mm).

D. Where Level 5 finish is indicated, spray apply high build drywall surfacer over entire surface after joints have been properly treated; achieve a flat and tool mark-free finish.

3.07 TEXTURE FINISH

A. Apply finish texture coating by means of spraying apparatus in accordance with manufacturer's instructions.

B. Texture Required: Orange peel.

3.08 TOLERANCES

A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet (3 mm in 3 m) in any direction.

3.09 CLEANING

A. See Section 017000 - Execution and Closeout Requirements for additional requirements.

3.10 PROTECTION

A. Protect installed gypsum board assemblies from subsequent construction operations.

END OF SECTION

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SECTION 095100
ACOUSTICAL CEILINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Suspended metal grid ceiling system.

B. Acoustical units.

1.02 REFERENCE STANDARDS

A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2025a.

B. ASTM C635/C635M - Standard Specification for Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2022.

C. ASTM C636/C636M - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels; 2019 (Reapproved 2025).

D. ASTM E580/E580M - Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions; 2024a.

E. ASTM E1264 - Standard Classification for Acoustical Ceiling Products; 2023.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Sequence work to ensure acoustical ceilings are not installed until building is enclosed, sufficient heat is provided, dust generating activities have terminated, and overhead work is completed, tested, and approved.

B. Do not install acoustical units until after interior wet work is dry.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Shop Drawings: Indicate grid layout and related dimensioning.

C. Product Data: Provide data on suspension system components and acoustical units.

D. Samples: Submit two samples each, 12 inches (____ mm) long, of suspension system main runner.

1.05 QUALITY ASSURANCE

A. Suspension System Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

B. Acoustical Unit Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

1.06 FIELD CONDITIONS

A. Maintain uniform temperature of minimum 60 degrees F (16 degrees C), and maximum humidity of 40 percent prior to, during, and after acoustical unit installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Acoustic Tiles/Panels:
   1. Armstrong World Industries, Inc: www.armstrong.com/#sle.
   2. CertainTeed Corporation: www.certainteed.com/#sle.
   3. USG: www.usg.com/#sle.

B. Suspension Systems:
   1. Same as for acoustical units.

2.02 ACOUSTICAL UNITS

A. Acoustical Panels Type ACT-1: Painted mineral fiber,ASTM E1264 Type III, with the following characteristics:
   1. Size: 24 by 24 inches (600 by 600 mm).
   2. Light Reflectance: 88 percent, determined in accordance with ASTM E1264.
   3. NRC Range: 0.75 to 0.75, determined in accordance with ASTM E1264.
   4. Ceiling Attenuation Class (CAC): 35, determined in accordance with ASTM E1264.
   5. Edge: Beveled Tegular 9/16".
   6. Surface Pattern: Fine Texture.
   7. Suspension System: Exposed grid.
   8. Products:
      a. Armstrong Ultima #1912 Beveled Tegular.

2.03 SUSPENSION SYSTEMS

A. Metal Suspension Systems - General: Complying with ASTM C635/C635M; die cut and interlocking components, with perimeter moldings, hold-down clips, stabilizer bars, clips, and splices as required.
   1. Materials:
      a. Steel Grid: ASTM A653/A653M, G30 coating, unless otherwise indicated.

B. Exposed Steel Suspension System: Formed steel, commercial quality cold rolled; heavy-duty.
   1. Profile: Tee; 9/16 inch (14 mm) wide face.
   2. Products:
      a. Armstrong Suprafine XL.

2.04 ACCESSORIES

A. Support Channels and Hangers: Galvanized steel; size and type to suit application, seismic requirements, and ceiling system flatness requirement specified.

B. Hanger Wire: 12 gauge, 0.08 inch (2 mm) galvanized steel wire.

C. Hold-Down Clips: Manufacturer's standard clips to suit application.

D. Perimeter Moldings: Same metal and finish as grid.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that layout of hangers will not interfere with other work.

3.02 INSTALLATION - SUSPENSION SYSTEM

A. Install suspension system in accordance with ASTM C636/C636M, ASTM E580/E580M, and manufacturer's instructions, as supplemented in this section.

B. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.

C. Locate system on room axis according to reflected plan.

D. Perimeter Molding: Install at intersection of ceiling and vertical surfaces and at junctions with other interruptions.
   1. Use longest practical lengths.

E. Suspension System, Non-Seismic: Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.

F. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.

G. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.

H. Support fixture loads using supplementary hangers located within 6 inches (152 mm) of each corner, or support components independently.

I. Do not eccentrically load system or induce rotation of runners.

3.03 INSTALLATION - ACOUSTICAL UNITS

A. Install acoustical units in accordance with manufacturer's instructions.

B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.

C. Fit border trim neatly against abutting surfaces.

D. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.

E. Cutting Acoustical Units:
   1. Make field cut edges of same profile as factory edges.

F. Install hold-down clips on panels within 20 ft (6 m) of an exterior door.

3.04 TOLERANCES

A. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet (3 mm in 3 m).

B. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: 2 degrees.

3.05 CLEANING

A. See Section 017000 - Execution and Closeout Requirements for additional requirements.

B. Clean surfaces.

C. Replace damaged or abraded components.

END OF SECTION

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SECTION 096500
RESILIENT FLOORING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Resilient tile flooring.

B. Resilient base.

C. Resilient stair accessories.

D. Installation accessories.

1.02 RELATED REQUIREMENTS

A. Section 090561 - Common Work Results for Flooring Preparation: Removal of existing floor coverings, cleaning, and preparation.

1.03 REFERENCE STANDARDS

A. ASTM E648 - Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source; 2025.

B. ASTM F1700 - Standard Specification for Solid Vinyl Floor in Modular Format such as Tile(s) or Plank(s); 2025.

C. ASTM F1861 - Standard Specification for Resilient Wall Base; 2021 (Reapproved 2025).

D. ASTM F2169 - Standard Specification for Resilient Stair Treads; 2015 (Reapproved 2025).

E. NFPA 253 - Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source; 2023.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

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

C. Selection Samples: Submit manufacturer's complete set of color samples for Architect's initial selection.

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

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing specified flooring with minimum three years documented experience.

B. Installer Qualifications: Company specializing in installing specified flooring with minimum three years documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Upon receipt, immediately remove any shrink-wrap and check materials for damage and the correct style, color, quantity and run numbers.

B. Store all materials off of the floor in an acclimatized, weather-tight space.

C. Maintain temperature in storage area between 55 degrees F (13 degrees C) and 90 degrees F (72 degrees C).

D. Protect roll materials from damage by storing on end.

E. Do not double stack pallets.

1.07 FIELD CONDITIONS

A. Store materials for not less than 48 hours prior to installation in area of installation at a temperature of 70 degrees F (21 degrees C) to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F (13 degrees C).

PART 2 PRODUCTS

2.01 TILE FLOORING

A. Luxury Vinyl Tile: LVT-1: Surface-decorated, with wear layer.
   1. Manufacturers:
      a. Millikin; Merge Forward/Rejuvenate
      b. Substitutions: See Section 016000 - Product Requirements.
   2. Minimum Requirements: Comply with ASTM F1700, of Class corresponding to type specified.
   3. Plank Tile Size: 18 by 36 inch (___ by ___ mm).
   4. Total Thickness: 0.100 inch (2.5 mm).
   5. Pattern: Random.
   6. Color: Dune REJ217.

2.02 STAIR COVERING (STR)

A. Stair Treads: Rubber; full width and depth of stair tread in one piece; tapered thickness.
   1. Manufacturers:
      a. Roppe Corporation; Rubber Stair Treads: www.roppe.com/#sle.
      b. Substitutions: See Section 016000 - Product Requirements.
   2. Minimum Requirements: Comply with ASTM F2169, Type TS, rubber, vulcanized thermoset.
   3. Critical Radiant Flux (CRF): Minimum 0.45 watt per square centimeter, when tested in accordance with ASTM E648 or NFPA 253.
   4. Nominal Thickness: 0.125 inch (____ mm).
   5. Nosing: Square.
   6. Color: Mt. Rainier VE7 with Black Tape Non-Stick.

B. Stair Risers: Full height and width of tread in one piece, matching treads in material and color.
   1. Thickness: 0.125 inch (3.2 mm).

2.03 RESILIENT BASE

A. Resilient Base: B-1 ASTM F1861, Type TP, rubber, thermoplastic; top set Style B, Cove.
   1. Manufacturers:
      a. Substitutions: See Section 016000 - Product Requirements.
   2. Critical Radiant Flux (CRF): Minimum 0.45 watt per square centimeter, when tested in accordance with ASTM E648 or NFPA 253.
   3. Height: 4 inches (100 mm).
   4. Thickness: 0.125 inch (3.2 mm).
   5. Finish: Satin.
   6. Length: Roll.
   7. Color: Black Pearl.
   8. Accessories: Premolded external corners and internal corners.

2.04 ACCESSORIES

A. Subfloor Filler: White premix latex; type recommended by adhesive material manufacturer.

B. Primers, Adhesives, and Seam Sealer: Waterproof; types recommended by flooring manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are flat to tolerances acceptable to flooring manufacturer, free of cracks that might telegraph through flooring, clean, dry, and free of curing compounds, surface hardeners, and other chemicals that might interfere with bonding of flooring to substrate.

B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive resilient base.

C. Cementitious Subfloor Surfaces: Verify that substrates are ready for resilient flooring installation by testing for moisture and alkalinity (pH).
   1. Obtain instructions if test results are not within limits recommended by resilient flooring manufacturer and adhesive materials manufacturer.

3.02 PREPARATION

A. Prepare floor substrates as recommended by flooring and adhesive manufacturers.

B. Remove subfloor ridges and bumps. Fill minor low spots, cracks, joints, holes, and other defects with subfloor filler to achieve smooth, flat, hard surface.

C. Prohibit traffic until filler is fully cured.

D. Clean substrate.

3.03 INSTALLATION - GENERAL

A. Starting installation constitutes acceptance of subfloor conditions.

B. Install in accordance with manufacturer's written instructions.

3.04 INSTALLATION - TILE FLOORING

A. Mix tile from container to ensure shade variations are consistent when tile is placed, unless otherwise indicated in manufacturer's installation instructions.

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

C. Install plank tile with a random offset of at least 6 inches (152 mm) from adjacent rows.

3.05 INSTALLATION - RESILIENT BASE

A. Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches (45 mm) between joints.

B. Install base on solid backing. Bond tightly to wall and floor surfaces.

C. Scribe and fit to door frames and other interruptions.

3.06 INSTALLATION - STAIR COVERINGS

A. Install stair coverings in one piece for full width and depth of tread.

B. Adhere over entire surface. Fit accurately and securely.

3.07 CLEANING

A. Remove excess adhesive from floor, base, and wall surfaces without damage.

B. Clean in accordance with manufacturer's written instructions.

3.08 PROTECTION

A. Prohibit traffic on resilient flooring for 48 hours after installation.

END OF SECTION

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SECTION 099123
INTERIOR PAINTING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints.

C. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.
   1. Both sides and edges of plywood backboards for electrical and telecom equipment before installing equipment.
   2. Mechanical and Electrical:
      a. In finished areas, paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, mechanical equipment, and electrical equipment, unless otherwise indicated.
      b. In finished areas, paint shop-primed items.
      c. Paint interior surfaces of air ducts that are visible through grilles and louvers with one coat of flat black paint to visible surfaces.

D. Do Not Paint or Finish the Following Items:
   1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
   2. Items indicated to receive other finishes.
   3. Items indicated to remain unfinished.
   4. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.
   5. Floors, unless specifically indicated.
   6. Glass.
   7. Concealed pipes, ducts, and conduits.

1.02 RELATED REQUIREMENTS

A. Section 055000 - Metal Fabrications: Shop-primed items.

1.03 REFERENCE STANDARDS

A. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Based Materials; 2020 (Reapproved 2025).

B. SSPC-SP 1 - Solvent Cleaning; 2015, with Editorial Revision (2016).

C. SSPC-SP 2 - Hand Tool Cleaning; 2024.

D. SSPC-SP 6/NACE No.3 - Commercial Blast Cleaning; 2006.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches (216 by 279 mm) in size, illustrating range of colors available for each finishing product specified.
   1. Where sheen is specified, submit samples in only that sheen.
   2. Where sheen is not specified, discuss sheen options with Architect before preparing samples, to eliminate sheens not required.

C. Certification: By manufacturer that paints and finishes comply with VOC limits specified.

D. Manufacturer's Instructions: Indicate special surface preparation procedures.

E. Maintenance Data: Submit data including finish schedule showing where each product/color/finish was used, product technical data sheets, material safety data sheets (MSDS), care and cleaning instructions, touch-up procedures, repair of painted and finished surfaces, and color samples of each color and finish used.

F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 016000 - Product Requirements, for additional provisions.
   2. Extra Paint and Finish Materials: 1 gal (4 L) of each color; from the same product run, store where directed.
   3. Label each container with color in addition to the manufacturer's label.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum three years documented experience.

B. Applicator Qualifications: Company specializing in performing the type of work specified with minimum two years experience.

1.06 DELIVERY, STORAGE, AND HANDLING

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

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.

1.07 FIELD CONDITIONS

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

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Provide lighting level of 80 fc (860 lux) measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide paints and finishes used in any individual system from the same manufacturer; no exceptions.

B. Paints:
   1. Benjamin Moore.

C. Primer Sealers: Same manufacturer as top coats.

D. Substitutions: See Section 016000 - Product Requirements.

2.02 PAINTS AND FINISHES - GENERAL

A. Paints and Finishes: Ready-mixed, unless intended to be a field-catalyzed paint.
   1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
   2. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
   3. Supply each paint material in quantity required to complete entire project's work from a single production run.
   4. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.

B. Colors: As indicated on drawings.
   1. Extend colors to surface edges; colors may change at any edge as directed by Architect.
   2. In finished areas, finish pipes, ducts, conduit, and equipment the same color as the wall/ceiling under which they are mounted.

2.03 PAINT SYSTEMS - INTERIOR

A. Interior Surfaces to be Painted, Unless Otherwise Indicated: Including gypsum board, uncoated steel, shop primed steel, and galvanized steel.
   1. Two top coats and one coat primer.
   2. Top Coat(s): Interior Latex.
      a. Products:
   3. Top Coat Sheen:
      a. Eggshell: MPI gloss level 3; use this sheen at all other locations.

2.04 PRIMERS

A. Primers: Provide the following unless other primer is required or recommended by manufacturer of top coats.

2.05 ACCESSORY MATERIALS

A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.

B. Patching Material: Latex filler.

C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin application of paints and finishes until substrates have been adequately prepared.

B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

D. Test shop-applied primer for compatibility with subsequent cover materials.

E. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces is below the following maximums:
   1. Gypsum Wallboard: 12 percent.
   2. Masonry, Concrete, and Concrete Masonry Units: 12 percent.
   3. Interior Wood: 15 percent, measured in accordance with ASTM D4442.

3.02 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to application.

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

C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

D. Seal surfaces that might cause bleed through or staining of topcoat.

E. Masonry:
   1. Prepare surface as recommended by top coat manufacturer.

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

G. Aluminum: Remove surface contamination and oils and wash with solvent according to SSPC-SP 1.

H. Galvanized Surfaces:
   1. Remove surface contamination and oils and wash with solvent according to SSPC-SP 1.
   2. Prepare surface according to SSPC-SP 2.

I. Ferrous Metal:
   1. Solvent clean according to SSPC-SP 1.

2. Shop-Primed Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.
3. Remove rust, loose mill scale, and other foreign substances using methods recommended in writing by paint manufacturer and blast cleaning in accordance with SSPC-SP 6/NACE No.3. Protect from corrosion until coated.

J. Wood Surfaces to Receive Opaque Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats. Back prime concealed surfaces before installation.

3.03 APPLICATION

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

B. Apply products in accordance with manufacturer's written instructions.

C. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

D. Apply each coat to uniform appearance in thicknesses specified by manufacturer.

E. Sand wood and metal surfaces lightly between coats to achieve required finish.

F. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

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

3.04 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.05 PROTECTION

A. Protect finishes until completion of project.

B. Touch-up damaged finishes after Substantial Completion.

3.06 COLOR SCHEDULE

A. P-1 Benjamin Moore Eggshell Calm 2111-70.

B. P-2 Match Existing.

END OF SECTION

SECTION 102800
TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Commercial toilet accessories.

B. Under-lavatory pipe supply covers.

1.02 RELATED REQUIREMENTS

A. Section 224000 - Plumbing Fixtures: Under-lavatory pipe and supply covers.

1.03 REFERENCE STANDARDS

A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.

B. ASTM A269/A269M - Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service; 2025.

C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2025a.

D. ASTM A666/A666M - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2024.

E. ASTM B86 - Standard Specification for Zinc and Zinc-Aluminum (ZA) Alloy Foundry and Die Castings; 2023.

F. ASTM C1036 - Standard Specification for Flat Glass; 2025.

G. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2025.

H. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2025.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordinate the work with the placement of internal wall reinforcement to receive anchor attachments.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Submit data on accessories describing size, finish, details of function, and attachment methods.

C. Manufacturer's Installation Instructions: Indicate special procedures and conditions requiring special attention.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Commercial Toilet, Shower, and Bath Accessories:
   1. AJW Architectural Products: www.ajw.com/#sle.
   2. American Specialties, Inc: www.americanspecialties.com/#sle.
   3. Bradley Corporation: www.bradleycorp.com/#sle.
   4. Bobrick: www.bobrick.com..
   5. Substitutions: Section 016000 - Product Requirements.

B. Under-Lavatory Pipe Supply Covers:
   1. Plumberex Specialty Products, Inc: www.plumberex.com/#sle.
   2. Substitutions: Section 016000 - Product Requirements.

C. Provide products of each category type by single manufacturer.

2.02 MATERIALS

A. Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.
   1. Grind welded joints smooth.
   2. Fabricate units made of metal sheet of seamless sheets with flat surfaces.

B. Keys: Provide two keys for each accessory to Owner; master key lockable accessories.

C. Stainless Steel Sheet: ASTM A666/A666M, Type 304.

D. Stainless Steel Tubing: ASTM A269/A269M, Grade TP304 or TP316.

E. Galvanized Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M, with G90/Z275 coating.

F. Zinc Alloy: Die cast, ASTM B86.

G. Mirror Glass: Tempered safety glass, ASTM C1048; and ASTM C1036 Type I, Class 1, Quality Q2, with silvering as required.

H. Adhesive: Two component epoxy type, waterproof.

I. Fasteners, Screws, and Bolts: Hot dip galvanized; tamper-proof; security type.

J. Expansion Shields: Fiber, lead, or rubber as recommended by accessory manufacturer for component and substrate.

2.03 FINISHES

A. Stainless Steel: Satin finish, unless otherwise noted.

2.04 COMMERCIAL TOILET ACCESSORIES

A. Toilet Paper Dispenser: Single roll, surface mounted bracket type, stainless steel.
   1. Products:
      a. Bobrick B-6857.
      b. Substitutions: Section 016000 - Product Requirements.

B. Paper Towel Dispenser: Folded paper type, stainless steel, surface-mounted, with viewing slots on sides as refill indicator and tumbler lock.
   1. Capacity: 200 C-fold minimum.
   2. Products:
      a. Bobrick B-2621.
      b. Substitutions: Section 016000 - Product Requirements.

C. Soap Dispenser: Liquid soap dispenser, wall-mounted, surface, with stainless steel cover and horizontal stainless steel tank and working parts; push type soap valve, check valve, and window gauge refill indicator, tumbler lock.
   1. Minimum Capacity: 40 ounces (___ liters).
   2. Products:
      a. Bobrick B-2111.
      b. Substitutions: Section 016000 - Product Requirements.

D. Mirrors: Stainless steel framed, 1/4 inch (6 mm) thick tempered safety glass; ASTM C1048.
   1. Size: As indicated on drawings.
   2. Frame: 7/16 inch (___ mm)channel shapes, with mitered corners; satin finish.
   3. Products:
      a. Bobrick B-1658.
      b. Substitutions: Section 016000 - Product Requirements.

E. Grab Bars: Stainless steel, smooth surface.
   1. Standard Duty Grab Bars:
      a. Push/Pull Point Load: 250 pound-force (1112 N), minimum.

b. Dimensions: 1-1/4 inch (32 mm) outside diameter, minimum 0.05 inch (1.3 mm) wall thickness, concealed flange mounting, 1-1/2 inch (38 mm) clearance between wall and inside of grab bar.
c. Finish: Satin.
d. Length and Configuration: As indicated on drawings.
e. Products:
1) Bobrick B-5806 Series.
2) Substitutions: Section 016000 - Product Requirements.

F. Sanitary Napkin Disposal Unit: Stainless steel, surface-mounted, self-closing door, locking bottom panel with full-length stainless steel piano-type hinge, removable receptacle.
1. Products:
a. Bobrick B-270.
b. Substitutions: Section 016000 - Product Requirements.

2.05 UNDER-LAVATORY PIPE AND SUPPLY COVERS

A. Under-Lavatory Pipe and Supply Covers:
1. Insulate exposed drainage piping, including hot, cold, and tempered water supplies under lavatories or sinks to comply with ADA Standards.
2. Exterior Surfaces: Smooth non-absorbent, non-abrasive surfaces.
3. Construction: 1/8 inch (3.2 mm) flexible PVC.
a. Surface Burning Characteristics: Flame spread index of 25 or less and smoke developed index of 450 or less, when tested in accordance with ASTM E84.
4. Color: White.
5. Fasteners: Reusable, snap-locking fasteners with no sharp or abrasive external surfaces.
6. Products:
a. Plumberex Specialty Products, Inc; Plumberex Handy-Shield Maxx: www.plumberex.com/#sle.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify exact location of accessories for installation.

C. For electrically-operated accessories, verify that electrical power connections are ready and in the correct locations.

D. Verify that field measurements are as indicated on drawings.

3.02 PREPARATION

A. Deliver inserts and rough-in frames to site for timely installation.

B. Provide templates and rough-in measurements as required.

3.03 INSTALLATION

A. Install accessories in accordance with manufacturers' instructions in locations indicated on drawings.

B. Install plumb and level, securely and rigidly anchored to substrate.

C. Mounting Heights: As required by accessibility regulations, unless otherwise indicated.

3.04 PROTECTION

A. Protect installed accessories from damage due to subsequent construction operations.

END OF SECTION

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SECTION 104400
FIRE PROTECTION SPECIALTIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fire extinguishers.

B. Fire extinguisher cabinets.

1.02 RELATED REQUIREMENTS

A. Section 061000 - Rough Carpentry: Wood blocking.

1.03 REFERENCE STANDARDS

A. NFPA 10 - Standard for Portable Fire Extinguishers; 2026.

B. UL (DIR) - Online Certifications Directory; Current Edition.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide extinguisher operational features.

C. Shop Drawings: Indicate locations of cabinets and cabinet physical dimensions.

D. Manufacturer's Instructions: Indicate special criteria and wall opening coordination requirements.

E. Operation and Maintenance Data: Include test, refill, or recharge schedules and recertification requirements.

1.05 FIELD CONDITIONS

A. Do not install extinguishers when ambient temperature causes freezing of extinguisher ingredients.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Fire Extinguishers:
   1. Activar Construction Products Group, Inc. - JL Industries; Cosmic Extinguisher - Multipurpose Chemical: www.activarcpg.com/#sle.
   2. Nystrom, Inc; EX-3010: www.nystrom.com/#sle.
   3. Substitutions: See Section 016000 - Product Requirements.

B. Fire Extinguisher Cabinets and Accessories:
   1. Activar Construction Products Group, Inc. - JL Industries; Ambassador Series: www.activarcpg.com/#sle.
   2. Nystrom, Inc; FC-7340: www.nystrom.com/#sle.
   3. Substitutions: See Section 016000 - Product Requirements.

2.02 FIRE EXTINGUISHERS

A. General Requirements: Comply with product requirements of NFPA 10 and applicable codes, whichever is more stringent.
   1. Provide extinguishers labeled by UL (DIR) for purpose specified and as indicated.

B. Multipurpose Dry-Chemical-Type Fire Extinguishers: Carbon steel tank, with pressure gauge.
   1. Class: A:B:C.
   2. Size: 10 pound (4.54 kg).
   3. Finish: Baked polyester powder coat, color as selected.
   4. Temperature range: Minus 40 degrees F (Minus 40 degrees C) to 120 degrees F (49 degrees C).

2.03 FIRE EXTINGUISHER CABINETS

A. Cabinet Construction: Non-fire rated.
   1. Formed aluminum; 0.036 inch (____ mm) thick base metal.

B. Cabinet Configuration: Recessed type.
   1. Exterior nominal dimensions of 11 3/4 inch (____ mm) wide by 26 3/4 inch (____ mm) high by 4 inch (____ mm) deep.
   2. Provide cabinet enclosure with right-angle inside corners and seams and with formed perimeter trim and door stiles.

C. Door: 20-gauge, 0.036-inch (0.9 mm) metal thickness, reinforced for flatness and rigidity with nylon catch. Hinge doors for 180-degree opening with two butt hinges.

D. Door Glazing: Acrylic plastic, clear, 1/8 inch (3 mm) thick, flat shape, and set in resilient channel glazing gasket.

E. Cabinet Mounting Hardware: Appropriate to cabinet, with predrilled holes for placement of anchors.

F. Fabrication: Weld, fill, and grind components smooth.

G. Finish of Cabinet Exterior Trim and Door: light duranodic aluminum.

H. Finish of Cabinet Interior: White colored enamel.

2.04 ACCESSORIES

A. Extinguisher Brackets: Formed steel, chrome-plated.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify dimensions, tolerances, and interfaces with other work.

B. Verify substrate and site conditions for product installation are in accordance with manufacturer's written instructions.

C. Verify rough openings for cabinet are sized and located in accordance with manufacturer's written instructions.

D. Notify Architect in writing of conditions detrimental to completion of work. Do not proceed with installation until detrimental conditions are corrected.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Secure rigidly in place.

C. Place extinguishers on wall brackets.

END OF SECTION

SECTION 133418
POST FRAME BUILDING SYSTEMS

PART 1 GENERAL

1.01 REFERENCE STANDARDS

A. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures; Most Recent Edition Cited by Referring Code or Reference Standard.

B. UL 790 - Standard for Standard Test Methods for Fire Tests of Roof Coverings; Current Edition, Including All Revisions.

C. UL 2218 - Standard for Impact Resistance of Prepared Roof Covering Materials; Current Edition, Including All Revisions.

1.02 SECTION INCLUDES

A. Pre-Engineered factory and field fabricated Timber Column Structure.

B. Prefinished metal roofing and siding panels.

C. Prefinished metal trim items.

D. Prefinished soffits.

E. Prefinished gutters and downspouts.

F. Interior Liner Package.

1.03 REFERENCE STANDARDS

A. Building Design Standards
   1. 2020 Minnesota Building Code.
   2. American Society of Civil Engineers; ASCE 7-16 Minimum Design Loads and Associated Criteria for Buildings and Other Structures
   3. American Wood Council (AWC)
      a. National Design Specification (2018 NDS) for Wood Construction

B. Preservative Treated Lumber
   1. American Wood Protection Association (AWPA)
      a. 2025 AWPA Book of Standards
         1) Use Category System U1, User Specification for Treated Wood
         2) UC4A, Important Structural - Ground Contact
         3) UC4B, Structural Support - Ground Contact
   2. International Code Council - Evaluation Service Report 2240
      a. Micronized Copper Azole preservative-treated lumber

C. Pre-cast Concrete / Cast-In-Place Concrete
   1. American Concrete Institute (ACI)
      a. ACI 318-19(22) Building Code Requirements for Structural Concrete

D. Framing Lumber
   1. National Design Specification for Wood Construction (2018 NDS)
   2. Southern Pine Inspection Bureau (SPIB)
      a. 2021 Standard Grading Rules for Southern Pine Lumber

E. National Lumber Grades Authority (NLGA)
      a. 2025 National Lumber Grades Authority Standard Grading Rules for Canadian Lumber

F. Wood Trusses
   1. Truss Plate Institute (ANSI / TPI-1 - 2022 National Design Standard for Metal Plate Connected Wood Truss Construction)
      a. Design, engineering, and quality control requirements for manufactured wood trusses

1.04 SYSTEM DESCRIPTION

A. Post-Frame Construction
   1. Clear span
   2. Primary Framing
      a. Columns
      b. Trusses
      c. Lateral bracing
   3. Secondary framing
      a. Perimeter baseboards / preservative-treated
      b. Wall girts (nailers)
      c. Purlins
      d. Overhang rafters and fascia
      e. Ancillary blocking or furring as required
   4. Roof Covering
      a. Prefinished ribbed metal panels
      b. Other roof coverings as required
   5. Wall Covering
      a. Prefinished ribbed metal panels
      b. Other wall coverings as required
   6. Insulation and Liner Package
      a. Wall insulation
      b. Ceiling insulation
      c. Air deflectors
      d. Vapor retarder
      e. Wall stripping
      f. Prefinished ribbed metal panels

1.05 DESIGN REQUIREMENTS

A. Building shall be designed in accordance with standards identified in Section 1.03.
   1. Roof Design Loads
   2. Top and Bottom Truss Chords: See building plans for specific loads required.
      1) Top Chord Live Load
      2) Top Chord Dead Load
      3) Bottom Chord Dead Load
      4) Bottom Chord Point Load
      b. Unbalanced Snow Loads: In accordance with ASCE 7-16.
   3. Wind Speed: See Building Plans for specific wind speed requirements.
   4. Seismic Loads: See Building Plans for specific seismic load requirements.
   5. System Requirements
      a. Roof and wall system shall be able to withstand the imposed loads with maximum allowable deflection in accordance with 2018 IBC.
      b. Assembly shall permit movement of components without buckling, failure of joint seals, undue stress on fasteners or other detrimental effects.
      c. Size and fabrication of roof and wall systems to be free of distortion or defects that would be detrimental to appearance or performance

1.06 SUBMITTALS

A. Submit under provisions of Division 01.

B. Provide two sets of the following bearing the seal of a Professional Engineer, registered in the state where the project is located.
   1. Complete and detailed shop and erection drawings showing size and location of each part and component, certifying that the building design meets specified roof and wind loading requirements.

2. Truss engineering analysis and design data, including the following
    a. Axial forces and bending moments for each member.
    b. Basic plate design value.
    c. Design analysis of each joint showing that proper plates have been applied.
3. Manufacturer's metal panel standard color chart.

1.07 PROJECT RECORD DOCUMENTS

A. Submit under provisions of Division 01.

1.08 QUALITY ASSURANCE

1. Truss Assembly Quality
2. Manufacturer shall provide evidence of compliance with quality control requirements of TPI-1 – 2022.
3. 2Trusses shall be stamped to indicate quality assurance auditing by an independent agency.

B. Prefinished Ribbed Metal Panels.
1. Manufacturer shall provide evidence of compliance with UL 2218 and UL 790 (Hail impact and external fire resistance, respectively) for roofing panels.
    a. Prefinished Ribbed Metal Panels to be applied as roofing shall be delivered with a certificate to indicate compliance with UL 2218 Class 4 and UL 790 Class A.

C. Other Manufacturer Certifications and Approvals as Required.

1.09 QUALIFICATIONS

A. Contractor shall have a minimum of forty years documented experience in the manufacture and erection of this type of structure.

B. Contractor shall present evidence of written procedures to describe how components are to be assembled during erection of the structure.

C. Design of structural components shall be performed under the direct supervision of a Professional Engineer experienced in design of this type of structure and licensed in the state where the project is located.

D. The Contractor shall employ adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for proper and safe performance of the work.

E. Contractor shall be responsible for proper storage of all materials, including subcontractors' materials.

1.10 REGULATORY REQUIREMENTS

A. Contractor shall be responsible for compliance with all applicable building codes and ordinances covering the work.

B. Contractor shall cooperate with regulatory agencies or authorities to provide data as requested.

1.11 PRE-CONSTRUCTION MEETING

A. The contractor shall convene a meeting no later than one week prior to commencing work under provisions of Division 01.

B. The meeting shall include owner(s), contractors and subcontractors.

C. The meeting's agenda shall include a review of the project, responsibilities, timing and coordination required of contractor and subcontractors, safety plans and other information pertinent to the project.

1.12 1.12FIELD MEASUREMENTS

A. Field measurements shall be taken to verify that components match shop drawings.

1.13 DELIVERY, STORAGE AND HANDLING

A. The contractor shall deliver and store prefabricated components (trusses, columns, steel panels and other materials) to ensure that they will not be damaged or deformed.
   1. The contractor shall be responsible to stack materials on platforms, pallets or other structures covered with tarpaulins or other suitable weather-tight ventilated covering. The contractor shall additionally handle and store structural parts in a manner that will avoid deforming members or subjecting parts to excessive stresses.

B. The contractor shall store roofing and siding panels to allow water to drain feely.

C. The contractor shall not store panels in contact with other materials that could cause corrosion, discoloration, or staining.

1.14 PROJECT CONDITIONS

A. Contractor shall coordinate the work with other trades.

B. Contractor shall fit carpentry work to other work. Scribe and cope as required for accurate fitting.

C. Contractor shall be responsible to correlate location of furring, interior stripping, blocking and supports to allow for attachment of other work.

1.15 CERTIFICATIONS

1. The bidder's proposal must include evidence that the material specifications will be met.
2. Provide written certification letter that prefinished metal panels will meet all requirements of Sections 2.03 and 2.04.

B. The bidder's proposal must include a sample warranty identical to the warranty to be issued at completion of the project.
   1. The sample warranty shall verify that the warranty specification described in Section 1.16 will be met.

1.16 WARRANTY

A. The building manufacturer shall supply a warranty to the Owner which shall provide the manufacturer will meet the following requirements:

PERIOD OF COVERAGE	MATERIAL	CLAIM CONDITIONS
50 YEARS	**PRESERVATIVE TREATED LUMBER**	**FAILURE DUE TO DECAY OR INSECT ATTACK**
50 YEARS	**BUILDING FRAMEWORK INCLUDING ROOFING AND/OR SIDING PANELS**	**DIRECT DAMAGE BY SNOW LOADS**
35 YEARS	**ROOFING AND SIDING PANELS**	**PAINT SEPARATION FROM PANELS**
35 YEARS	**ROOFING AND SIDING PANELS**	**CHALK RATING LESS THAN RATING OF 8 (ASTM D4212) UNDER NORMAL WEATHERING**
35 YEARS	**ROOFING AND SIDING PANELS**	**COLOR CHANGE GREATER THAN 5 UNITS (ASTM D2244) UNDER NORMAL WEATHERING**
10 YEARS	**ROOFING AND SIDING PANELS**	**RED RUST CORROSION GREATER THAN 1/2 INCH (12.7 MM) FROM A SHEARED EDGE, VISIBLE IN CASUAL OBSERVATION UNDER NORMAL WEATHERING**

5 YEARS	**BUILDING FRAMEWORK INCLUDING ROOFING AND/OR SIDING PANELS**	**DIRECT DAMAGE BY WIND LOADS UNLESS DAMAGE IS CAUSED BY FLYING OR FALLING OBJECTS**
5 YEARS	**ROOF LEAKS**	**LEAKS DUE TO MATERIAL OR WORKMANSHIP DEFECTS**
1 YEAR	**ANY BUILDING PART**	**PROVEN DEFECT IN MATERIAL OR WORKMANSHIP**

PART 2 PRODUCTS

2.01 MANUFACTURERS - BUILDING SYSTEM

A. Morton Buildings, Inc., Morton, Illinois

B. Other manufacturers offering similar systems meeting requirements of the drawings and specifications.

2.02 MATERIALS - FRAMING

A. Pre-Cast Concrete Pier Foundation Columns
   1. Post frame building column consisting of a pre-cast concrete embedded portion with exposed rebar dowels for embedment in cast-in-place concrete footing.
   2. Column to have an integrated bracket for attachment to an upper wood column.
   3. Column to have attachment points allowing perimeter baseboards to be structurally connected to the column.

B. Wood Column
   1. Factory fabricated from minimum 3-ply No. 1 (or better) southern yellow pine lumber.
   2. Attach wood column to concrete column bracket with appropriate number and size of mechanically driven fasteners.
   3. Provide factory or field installed blocking on outside face of column between nailers.

C. Wood Trusses
   1. Lumber
      a. Top Chord: southern yellow pine of size and grade to meet design requirements.
      b. Bottom Chord: southern yellow pine of size and grade to meet design requirements.
      c. Webs: southern yellow pine of size and grade to meet design requirements.
   2. Trusses shall be constructed of surfaced lumber (S4S) and compliant with SPIB visual and structural grade requirements.
   3. Plates: Connector plates shall meet design requirements and shall be compliant with applicable ICC-ES Report specifications.
   4. Design and fabricate trusses and connections to withstand snow, wind, dead, and all other loads indicated.
   5. Fabricate trusses in plant, using mechanical or hydraulic fixtures as required to bring members into contact. Install plates in accordance with Truss Plate Institute TPI-1 - 2022.

D. Baseboards
   1. 2”x8” nominal No. 1 southern yellow pine with 1.2” x 7/16” notch to accommodate OSB protective liner as may be required.
   2. Pressure treated with wood preservative to a retention in compliance with applicable AWPA or ICC-ESR standards and specifications, and kiln dried after treatment to 19% maximum moisture content.
   3. Preservative shall penetrate sapwood in compliance with AWPA or ICC-ESR standards and specifications.
   4. Wall girts (nailers)
   5. As required on building plans.

E. Purlins and Truss Ties

1. 2”x4” nominal No. 2 or machine stress rated spruce-pine-fir as required on building plans.

F. Overhang Framing
   1. Provide factory fabricated rafter frames.
   2. Provide 2”x6” No. 2 spruce-pine-fir factory beveled fascia boards.

G. Lateral Bracing
   1. 2”x6” No. 2 spruce-pine-fir factory or field cut boards to brace end wall columns with nearest available intermediate truss.

H. Framing around openings
   1. 2”x4” No. 2 spruce-pine-fir around personnel doors and windows, according to building plans.
   2. 2”x6” No. 2 spruce-pine-fir around overhead door openings, according to building plans.

I. Headers
   1. Provide headers as required on building plans.

J. Incidental Framing
   1. 2”x4” and/or 2”x6” No. 2 spruce-pine-fir.

K. Interior Framing
   1. 2”x4” No. 2 spruce-pine-fir.

2.03 MATERIALS - PREFINISHED METALS

A. Roofing / Siding / Wainscot Ribbed Building Panels
   1. Panel substrate shall be 0.019” minimum thickness commercial steel sheet with G90 (zinc) metallic coating per ASTM A653 or AZ55 (aluminum / zinc alloy) metallic coating per ASTM A792.
   2. The weather side of the panel shall receive a nominal two tenths (0.2) mil polyurethane primer and a nominal nine tenths (0.9) mil topcoat of 70% polyvinylidene difluoride (PVDF) resin to achieve a total nominal dry film thickness of one (1) mil.
   3. The non-weather side paint system shall consist of a two coat finish with a total nominal dry film thickness of one-half (0.5) mil.
   4. Color selection of roofing / siding / wainscot panels shall be from the manufacturer’s standard color chart.

B. Interior Liner Ribbed Building Panels
   1. Panel substrate shall be 0.019” minimum thickness commercial steel sheet with G40 (zinc) metallic coating per ASTM A653.
   2. The side of the panel facing the interior of the building shall receive a nominal two tenths (0.2) mil polyurethane primer and a nominal nine tenths (0.9) mil topcoat of polyester resin to achieve a total nominal dry film thickness of one (1) mil.
   3. The wall cavity or attic facing side paint system shall consist of a two coat finish with a total nominal dry film thickness of one-half (0.5) mil.
   4. Color selection of interior liner panels shall be standard white, or panels may be selected from the manufacturer’s standard color chart of exterior quality ribbed building panels.

C. Metal Trim Items
   1. Die-formed steel from the same quality material as the siding panels. Steel substrate thickness may vary from that of ribbed building panels.

D. Gutters and Downspouts
   1. Gutters
      a. K-Style rollformed gutters in 5” or 6” open widths formed from 0.030” aluminum prefinished with color-matched nominal one (1) mil 70% PVDF coating system (including primer) on exposed critical visual surfaces.
      b. Interior of gutter to be coated with nominal one-half (0.5) mil paint wash coat.
   2. Downspouts

a. Rollformed steel from the same quality as siding panels. Steel substrate thickness may vary from that of ribbed building panels.
b. Downspouts to match standard colors.
c. Downspouts to be sized to match gutter size.

2.04 MATERIALS - OTHER

A. Corner bracing
1. Provide 1-1/4” wide high tensile steel strapping to be installed in all unobstructed corners in a “X” configuration.

B. Roofing / Siding / Wainscot fasteners
1. Center-drive stainless steel screws with EPDM-gasketed washers for ribbed steel panels.
2. Fasteners shall be painted to match selected colors.

C. Interior liner fasteners
1. Center-drive carbon steel pan-head screws for ribbed steel panels, painted in standard white color, or
2. Center-drive stainless steel screws with EPDM-gasketed washers for optional exterior ribbed steel panels.

D. Closure strips
1. Strips shall be made from closed cell foam.

E. Sealant
1. 100% neutral curing silicone sealants shall be applied where required.
2. Paintable sealant shall be applied where required.

F. Insulation
1. Minimum 6” thick, R-19 fiberglass blankets in wall cavity.
2. Minimum R38 blown-in fiberglass insulation above ceiling.

G. Vapor Retarder
1. 4 mil (0.1016 mm) thickness polyethylene sheets.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify site conditions under provisions of Division 01.

3.02 ERECTION - FRAMING - GENERAL

A. Erect framing in accordance with manufacturer’s established construction procedures.

B. Make all components and building plumb, square, straight, and true to lines in accordance with National Frame Building Association’s Accepted Practices documents and specific tolerances identified in Section 3.06.

C. Provide adequate temporary bracing to assure structure remains plumb and square until permanent bracing is installed.

D. Altering of structural members is not permitted.

3.03 ERECTION - FRAMING

A. Pre-Cast Concrete Pier Foundation Columns
1. Auger each hole to depth with diameter as required on building plans.
2. Accurately position concrete lower column in each hole.
3. Place ready-mix concrete in hole to footing size and thickness indicated on building plans.
4. Backfill with dry soil, compacted in 8” lifts.

B. Wood Column
1. Set wood column to interlock with concrete column connection bracket.
2. Install manufacturer’s recommended quantity and size of mechanically driven fasteners and bolts.

C. Baseboards
   1. Install 2”x8” treated planks at grade using builder’s recommended fasteners and brackets to attach to concrete column.

D. Wall girts (nailers)
   1. Install nailers as required on building plans according to manufacturer’s established construction procedures.

E. Trusses
   1. Set trusses in plane with the center member of the wood column using lifting methods as approved by the manufacturer.
   2. When properly positioned, install two 1/2” diameter machine bolts and manufacturer-recommended 4” structural screws through two of the wood column laminates and the truss heel.
   3. Brace trusses as recommended by the manufacturer.
   4. Purlins
   5. Install 2”x4” purlins by attaching them to trusses according to manufacturer’s established construction procedures.

F. Lateral Bracing
   1. Install 2”x6” angled bracing at locations recommended by the manufacturer according to the manufacturer’s established construction procedures.

G. Incidental Framing
   1. Install 2”x4” or 2”x6” blocking as required according to building manufacturer’s recommendations.

H. Interior Framing (Stripping)
   1. Install 2”x4” baseboard at 4 inch (101.6 mm) above grade and case in metal trims.
   2. Install 2”x4” horizontal stripping at 36” (maximum) on-center spacing in wall areas to support ribbed steel panels.
   3. Install 2”x4” horizontal stripping at 16” (maximum) on-center spacing in wall areas to support gypsum board.

3.04 ERECTION - INSULATION

A. Wall Insulation
   1. Install fiberglass batt insulation blankets to fill wall cavity between columns.
   2. Install vapor retarder between insulation blankets and interior stripping.

B. Ceiling Insulation
   1. Install vapor retarder between lower truss chords and ceiling panels.
   2. Install blown-in fiberglass in attic space.

3.05 ERECTION - PREFINISHED METALS - GENERAL

A. Roofing Panels
   1. Install panels perpendicular to purlins, aligned straight with end fascia.
   2. Fasten panels to purlins with screw fasteners.

B. Siding and Wainscot Panels
   1. Install panels perpendicular to nailers, aligned level and plumb (see Section 3.06).
   2. Fasten panels to nailers with screw fasteners.

C. Interior Panels
   1. Install panels perpendicular to supports, aligned level and plumb.
   2. Fasten wall panels to wall stripping with 1” painted screws.
   3. Fasten ceiling panels to truss lower chords with 1” painted screws.

D. Trim Items
   1. Install trim items at the base, at wainscot / siding panel transition, corners, top of steel siding, fascia, gables and ridge using appropriate fasteners.

E. Ridge Treatments
   1. Install over ridge trim using screw fasteners.

F. Soffit
   1. Install soffit to interlock with trim items at top of steel siding and at fascia.
   2. Use solid soffit at each end overhang per building plans.
   3. Use combination of solid and vented soffit to provide balanced ventilation at side overhangs per building plans.

G. Gutter and Downspouts
   1. Install gutters with supporting hangers spaced 24” on-center.
   2. Silicone sealant and silicone rubber gaskets shall be used at laps to maintain leak prevention and to relieve stress due to thermal movements.
   3. Install drop outlets and downspouts to allow drainage from gutter at locations specified on building plans.
   4. Secure downspout to vertical wall panels or trims with conductor bands and screws.

H. Filler Strips
   1. Provide filler strips at the top and bottom of roofing panels.

3.06 TOLERANCES

A. Framing Members
   1. 1/4” from level
   2. 1/8” from plumb

B. Siding and Roofing Panels
   1. 1/8” from true position

END OF SECTION